

SECTION II - INVENTORY AND ANALYSIS

A. INTRODUCTION

1. Location

The Town of Southold is located at the eastern extreme of Long Island, at the end of the northern peninsula known as the North Fork. It is the eastern-most township on the North Fork and is bordered to the west by the Town of Riverhead and to the south by the Town of Shelter Island. The incorporated Village of Greenport lies within the Town of Southold. The regional setting of Southold is illustrated on *Map II-1*. The entire Town, including Fishers, Plum and Robins islands, is approximately 54 square miles in size with approximately 163 linear miles of coastline. It is long and narrow in shape, with the mainland extending 21 miles from the Riverhead town line east to Orient Point. Its greatest width is 5 miles, although generally the western portions of the mainland average 3 miles in width, while to the east of Hashamomuck Pond, the Town is never wider than 1.25 miles.

The land in mainland Southold is for the most part level or gently sloping. The major exception is the Long Island Sound shoreline, which is characterized by steep bluffs and backed by wooded hills, which give way to land that gently slopes to the marshes and wetlands of the Peconic Estuary shoreline to the south. The Sound shoreline features scattered residential development, while the creeks, inlets and ponds of the Peconic Estuary shoreline, are more intensely developed. The interior portions of the mainland are typically in agricultural use with scattered woodland pockets on the less productive soils, residential enclaves and the hamlet centers.

Fishers Island's terrain is slightly more rugged than that of the mainland. Almost none of its land is in agricultural use. Large residential estate, golf courses and open spaces dominate the landscape of more than two thirds of the island. The western portion of the island, which was the site of a former military base, is more intensively developed with a small airport, a school, several businesses and smaller residential lots.

The Town is surrounded by the marine waters of the Long Island Sound, Fishers Island Sound, Block Island Sound, Gardiners Bay, and the bays of the Peconic Estuary. There are five islands located within the municipal jurisdiction of the Town. Fishers Island (approximately 3200 acres) is located 13 miles northeast of the mainland of Southold and 3 miles south of the Connecticut coastline on Fishers Island Sound. Plum Island and the Gull Islands are owned by the Federal government. Plum Island (847 acres), located 0.5 miles east of Orient Point, is utilized for government research and access is restricted. Great Gull Island (25 acres) and Little Gull Island (5 acres) are uninhabited islands serving primarily as bird nesting refuges. They are located between Plum Island and Fishers Island. Robins Island (435 acres), presently a largely undeveloped island in private ownership, lies approximately 1.25 miles southwest of Little Hog Neck, in the Great Peconic Bay.

The Town of Southold developed as a series of discrete traditional hamlets separated by expanses of agricultural land. These hamlets include Laurel, Mattituck, Cutchogue, New Suffolk, Peconic, Southold, East Marion and Orient. There is also a small hamlet on Fishers Island. These hamlets are the main centers of residential development and commercial activity within the Town of Southold and form the community framework of the Town with which its residents identify. The importance of the historical development of the hamlets and their crucial role in the current development patterns within the Town are a recurring theme throughout the *LWRP*.

2. Transportation

The Town has a well established network of public roads including 195 miles of Town highways, 14 miles of County highways, and 24 miles of State highways. (Source: New York State Department of Transportation, Region 10, Division of Planning & Program Management. April 1997). Two major arterials run west to east. NY Route 25 extends throughout the southern and central portions of the Town and County Route 48 extends throughout the northern and central portions of the Town. The State road is a two lane highway, with designated turning lanes in the Mattituck and Cutchogue business areas. For much of its length, SR 25 follows an historic route dating back to the 1700s that was known as The King's Highway. The road ran from Brooklyn to Orient Point.

The County road (CR 48) is a four lane divided highway beginning at Mattituck and ending just west of Horton Lane in Southold. East and west of CR 48, the town and state connectors are two lane highways. The County road was built in the 1960s presumably in anticipation of the extension of the Long Island Expressway from its current terminus in Riverhead. The road branches off Old Sound Avenue and bypasses the hamlet business centers in a route that parallels the Long Island Rail Road track to the south, which runs along the spine of the North Fork to its terminus in Greenport Village.

The remainder of the collector roads within the Town tend to run in a north-south direction, providing direct access between Long Island Sound and the Peconic Bay. Many of the roads that run to the water's edge originally connected shipping piers and docks with hamlet business centers or farms. Others connected farms directly to business centers, including grist mills, most of which were water powered.

The cycling craze (1890s through 1910) led to a number of road improvements within Southold Town, which eventually came to benefit automotive forms of transport. The Town anticipates that it will need to engage in transportation planning within the very near future in order to prevent existing traffic congestion and speeding problems from worsening, particularly within the hamlet centers. One of the challenges the Town faces will be maximizing its transportation capability given the limitations of the existing road network and its desire not to create major new arterials, nor to add travel lanes to the existing arterials.

The Long Island Rail Road runs along Southold's spine, terminating on the waterfront in the Incorporated Village of Greenport. This single, mainline track runs to Ronkonkoma, where it meets an electrified rail line to New York City. Between the hamlets of Southold and the Village of Greenport, the rail line traverses tidal and brackish water wetlands and Hashamomuck Pond, all of which lie within the coastal boundary. Otherwise it generally runs along higher ground in the center of the fork.

There are stations within the business districts of the hamlets of Mattituck and Southold also. When the rail line was first built in the 1840s, there was an additional station at Cutchogue and a mail drop and station at Peconic. Unfortunately, the latter two stations no longer exist and are not likely to be reinstated. Average commuter time from Greenport to Penn Station in New York City is just under three hours. However, service is limited, particularly during the winter months when there are two daily trains westbound from Greenport during the week. The weekend schedule is limited to two afternoon trains westbound. Eastbound only two trains per weekday run all the way to Greenport, one in the early morning, the other in the evening, with the exception of Friday night when there is an extra evening run. There are two weekday runs eastbound in the mid-day and

early evening. During the summer there may be additional trains, particularly on key weekends when major events are being promoted within the Town. The LIRR sometimes offers special excursion rates and hotel package deals during these weekends in coordination with representatives of the business community such as the North Fork Promotion Council and the East End Maritime Festival organizers.

The Long Island Rail Road's primary focus is on providing heavy commuter transit from Ronkonkoma west into Manhattan. The population density and ridership levels on the East End are considered insufficient to justify improved commuter service to western Long Island or Manhattan. That need is being met presently by a private bus service.

Public and private bus services are available within Southold Town. Public bus service has been reduced to one route, the S92, which runs from Orient Point to East Hampton through downtown Riverhead (Suffolk County Transit, November 19, 2001). Although this service runs seven days a week, it is limited to daytime and early evening operation, 6:15 a.m. to 7:40 p.m. Its ridership is composed of working people, elderly and youth, in that order. Feeder runs from Mattituck and New Suffolk were dropped due to extremely low ridership patterns. This bus service is sponsored by Suffolk County but is heavily subsidized by federal funds. A local bus company, Sunrise Coach Lines, provides the service under contract to the County.

The Sunrise Coach Line also offers a daily commuter service from Greenport to Manhattan and back with three to five departure times per day. The company provides excursion tours into and out of the region. Sunrise Coach is the primary public transit option for Southold residents who wish to go into New York City.

There is no bus service (public or private) to the LIRR station in Ronkonkoma, which has more frequent runs into Jamaica, Queens and Penn Station. Nor is there any bus service (public or private) to MacArthur Airport in Islip just adjacent to the LIRR Rail Road station. Ground transportation to and from the airport is available from private limousine and taxi companies.

The Town of Southold is serviced by four different ferry companies. The largest, Cross Sound Ferry Service, Inc. offers year-round passenger and car ferry service from Orient Point (Reach 5) to New London, Connecticut. In July 1995, this company established a high speed passenger ferry service between Orient Point and New London. The 350-passenger ferry travels at 30 knots, which cuts the crossing time from 90 to 40 minutes. The establishment of this high speed ferry service has had an effect on highway use and transportation patterns within the Town of Southold. The introduction of the high speed service triggered litigation whereby the Town is being sued by a citizens' group for failure to prevent, or at the least control, the increased level of ferry service. In addition, the Cross Sound Ferry Co. has sued the Town in an attempt to prevent it from exerting control over the ferry operation.

In recognition of the increasing traffic congestion and the need to mitigate it, the Town is undertaking several initiatives which are described in *Section II.B. Planning Framework under Subsection 9, Town of Southold Transportation Committee.*

The Plum Island Ferry is run by the U.S. Department of Agriculture and it serves only those people employed on Plum Island. The North Ferry Company, a privately-held outfit owned by the Shelter Island Heights Property Owners Association, offers year-round ferry service between the Village of Greenport and Shelter Island. The Fishers Island Ferry Company, a quasi-public outfit owned

and operated by the Fishers Island Ferry District, provides a year-round ferry service for both passengers and vehicles between New London, Connecticut and Fishers Island (Reach 10). These ferry services are discussed in more detail in their respective Reach Analysis.

There are the three airport facilities located in the Town of Southold, although none of these offer scheduled commercial flights. The Charles Rose Air Field (Reach 4) and Mattituck Airbase (Reach 9) are privately owned. Charles Rose is a grass field, which sees limited use by light aircraft.

Mattituck Airbase hosts a single north-south asphalt runway and several hangars. Only smaller light planes such as Cessna, Piper Cub and Beechcraft can use this facility due to the shortness of the runway. One of the Town's largest employers, the Mattituck Aviation Corporation operates out of Mattituck Airbase. This company is considered one of the premier light engine overhaul facilities on the East Coast.

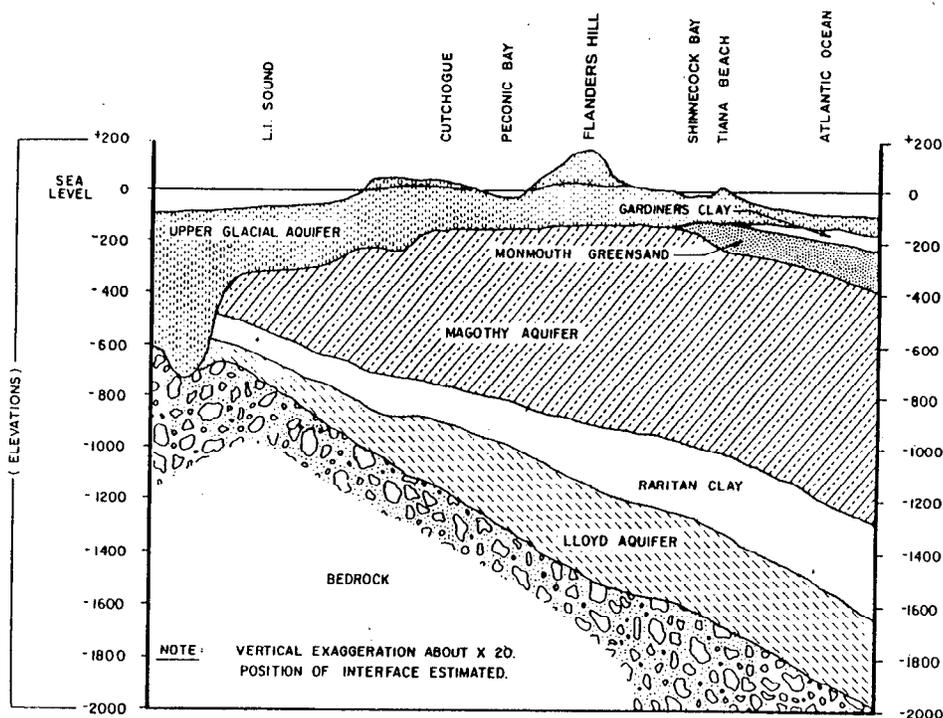
Elizabeth Field on Fishers Island (Reach 10), is the largest and best aviation facility within the Town. It was originally owned by the U.S. government. Today it is owned by the Town but is operated by the Fishers Island Ferry District. It is located on a 178 acre parcel that was originally part of the U.S. Army's Fort Wright. The airport has a 2,500 foot paved runway, which is maintained with funds from the Federal Aviation Authority. Air taxi services account for approximately 50% of the aircraft traffic.

3. Geology and topography

Long Island owes its origin to a succession of two glacial advances and retreats that occurred over eleven thousand years ago during the Wisconsin stage of the Pleistocene Epoch. The Island was shaped by the accumulation and deposition of materials originally from the north and transported south with each glacial advance. As the glaciers began to recede and melt, their accumulated material was deposited along the line of farthest advancement, forming ridge-like features commonly referred to as moraines. In addition, as the glacial ice melted, streams formed and carried lightweight material away from the moraine, thus establishing the glacial outwash plain. Southold's landscape is a product of the second major advance of the Wisconsin Glacier. The second advance terminated along the north shore, depositing the Harbor Hill Moraine and creating the pronounced bluffs, which span the Town's entire northern coastline. The morainal deposits consist of stratified sands and gravels and associated till. The till ranges from about 5 to 50 feet in thickness and contains many boulders. Gaps along the morainal ridgeline, occupied now by Mattituck Creek, Hashamomuck Pond, Dam Pond and Plum Gut represent areas where blocks of glacial ice were partially buried and then melted after the retreat of the main ice front (Crandell, USGS, 1963).

Following the second advance, the glacial ice melt carried sediments south, establishing the outwash plain that makes up the interior and southern coastline of the Town. The outwash is comprised primarily of stratified sand and gravel. Many tidal creeks are the result of the movement of meltwater from the retreating Wisconsin Glacier. Laurel and Marratooka Lake are referred to as kettle hoe lakes and are attributed to large chunks of ice that broke loose from the glacier, formed depressions in the newly laid, uncompacted soil and eventually melted. Figure II-1 depicts a typical geologic section through the north and south forks of Long Island near the Town's western boundary.

Figure II-1: Generalized Geologic Cross Section – Eastern Long Island



Source: Suffolk County Department of Health Services 1988

A discontinuous layer of clay is exposed along the northern shoreline in Orient, which is referred to as Gardiners Clay. A similar clay layer can be found on the western shoreline of Robins Island. Another clay layer underlies the glacial outwash sediments along most of the southern shoreline of Southold. This layer ranges from 5 to 60 feet in thickness, and extends nearly to the north shore west of the Village of Greenport (Crandell, USGS, 1963).

The Pleistocene morainal and outwash deposits contain the primary source of fresh groundwater in the Town of Southold. This water-bearing unit, referred to as the Upper Glacial Aquifer, is underlain by other glacial deposits containing saltwater. This is discussed in greater detail in *Section II.E.10. Groundwater Resources*. The presence of a clay layer in the outwash areas along the southern shoreline, helps to inhibit saltwater intrusion into the Upper Glacial Aquifer (Szepatowski Associates, Inc., February 1988).

The Upper Glacial formation is underlain by the Magothy formation. The Magothy formation is a Late Cretaceous deposit generally consisting of lenses of clay, silt and clayey sand in its upper sections and coarse sand and gravel in its basal portion. The Magothy is the major source of public water supply in the towns of Suffolk County west of Southold, but the Magothy is only available for supply in the Town of Southold west of Mattituck Creek. East of Mattituck Inlet this aquifer contains saline groundwater.

Below the Magothy formation lies the Raritan formation of the Late Cretaceous age (63 to 90 million years ago), which consists of a Raritan Clay layer over a Lloyd Sand layer. This Lloyd Aquifer contains only saltwater within the Town of Southold. Bedrock of Precambrian age

(approximately 600 million years ago) underlies all other formations at depths exceeding 500 feet below sea level, and has no value as an aquifer.

The geologic history of the Town of Southold is responsible for the development of agricultural and nautical activities. The glacial outwash plain is composed of rich and fertile soil capable of growing a wide variety of crops as will be illustrated in *Section II.C.1.(ii)* which discusses the agriculture industry in Southold. In addition, the meltwater creeks within the outwash plain support a wide variety of marketable shellfish.

The topography of the Town's coastal area is primarily a function of glacial deposits. Topographic elevations in Southold range from sea level to 160 feet above mean sea level (msl). Specifically, the highest elevations are found along the bluff within Reach 1. The hamlet areas of Oregon Hills and Mattituck Hills possess elevations of 120 to 160 feet above msl respectively. This bluff spans the entire northern coastline of the Town, gradually decreasing in height from west to east. In several locations along the northern shoreline the bluff recedes to sea level. This occurs at Mattituck Inlet (Reach 1), Goldsmith Inlet (Reach 2), Hashamomuck Pond (Reach 3), and Dam Pond (Reach 4). Most of the coastal bluffs have slopes exceeding 50 percent and are subject to extreme soil erosion mostly due to stormwater runoff, wind, and wave action.

The glacial outwash plain, which makes up approximately 90 percent of the Town's land area, lies directly south of the northern coastal bluffs. This outwash plain has an average elevation under 50 feet above msl and is characterized by low hills and gentle slopes. In general, the landscape tends to slope in a southerly direction towards the Peconic Estuary shoreline. Nassau Point (Reach 8) and the shoreline of Indian Neck, Peconic (Reach 7) are the only locations along the bay with topography similar to the northern coastline. Steep, 60-foot bluffs and interior elevations of up to 80 feet above mean sea level differentiate Nassau Point from the characteristically flat bayfront environment.

Wet, low-lying lands are prevalent adjacent to nearly every creek, inlet and pond within the Town. In addition, three significant freshwater ponds, Marratooka Lake and Laurel Lake (Reach 9), Great Pond (Reach 2), lie within the Town's coastal area. Salt-water wetlands are prevalent along the edge of Long Beach Bay (Reach 5), the Orient Causeway (Reach 5) and Hashamomuck Pond (Reach 6). Numerous, small, fresh-water ponds and wetlands can be found behind the Soundfront bluffs from Mattituck to Orient.

Fishers Island and Robins Island are the products of the same glacial history as mainland Southold. Both islands are characterized by irregular topography and steep bluffs. Robins Island has inland elevations of up to 80 feet and steep 60-foot bluffs along 75 percent of its coastline. In comparison, Fishers Island is more than seven times as large as Robins Island, and has inland elevations of up to 117 feet, with frequent stretches of steep bluff. The central portion of Fishers Island contains four significant freshwater ponds as well as large expanses of wet, low-lying land.

A complete listing of soils found within the Town of Southold is presented in *Soil Survey of Suffolk County, New York* (United States Department of Agriculture, Soil Conservation Service, 1975). Each soil has been rated as to its suitability for residential and recreational development, vehicle accessibility, and its utility for pipeline trench and septic field construction. The *Soil Survey* contains a discussion on the various potential uses and engineering properties of these soils with respect to slight, moderate and severe development limitations. Slight limitations are defined as being relatively free from limiting soil properties or having limitations that are easily overcome at a

low cost. A rating of severe indicates that the soil may require extensive modification or specific engineering to overcome the soil limitations. It should be noted that these solutions are generally expensive and often impractical.

There are three broad categories of soils found within the coastal zone of the Town of Southold. They are discussed as follows. It is important to note that this information is generalized and an accurate analysis of the soil at any given location would require field investigations.

- *Carver-Plymouth-Riverhead Association*

Soils within this category include Carver and Plymouth sands (CpA, CpC, CpE), Plymouth loamy sand (PIA, PIB, PIC), Riverhead sandy loam (RdA, RdB, RdC), as well as Plymouth gravelly loamy sand (PmB₃, PmC₃) and Riverhead very stony sandy loam (ReB, ReC). These soils are remnants of the glacial moraine. Consequently, this soil association is primarily located along the northern coastline of the Town, within Reaches 1 through 4.

All of the Carver, Plymouth, and Riverhead soils are deep, coarse textured, and excessively drained. The topography generally associated with these soils tends to be rolling, although it is not uncommon to find them on the steep slopes along the northern coastal bluffs. The Carver, Plymouth and Riverhead soils support a wide variety of native vegetation including White Oak, Black Oak, Red Oak, Scrub Oak, and Pitch Pine.

The soils in this association are highly desirable for development due to their close proximity to water, rapid permeability, and the wooded tendency and rolling nature of the topography where these soils generally occur. However, steeper slopes within this soil association have a high potential for soil erosion and are often difficult to revegetate once the native vegetation has been removed. Moderate to steep slopes in conjunction with a droughty soil characteristic make much of this association poorly suited for farming.

- *Haven-Riverhead Association*

Soils within this category include Haven loam (HaA, HaB, HaC, He), Riverhead sandy loam (RdA, RdB, RdC), Riverhead very stony sandy loam (ReB, ReC) and graded Riverhead/Haven soils (RhB). In general, this association makes up the glacial outwash plain located directly south of the north shore bluff. Approximately 70 percent of the inland and southern coastal areas of the Town (Reaches 3 through 10) is made up of soils from this association.

Soils from the Haven-Riverhead Association are characteristically rich, deep, well drained, moderately coarse in texture and nearly level. These soils are commonly associated with level to gently sloping topography. As a result, the Haven-Riverhead Association is highly suitable for agriculture and consequently most of the areas covered by these soils have been cleared of native vegetation to allow for active farming. Haven loam soil with a slope of 0 to 2 percent (HaA) covers much of the interior of the Town and has been assigned a *capability unit* 1 rating by the USDA Soil Conservation Service. This rating indicates that this soil is well suited for the cultivation of all types of agricultural crops commonly grown in Suffolk County. Concurrently, soils within this association also offer few limitations for construction and development, except on steeper topography (greater than 8 percent slopes). This can create conflicts between developers and proponents of farmland preservation programs.

- *Dune Land-Tidal Marsh-Beach Association*

Soils within this association include Beaches (Bc), Berryland Mucky Sand (Bd), Dune Land (Du), Muck (Mu) and Tidal Marsh (Tm), and are primarily located adjacent to creeks, inlets, ponds and in wetlands. In general, these soils can be found in close proximity to every large coastal waterbody within the Town of Southold. Beach soils encircle nearly the entire coastline of the Town with the exception of fringing tidal wetland areas.

There are two distinct areas with dune formations in the Town of Southold. The most extensive formation is the Peconic Dunes located near Great Pond in Reach 2. The second, less extensive area is somewhat eroded and is located on the east side of the inlet leading to Mattituck Creek. Dune land is made up mainly of evenly sized sand grains that have been piled up by coastal winds. Vegetation is generally sparse. However, certain portions of the dune regions in the Town are heavily wooded with pine. Structures within dune areas are frequently subject to damage from coastal storms. As a result, dune land is generally suitable only as wildlife habitat or passive parkland.

Tidal marsh is found in close association with nearly every creek, inlet, embayment and brackish-water pond in Southold. The larger expanses of tidal marsh border Long Beach Bay (Reach 5), Hashamomuck Pond (Reach 6), West Creek (Reach 8), and Middle Farms Pond (Reach 10). Tidal marsh soils are not normally inundated by daily tidal fluctuations, but are frequently subject to flooding during stormy periods. Tidal marsh soils have an organic surface layer which ranges from a few inches to several feet in thickness. These soils typically support a heavy vegetative cover of salt tolerant grasses and reeds. Tidal marsh soils are not suited for farming or any form of development. In fact, many state, federal and town regulations prohibit their disturbance or alteration.

Beach soils are subject to continual wave action and are made up of sands, gravels and cobbles. The beaches in the Town of Southold vary greatly in size, shape and composition. In general, the beach along the north shore is composed of gravels, cobbles and large boulders while the beaches bordering Peconic Bay are typically more sandy. Beaches are not suitable for agriculture or development due to their extreme exposure to wind and water. Shoreline hardening structures, such as jetties, groins and bulkheads, may provide short-term protection against shoreline erosion. However, in the long run these structures tend to aggravate the existing beach condition. The long-term cumulative effects of these structures on the beach morphology should be carefully studied prior to permitting construction.

4. Historical development of the waterfront area

The Town of Southold, considered the oldest English settlement in New York State, was officially founded in 1640 by a group of English Puritans from New England led by the Reverend John Youngs. The new plantation was under the jurisdiction of the New Haven Colony in Connecticut. Before 1640 English adventurers had come to the area by way of the West Indies looking for the various products extractable from pine trees, such as turpentine, resins and pine tar. One of these men, Richard Jackson, was in Hashamomuck, west of the present Village of Greenport, long enough to build a substantial house, live in it and then sell it before Youngs and his group established their church and town.

Before any of these English men, women and children came to the North Fork, three distinct types of Native Americans inhabited the area. Approximately 10,000 years ago the Native Americans

who roamed eastern Long Island were nomadic hunters known as Paleo Indians. Much later, some 4,000 years ago, came the Archaic Indians that archaeologists call the Orient Focus People. Eventually these Indians vanished. Present when the first English settlers arrived were Woodland Indians call Corchaugs. Relatively few in number by the seventeenth century, the Corchaugs knew this land from Wading River to Orient as "Yennecott". The Corchaug Indians seemed willing to share, not only the land, but also their farming and fishing skills with the English settlers. Already low in number, they easily succumbed to unfamiliar diseases like smallpox.

The first settlers of Southold soon cleared fields for a church, houses and kitchen gardens. As the population increased, settlement spread beyond the area now known as the hamlet of Southold to the east as well as to the west. Three great divisions of land took place in Oysterponds (Orient), Corchaug (Mattituck and Cutchogue), and Occabauk (Aquebogue). Until 1792, the boundaries of Southold Town ran from Fishers Island west through Riverhead to Wading River. In that year, the Town of Riverhead split from Southold.

With more land available and a growing trade established with New England and the West Indies, new crops such as flax and tobacco were raised. The Peconic Estuary shoreline became a center for shipping and shipbuilding. Pottery and brickmaking were early and important industries in those areas where deep clay reserves were present. These industries were present from first contact with Native Americans and were continued until the 1938 hurricane when the clay pits were flooded.

As the years passed, Southolders served in the French and Indian War. During the Revolutionary War, almost half of Southold's population fled to Connecticut when British soldiers occupied the Town. It took decades to recover from the economic impact of the War. Many farms that had been in the same family for generations changed hands after the war. Some patriots who left for Connecticut never returned to Southold and of those who did return, some lacked the resources to rehabilitate farmsteads and fields destroyed by the British and were forced to sell them.

In the first half of the nineteenth century, Southold was still relatively isolated although many vessels made port here. Grain, produce, cattle and bricks were shipped to New England and upstate markets and later to Brooklyn and New York City. The Southold wharf was built in 1856 and later renamed Founders Landing. It was a busy spot not only for trade, but also for steamers plying between New York, Brooklyn and New England.

With the incorporation of Greenport Village in 1838, shipbuilding and shipping was gradually transferred from Southold to the Village. Formerly called Stirling, Greenport became a whaling port and the business center of Southold (Booth, Southold Town Historian, September 28, 1993). In 1844, with the advent of the railroad, the Town really changed. Isolation was ended and distant markets were brought close. Land values rose, farming methods modernized, and the Townspeople prospered. A more diversified economy was established, which included a flourishing tourist industry and commerce. As summer visitors were attracted to the area, boarding houses came into being and hotels were constructed. Southold remained, however, largely an agricultural community, with Greenport Village as the center of the Town.

Whalers sailed from the North Fork from 1785-1857. Even in its heyday, during the 1830s and 40s, the whaling industry was not as important in Southold or Greenport as it was in Sag Harbor and other Long Island ports. As the whaling industry died out, other industries connected with the water grew and prospered. These included the menhaden, cod, bluefish and striped bass fisheries.

The fish were processed for human consumption, agricultural fertilizers and for the preparation of fish oil for water-resistant paints. Scallop, conch and oyster harvesting also were prevalent.

The First and Second World Wars bolstered the ship building industry. The end of World War II represented another turning point for the Town of Southold. Improved transportation and communication resulted in more rapid and continued change and development.

Fishers Island, located off the coast of Connecticut, since 1879 has been recognized as being within the state of New York. Prior to that time, “ownership” and control of Fishers Island appeared to change according to various pre-colonial and colonial patents and events. Fishers Island originally was discovered in 1614 by Adrian Block. In 1641, Connecticut granted John Winthrop, Jr. Fishers Island, and in 1644, he purchased it from the Pequot Indians. Winthrop raised sheep for food and wool. After Winthrop died in 1676, his son, Fitz-John, installed a lessee farmer from England, William Walworth, on the island. Walworth brought with him a system of cultivation, which was continued on the island for nearly 200 years. He established farmland out of nearly 3,000 heavily forested acres. Walworth and his family vacated the island nine years later due to the threat of pirates. Fishers Island remained in the Winthrop family until 1863, when ownership passed to Robert R. Fox, and then to Edmund and Walton Ferguson.

In 1783, brickmaking was established, using the vast amounts of available clay, as the largest and only industry. This business was discontinued in 1889. In 1870, a life saving station was erected at the western end of the island, which overlooked the waters between Fishers Island and Little Gull Island. The Race Rock lighthouse, which is located approximately one mile west of Fishers Island was constructed in 1878 as a navigational aid for travel in The Race. In the early 1900's a permanent Coast Guard Station was built on the east end of the island. In 1898, the Fergusons sold 216 acres on the western end of the island to the Federal Government. This land was developed as Fort H.G. Wright.

The 1890's brought a growing summer population and the construction of the Fishers Island Yacht Club. The E.W. & W. Ferguson business was established and managed the Mansion House Hotel and Cottages, a ferry service, and electricity, water and telephone enterprises. This business was renamed the Fishers Island Farms in 1918. Following the death of the Fishers Island Farms president in 1965, the business was purchased and became the Fishers Island Utility Company which continues ownership of the water, telephone and electrical utilities, while the ferry is operated by the Fishers Island Ferry Commission a quasi-public entity financed through a special tax district. Today, Fishers Island continues its tradition as a seasonal residential community with a small year round population.

5. Economy

The Town's economy at various times has been described as being based on three broad areas of entrepreneurial activity: agriculture, maritime industries and tourism/recreation. The first two areas of economic activity are thought of as being the *traditional* economic base, reflecting a heritage handed down over the past three and a half centuries. The latter is considered to be a relatively recent phenomenon.

The agricultural industry is the dominant visual feature of the economy due to the fact that it occupies more than 10,000 acres of land: more acreage than any other land use within the Town except residential. It is worth noting that in 1997, the Town of Southold contained 22% of Suffolk County's remaining agricultural acreage; second only to the Town of Riverhead. Suffolk County

is New York State's leading producer of agricultural products: with over \$250 million worth of market value annually. Southold Town has made a substantial investment in protecting the agricultural industry from development pressures. These efforts are described in detail in *Section II.B. Planning Framework* under *Subsection 7. Farm and Farmland Preservation Program: 1983-2002*. The changing face of the industry and the likely implications for land use within the Town are explored in greater detail in *Section II.C. Land Use and Development* under *Subsection (ii). Agriculture*.

While farmland dominates the landward vista of the Town of Southold, marine waters surround that landscape for more than 160 miles of shoreline. The maritime industries consist of a wide range of businesses including baymen and commercial fishermen, marinas that provide services to recreational boating and fishing enthusiasts and businesses providing any of a number of custom design, construction, maintenance and repair services. Because the primary focus of the LWRP is on water dependent and water enhanced uses, these industries are discussed in more detail in *Section II.C. Land Use and Development* under *Subsection (iv)*.

The tourism/recreation sector of the economy is considered to include those activities typically ascribed to summer residents, vacationers and day-trippers who seek out the Town of Southold for its farms, its beaches, its many water and land based recreational opportunities: in short, for its unique and increasingly hard-to-find combination of small town life, water access and stunning visual landscape. Components of this industry include purveyors of recreational activities, providers of food and lodging and other retail services.

Of course, the economic reality is more complex. Although less studied or understood, there are other aspects of the Town's economy worth noting. *The following information was prepared during 1998 for the Scenic Byways Corridor Management Report*. For starters, as of 1997, an estimated \$550 million in economic activity / personal income takes place with the Town. Municipal spending is known to be about \$70 million per year; representing an estimated 10% of the total activity. (It should be noted here that the term *municipal spending* includes that of the Village of Greenport as well as that of all other special taxing districts such as schools, parks, fire, drainage and highway.) Agricultural activity is conservatively estimated to be approximately 16% of the total. About 19% of the total is attributable to income from people who live in the Town but who work elsewhere. According to U.S. Census and other federal data sources, between 700 and 800 businesses operate within the Town and we estimated that they generate about 20% of the total. Commercial fishing as an industry is estimated to comprise about 3% of the total. The largest component of the total, however, is transfer payments into the Town to residents who live here but who don't work. The transfer payments sector accounts for 32% of the total: a statistic that correlates with the fact that more than 30% of the Town's population is aged 60 years or more. Figure 1 illustrates the relative size of these sectors.

Figure 2 takes a closer look at municipal spending during 1998. Of the \$70 million, town government is responsible for only 25% of the total. School districts account for 66% of the total, the largest component by far. The remaining special districts such as Fire, Libraries and Solid Waste account for the remaining 10%.

As mentioned earlier, the number of businesses in Town who file income tax returns lies somewhere between 700 and 800. These businesses were classified into one of the following categories: Manufacturing, Agricultural Service, Wholesale, Transportation, Finance, Construction, Retail and Service. In 1996, the Service industry was the largest sector, accounting

for thirty percent (30%) of the total. Retail businesses constituted the second largest sector at twenty seven percent (27%). The Construction trades were responsible for 18%. The remaining sectors were much smaller: starting with Finance (7%), and followed by Transportation (5%), Wholesale (5%), Manufacturing (4%), and Agricultural Services (4%). See Figure 3 for a graphic representation of these figures.

These businesses were found throughout the Town, but the major concentrations of activity lie within the hamlets of Mattituck, Southold, Greenport and Cutchogue in descending order, as seen in Figure 4. There are very few large employers in Town: (Source: U.S. Dept of Labor & U.S. Census 1990). Local government itself is a major employer; one of the few that is not seasonal.

Land use surveys indicate that about 800 acres or less than 3 percent of the land use in Southold Town is used for commercial and industrial activity. However, this figure should be considered a conservative and partial estimate of true commercial activity for two reasons: almost the entire agricultural industry operates from land zoned for residential purposes and the Town permits certain types of businesses to be run from homes located in residential zoning districts. Occupations permitted within residential districts include the following:

- (1) *Any gainful activity customarily conducted only within a dwelling unit by the residents thereof that is clearly secondary to residential use.*
- (2) *Activities carried on by the resident which are connected with produce of the seas, bays or harbors caught or dug by them, including storage and dockage of boats and gear, spreading and mending of nets and other gear and sale of such produce so gathered.*
- (3) *Tradesmen, not limited to carpenters, plumbers, landscapers, painters, masons and electricians, provided that no retail sales or services are conducted on site.*
- (4) *Home Professional Offices which have been defined as including the professional office or studio of a doctor, dentist, teacher, artist, architect, engineer, musician, lawyer, magistrate or practitioners of a similar character, or rooms used for home occupations. Provided that the office, studio or occupational rooms are located in a dwelling in which the practitioner resides. [Added 4-9-1991 by L.L. No. 10-1991; amended 7-28-1992 by L. L. No. 14-1992]*

Source: *Code Book of Southold Town Zoning, Chapter 100, Section 13, Definitions*

Many of these occupations are not immediately evident from either aerial photographs or field inspections. In fact, with the rise in telecommunications and the widespread use of personal computers and facsimile machines, the number of home-run businesses probably has increased in recent years. Since the Town of Southold does not require businesses to register and the majority of its businesses are too small to be counted in either national or regional economic studies, it is very difficult to quantify the composition and fluctuations of the local economy at any given point in time.

As discussed in more detail below in *Section A.6. Overview of current situation: population and housing*, the Town of Southold has a relatively large number of second or resort homes (approximately 35% of the total housing stock is estimated to be second home dwellings). This situation, in conjunction with the relatively high percentage of residents over the age of 60 (more than 30% of the total population), provides a base for a significant service sector centered around home construction/maintenance and healthcare services.

Although the high proportion of retired people (and their steady pension income) provides a limited buffer, economic activity within the Town of Southold is considered to be strongly seasonal and quite vulnerable to outside forces. During the height of the tourist season (July and August) with good beach weather, it has been estimated by various sources that the population in the Town doubles to 40,000 people. Inclement weather has been known to have a major dampening effect on the tourist trade.

The local economy also is strongly influenced by the performance of financial markets in New York City, less than 100 miles to the west. Although this has not been quantified, the Town's year-round residents know and understand the impact of year-end corporate bonuses during a bullish market on their individual businesses. While the impact of bullish markets and a robust economy in the New York metropolitan area are felt across all industries within the Town, they are perhaps first noticed by the real estate, construction and recreational marine industries due to the large second-home market niche that they serve.

Finally, the Town's geographic isolation has played a significant factor in the local economy too. The structure and shaping influence of the Town's transportation network were described earlier in this section. Transportation is discussed in more detail in *Section II.C. Land Use and Development under Subsection (iv)(e)*.

Of the sectors in Southold's economy, tourism/recreation is estimated to be the sector that has the greatest potential to destabilize the other two sectors on whose base it depends. In other words, the vitality of the agriculture and maritime industries depend heavily on maintaining the environmental integrity of fragile natural resources. As tourism/recreation increases, associated impacts such as increased levels of congestion and pollution can have a negative effect on the quality of those resources unless care is taken to mitigate the impacts. Increased tourism heightens a region's exposure to development pressures. Such exposure can escalate the demand to convert agricultural land to residential or commercial uses as summer residents become year-round residents, or day-trippers decide to become summer or year-round residents. Conversely, tourism/recreation also can provide strong economic incentives for the Town's residents to protect the environmental base of its agricultural and maritime industries. These issues are explored in more detail in *Section II.K. Summary and Conclusions, under Key Issues*.

The Town of Riverhead, immediately to the west, has been growing rapidly into a major regional commercial center servicing both the North and South forks. With the addition of one of the largest regional outlet malls in the Northeast, Tanger Mall, Riverhead's commercial retail growth has had a noticeable impact on some of Southold's retailers. Since the degree and nature of the impact varies with the business, we can say at this point only that the retail industry within Southold is undergoing a transition as retailers try to redefine their marketing niches in a changing and highly competitive market.

The Town of Southold also will be impacted by the re-development of the former Grumman/US Navy property located in Calverton just west of Riverhead's commercial center. The huge size of this site (2,630 acres) and Riverhead's plans to turn it into a major employment center with the addition of industry, entertainment and retail enterprises, will have significant impacts on Southold's economy. At the least, the town's desirability as a bedroom community is sure to increase thereby adding to the development pressures on an already threatened agricultural land base.

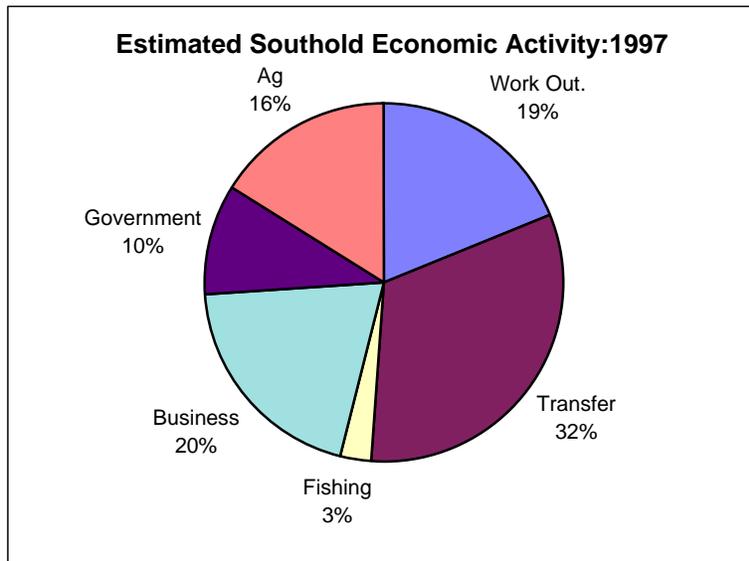


Figure 1: Estimated Southhold Economic Activity: 1997

Figure 1 is designed to indicate the relative size of individual sectors to each other, and not serve as a precise tabulation of absolute values (which are not available given the present resources). Municipal spending is one of the few known quantities. Transfer payments are estimate.

Reported income is likely less than the indicated actual income. The estimates for agricultural income should be assumed to be conservative due to variability in crop value, crop quality, supply and demand, and other factors that typically affect agricultural income. Finally, income from those who live in Town but work elsewhere, reflects an educated guess based on the entire analysis.

Sources: *U.S. Bureau of the Census, U.S. Department of Labor, Internal Revenue Service, Southhold Town Tax Assessor's Office, Peconic Estuary Program*

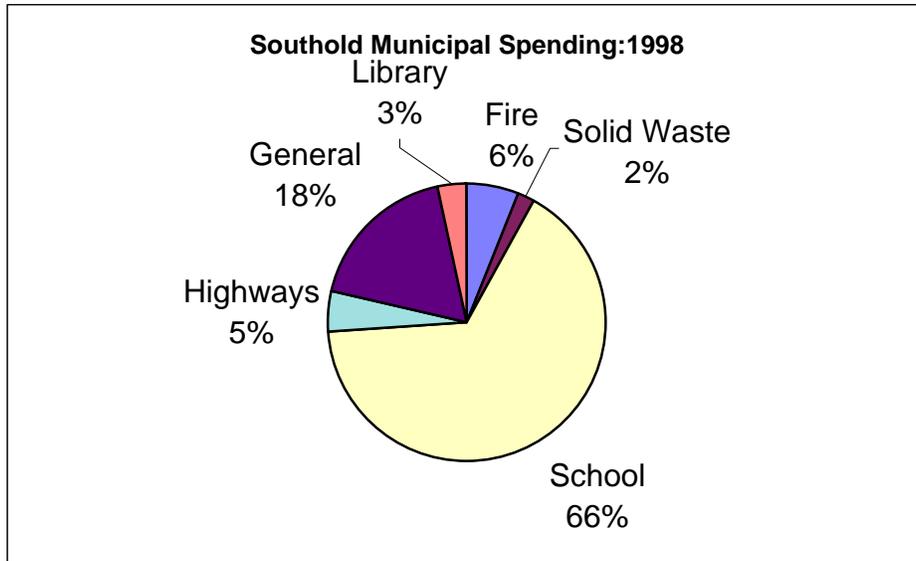


Figure 2: Southold Municipal Spending: 1998

Figure 2 takes a closer look at the portion of the local economy that is attributed to municipal or governmental spending (70 million dollars or 10 percent of the whole). Town government itself is responsible for only 25 percent of this amount. The largest component of public spending, by far, is by local schools, which account for 66 percent of the total. School district revenues are collected by the Town, but district expenditures are controlled by the voters within the respective school districts. The same holds true for Library, Park and Fire district expenditures.

Source: *Town Tax Assessor's Records 1997-98*

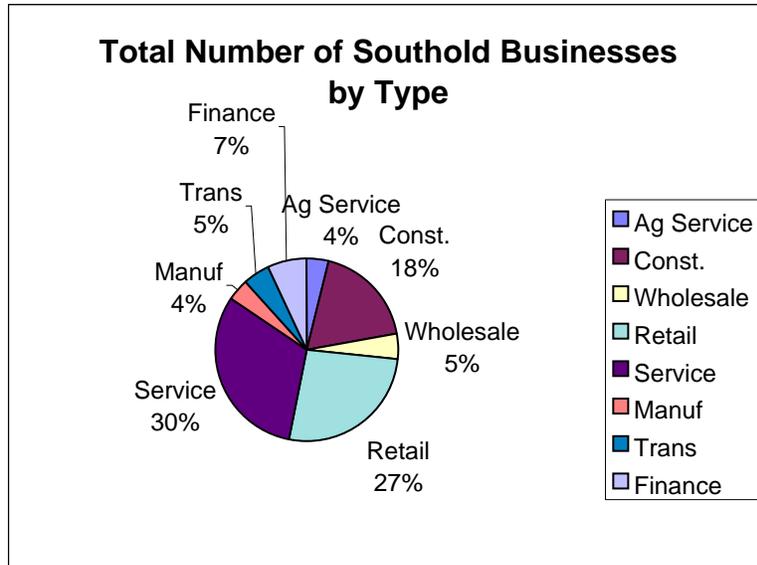


Figure 3: Total Number of Southold Businesses by Type

Figure 3 indicates the estimated percentage of businesses within each category. As can be seen by the figure, the Service industry comprises nearly one third of the total, and is by far the largest sector. Retail businesses are the second largest category of the private sector and account for more than a quarter of the activity within the Town. This sector includes carpenters, building trades, contractors, lumberyards, etc. The remaining categories are much smaller: finance (7 percent), transportation (5 percent), wholesale (5 percent), manufacturing (4 percent), and agricultural services (4 percent).

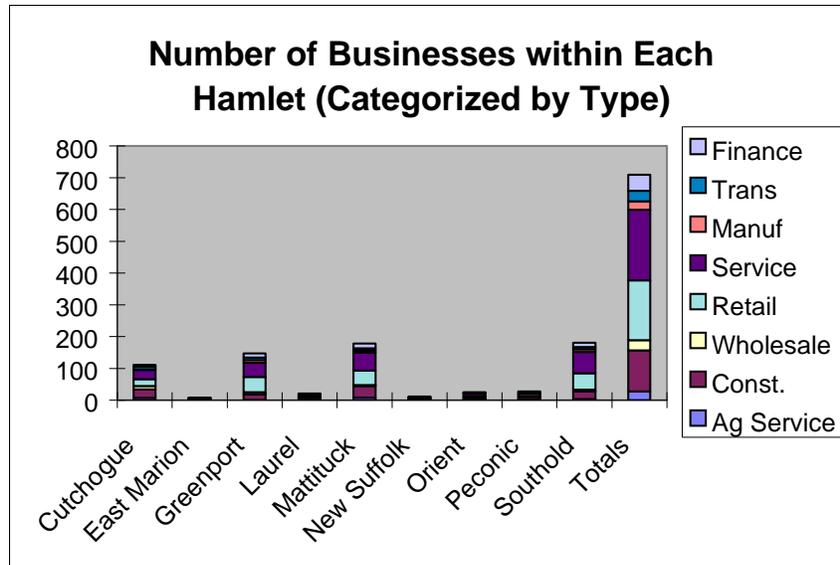


Figure 4: Number of Businesses (by Type) within each Hamlet

6. Overview of current situation: population and housing

Between 1800 and 1990, the permanent population of the Town increased by an average of 17 percent every ten years. The 1990 census population for Southold was 17,766 persons, excluding the Incorporated Village of Greenport with its population of 2,070 persons. The 2000 Census revealed a population of 18,551 persons, excluding the Incorporated Village of Greenport, a population of 2,048. This population is located in a series of discrete traditional hamlets, which include Laurel, Mattituck, Cutchogue, New Suffolk, Peconic, Southold, East Marion and Orient. There is also a small hamlet on Fishers Island. Outside of the Village of Greenport, these hamlets are the main centers of residential development and commercial activity within the Town of Southold and form the community framework of the Town with which its residents identify. The respective population figures for the various hamlets are shown in Table II-3.

Although the average rate of growth in Southold since the 1790s has been 17 percent per decade, the Town's population has experienced wide fluctuations in growth rates - from a high of 34 percent between 1830 and 1840 to a low of minus 4 percent between 1910 and 1920. Since the 1950s, however, the rate has averaged 14.5% per decade with a high of 26% during the 1970s and a low of 3.5% during the 1980s decade. Between 1950 and 1990 the population increased 58% from 11,632 to 19,836,

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Table II-3 Hamlet population statistics

Census Designated Place	Census 1970	Census 1980	Census 1990	Census 2000
Cutchogue - New Suffolk	2,718	2,788	3,001	3,186
East Marion - Orient	1,240	1,511	1,534	1,474
Fishers Island	462	318	329	289
Greenport, uninc.	1,682	1,571	1,614	1,679
Laurel	598	962	1,094	1,188
Mattituck	3,039	3,923	3,902	4,198
Peconic	835	1,056	1,100	1,081
Southold	3,749	4,770	5,192	5,465
TOTAL	14,323	16,899	17,766	18,551

Source: *U.S. Bureau of the Census, 1970, 1980, 1990, 2000*

In 1990 there were nearly 12,000 dwelling units within the Township, close to 92% of which were single-family detached homes. Approximately 35% of these homes were considered to be second or summer homes. Some of these residences started out as small seasonal cottages that were expanded into year-round retirement homes complete with the latest amenities. The Town's housing stock is relatively young: only 25% of it was built before 1939. In 2000 the number of dwelling units increased 5.9% to 13,769. Thirty four percent are considered second homes.

Affordable housing has been an issue of ongoing concern within the Town, particularly as the standards and costs of living increase. The price of real estate in Southold is driven by the demand for seasonal homes and by the fact that buyers from the New York metropolitan area tend to have higher levels of disposable income than do many local residents. The Town is keenly aware of the socio-economic problems this poses for the Town's future as well as a viable, year-round community with diverse income and age levels. A study of affordable housing needs within the Town determined that those in greatest need of housing consisted of young, single women with children and older widows. (Source: *A Statistical Profile of Southold Town: 1990 and A Description and Evaluation of Southold Town's Affordable Housing Policies and Programs 1980-1992*). Reports of the Southold Town Planning and Zoning Committee to the Town Board. October 1993.) Starter housing for young couples, particularly those with children, is another area of need. The Town takes full advantage of various types of federal and state housing assistance. It also has its own program for encouraging new affordable housing. However, the latter program has been criticized for creating new housing, when rehabilitation of existing housing, particularly that which is located within the traditional, older neighborhoods near the hamlet business centers, might better serve the community.

In 1999 the median age of Southold Town residents was slightly more than 44 years: considerably higher than the national average of 32.9 years. In fact, more than 30% of the Town's residents were age 60 or older. Average family size was 2.92 people, again higher than the nationwide average of 2.63 people. Approximately 26% of all households were single person households, a reflection of the high proportion of elderly, widowed people as opposed to a young, single population. In 1989, slightly less than 4% of the Town's population lived below the poverty line; whereas the national figure was 13.1%. The median household income Town-wide in 1989 was \$35,392: a figure that at first blush compares favorably with the national median of \$30,058. However, given the large retired population, care must be taken in interpreting this statistic.

The preliminary 2000 Census data did not show much change. The median age was still slightly higher than 44 years. Average family size held steady at 2.9; household size around 2.4. Single person households increased slightly to 26.6%. Nearly 57% of these households were age 65 or older. In 1999, 4.1% of families and 5.8% of individuals within Town were living below the poverty level. Median household income in 1999 was \$49,898. Comparison to national statistics was not available at time of writing.

The Town's population growth rate must be placed in the regional context of growth in the Nassau-Suffolk region of Long Island. As the population and developed area of Nassau County grew rapidly in the years immediately after the Second World War, suburban growth moved into western Suffolk County. Population growth spurred a substantial expansion of commercial and industrial development, primarily along the major transportation corridors. During this time of rapid growth, the eastern part of Suffolk County remained largely isolated by distance and poor transportation links.

In recent years, development pressures have not only moved eastward, but with the establishment of the Pine Barrens Preserve in 1992, they have leapfrogged directly to the East End. The rapidity of this development is being driven by a revived national and regional economy and a bullish stock market. It poses a real threat to the traditional development patterns within the Town, which is based on discrete hamlets set within a working landscape of farms and waterfront.

To put population forecasts in perspective: if the Town were to continue growing at an average of 14.5 percent, as it has since the 1950s; and if two-acre zoning were to remain in effect; and if no additional land were protected from development; the Town could expect to reach saturation population in less than 40 years - by the year 2040. (Source: Southold Planning Department) The Suffolk County Planning Department recently conducted a survey of remaining undeveloped land within Southold and estimated that saturation population could equal 33,871 year round with an additional 25,530 seasonal. These figures represent a potential 74% increase in the year-round population in 1990, and a 72% increase in the seasonal population in 1990. (July, 1998).

The situation on Fishers Island is discussed here briefly because of its uniqueness. More than three-quarters of the Island is dominated by the Fishers Island Development Corporation, which controls the rate at which new lots still in its possession are offered for sale. Most residences within the FIDCO-portion of the island are seasonal. In 1994, the Fishers Island Growth Plan estimated that 500 more homes could be built on the island given current zoning. For an island with a year round population of between three and four hundred people and a summer population peak of 5,000, the potential for growth on Fishers Island is significant. However, there is concern that this growth will be in the seasonal population, not the year-round population which has been dwindling steadily as the cost of moderate-priced housing on the Island increases, and availability decreases. For instance, between 1990 and 2000, as seen in Table II-3, the year-round population declined 12%. The background and ramifications of this situation are discussed in greater detail in the *Section* entitled: *Inventory and Analysis: Reach 10*.

Overall the population demographics in the mainland part of Southold are in a state of transition characterized by an increase of young families with children. The pattern seems to be one of people searching for good school districts, and a better quality of life. Typically, the head of the household either commutes to jobs in western and mid-Long Island or operates from a home office. Double-income families are common. The two school districts that appear to have been most affected are the Mattituck-Cutchogue School District, which just absorbed the Laurel School

District, and the Southold School District. Mattituck-Cutchogue voted in 1997 to expand its middle school at East Cutchogue at a cost of \$15.8million. Southold School District members voted in 1996 also for a \$14.7 million dollar expansion of its elementary and high schools.

7. The Andros Patent and ownership of underwater lands

In 1674, shortly after New York was re-captured by the British, the people of the Town of Southold were approached by the Governor, Edmund Andros. The Governor petitioned the townspeople to align themselves with New York, thus coming under the authority of James, the Duke of York, who was the younger brother of Charles II, King of England. The request was met with opposition by the Town inhabitants. In response to this opposition, Governor Andros authorized the *Andros Patent* in October of 1676. The Patent established the Town government, the Town boundaries, affirmed the original property rights of Town inhabitants, and described in detail natural resource, hunting and fishing rights. These rights subsequently were transferred to the direct control of the Town of Southold Board of Trustees on behalf of the Freeholders and inhabitants. The Patent conveyed all the land within Southold, including ponds, creeks and wetlands. At the time, Southold Town embraced the whole of the present day Town of Riverhead.

In 1792, the Town of Riverhead was created out of the western end of the Town of Southold (*Laws of 1792, Chapter 24*). Riverhead obtained quit claims from the Trustees of Southold of all rights of land within Riverhead Town (Suffolk County Clerk's office, Liber 5662, cp. 169; Liber 5733, cp. 350).

The *Andros Patent* was given to seven proprietors, whose primary interest was in holding, dividing and eventually distributing such lands among themselves and all then existing inhabitants of the town, who were called "associates", also known as "freeholders" or "commoners". At that time, the associates met as a group and ran the affairs of the town. They sold land and in some instances, imposed easements over them protecting the common rights.

In 1796, the State Legislature passed an act recognizing the associates ("commoners" in the legislation) as owners of the undivided lands and meadows in the town. The act authorized the commoners to elect three trustees to manage the common lands (*Laws of 1796, Chapters 52*). Over time, most the lands of the original proprietors were either conveyed into private or town ownership, although they did retain to themselves some undivided lands, which came to be called *common lands*. The commoners continue to exist in Southold and still hold *common lands*. However, as Kavenagh points out: "As for the commoners, they are now no more than a historical oddity, an anachronism that has survived for over 300 years. At one time masters of all they surveyed, they now command 20 acres of salt meadow on Indian Neck. Their numbers have shrunken to fewer than 26, who control the 108 shares still extant. About 5 years ago, they made arrangements to lease their 20 acres to the town for 10 years, with an automatic renewal clause if both parties continue to agree, in return for which the town would remove the properties from the tax rolls. The lease stipulates that the marsh is to be left in its natural state. (Source: Kevin Kavenagh, PhD. JD, *Vanishing Tidelands: Land Use and the Law, Suffolk County, NY 1650-1979*. New York Sea Grant, 1980.).

As a result of the *Andros Patent*, the Town of Southold still claims title to all lands under its harbors, bays and creeks, to the extent not otherwise conveyed into private, County or State ownership. In 1893, the State Legislature created the Trustees of the Town of Southold to hold and to manage these lands for the benefit of taxpayers and residents. (*Laws of 1893, Chapter 615, as amended by Laws of 1952, Chapter 404*). Under this legislation, the Trustees exercise exclusive

jurisdiction over town-owned creeks and harbors. They were empowered with the authority to "manage, lease, convey, or otherwise dispose of all or any part of such common lands, waters, and lands underwater, to the public right of adjoining upland owners". The commonly held resources and rights described in the *Andros Patent* include all "land with necks and islands ... together with rivers, lakes, waters, quarries, timber, woods, woodlands, plains, meadows, broken pieces of meadows, pastures, marshes, fishing, hawking, hunting and fowling..." which were not already the property of any one person.

Currently, the Town's Board of Trustees has primary jurisdiction over all underwater lands and in-water activities within the borders of Town creeks. The creeks to which the *Andros Patent* applies (and for which the Town Trustees are empowered under the 1893 act) are identified in Table II and their location is illustrated on [Map II-2](#). The total area of these holdings is more than 2,000 acres.

A clear distinction must be made between Trustee holdings and Trustee jurisdictions. The Trustees have jurisdiction over activities occurring on or adjacent to underwater lands within the boundaries of the Town of Southold. This jurisdiction extends to privately owned ponds and freshwater wetlands. Not all creeks and inlets present today along Southold's shoreline were in existence when the *Andros Patent* was issued. Nor was the Patent all inclusive. Accordingly, there are many privately owned ponds, inlets, and canals where the Town does not own the underwater land. Nevertheless, the Trustees retain jurisdiction or oversight over activities occurring on those lands and waters. Fordham Canal (in Gull Pond – Reach 5), Brick Cove in Reach 6, and Schoolhouse Creek in Reach 8 are examples of privately owned lands under Trustee jurisdiction. Lily Pond (Reach 2), Munn Lake (Reach 4) and Major's Pond (Reach 5) are privately owned fresh water ponds under Trustee jurisdiction. It should be noted here that Robins Island was granted in a separate colonial patent to Charles Williams and Frederick Morris in 1733 and was not part of Southold's *Andros Patent* lands.

The Town has relinquished title to *Andros Patent* lands in only one known instance. By deed dated May 23, 1930, the Town conveyed Long Beach as well as certain lands underwater in Little Bay adjacent to Long Beach, to the State Board of Commissioners of the Land Office, which, in turn, transferred jurisdiction and ownership to the Long Island State Park Commission. These lands subsequently became Orient Point State Park.

The Town's boundaries extend outside of the holdings described in the *Andros Patent*. But the Town's control of underwater lands is confined to those described in the *Patent*. Within the Peconic Estuary, underwater lands within the Town's boundaries are owned by the State of New York, except where the State conveyed certain rights either to Suffolk County, or to individuals. Peconic and Gardiners bays did not pass by colonial patent to the Town of Southold or to any of the other towns on eastern Long Island. The lands under those waters are in the possession of the State. *Town of Southold v. Parks*, 41 Misc. Rep. 456, 84 N.Y.S. 1078 (Sup.Ct. Suffolk Co.), *aff'd*, 97 App. Div. 63, 90 N.Y.S. 1116 (2nd Dept.) *aff'd*, 183 N.Y. 513 (1905); *Claudio v. Village of Greenport*, 55 Misc.2d 371, 284 N.Y.S.2d 965 (Sup. Ct. Suff. Co. 1967) and *Laws of 1884, chapter 385, as amended by Laws of 1896, Chapter 916*.

In 1884, the State made a restricted cession to Suffolk County enabling the "selling" parcels of 1 to 4 acres for the purpose of culturing oysters. (*Chapter 384 of Laws of 1884 and Chapter 640 and 642 of Laws of 1906*). The County's rights to the underwater lands were not so much title to, or ownership of, but were more akin to the power to grant franchises or leases of bay bottom. A glance at the County tax map shows the underwater parcels that resulted from this cession.

While the County or private individuals or companies may hold the lease, the State still retains fee ownership of the bay bottom.

In 1969, the State again ceded to Suffolk County the right to lease ceded lands underwater, beginning at a point 1000 feet from the shoreline, (*Chapter 990 of Laws of 1969*). The statute's legislative finding and determination recognized that the business of cultivating oysters had declined and that shellfish other than oysters had become more important to the local economy. It should be noted, however, that the County has not leased underwater land for shellfish culture, except for off-bottom culture, since 1964.

As shown in Table II-1, the New York State owns the underwater lands within the Peconic Estuary; this includes all the underwater lands along the immediate shoreline, to a distance of 1,000 feet. The majority of the Suffolk County and privately leased underwater lands are beyond 1,000 feet from the shore, in Little Peconic Bay and Shelter Island Sound. Within Long Island Sound, title to the foreshore of and submerged lands under Long Island Sound is vested in the State of New York, unless otherwise conveyed away by the State. *Loundes v. Town of Huntington*, 153 U.S. 1, 22-23 (1894). Town jurisdiction (but not ownership) of lands beneath Long Island Sound has been extended northerly to the New York - Connecticut State Line by Act of the State Legislature (*Laws of 1881, Chapter 695*).

Presently, the Town of Southold Trustees regulate boat mooring activities and navigation in Town creeks, residential and commercial dock and bulkhead construction, shellfish harvesting and counts, and wetland permits. The Trustees also provide guidance to the Bay Constables for the management of the over 2,000 acres of public underwater land within the Town. Furthermore, the Trustees regulate activities that may occur on private lands under the Town's *Wetlands and Coastal Erosion Hazard Area* ordinances. This last responsibility was given to the Trustees by the Southold Town Board in recognition of their inseparable relation to the *Andros Patent* and the need to protect the Town's natural resources under home rule. These regulations are discussed in more detail in *Section V. Techniques for Implementing the Local Waterfront Revitalization Program*.

Table II-1: Estimated acreage of Town Trustee underwater land holdings

Reach	Location	Acreage
1	Mattituck Creek	165.0
2	Autumn Lake	1.5
	Goldsmith's Inlet	22.0
	Great pond	30.8
	Hummel Pond	2.5
4	Dam Pond	45.3
5	Hallocks Bay	668.0
	Orient Creek	18.0
	Marion Lake	26.0
	Gull Pond	15.8
	Sterling Creek (part of)	3.8
6	Pipes Creek Complex	15.8
	Hashamomuck Creek	167.0
	Budds Pond	20.9
	Hippodrome Creek	3.9
7	Town/Jockey Creek Complex	72.3
	Goose Creek	79.9
	Cedar Beach Creek Complex	29.0
	West Lake	4.5
	Corey Creek	98.0
	Richmond Creek	79.4
	Little Creek	12.8
	Wunneweta Pond	19.5
8	Eugenes Creek Complex	183.1
	Wickham Creek	44.0
	Schoolhouse Creek	3.3
	West Creek	70.0
	Downs Creek	17.6
	Halls Creek	9.6
9	Deep Hole Creek	42.8
	Marratooka Lake	22.7
	James Creek	20.8
	Horton Creek	21.4
	Brushs Creek	4.8
	Laurel Lake	29.2
Total acreage of holdings		2,071

Source: Town of Southold, 1999

Table II-2: Jurisdiction of underwater lands in the Peconic Estuary within Southold

Ownership	Acres
State of New York	24,797
County of Suffolk	10,377
Private	2,684
Total Estimated Bay Underwater Lands	37,858

Source: County of Suffolk Tax Records and Tax Map, 1994.

B. PLANNING FRAMEWORK

1. Introduction

The entire geographic area of Southold Town is included within the scope of this LWRP. In turn, the program itself is intended to be a comprehensive strategy for evaluating and integrating the governmental decision making process. As will be shown in this section, the Town has a clearly articulated set of goals for itself: and these goals define the Town's Vision for its future. These goals were described in the Town's 1985 Master Plan Update, and reaffirmed in 1991 and 1994 by the US/UK Stewardship Exchange Report and the subsequent Final Report of the Southold Town Stewardship Task Force, all of which are discussed herein.

The goal of this LWRP is to define the actions that will actually achieve this Vision. The objective of this LWRP is to shape the framework within which these actions are made; to wit, the daily decisions made by appointed and elected officials at town, state and federal levels of government.

This LWRP is not a reinvention of the wheel. Rather, it is a refinement of existing planning and policy guidelines; a tying together of a foundation and a building upward from that foundation. The next several pages will identify the key long-range plans that presently provide a framework for decisions made by governmental decision-makers at one or more levels of government. Their inclusion in this document means that they are incorporated into it and, in the future, are intended to be an expression of it. They are listed in no particular order other than that state and regional plans follow the local plans.

2. Town of Southold Comprehensive Plan: 1967, 1985

Formal and informal community planning efforts for the Town of Southold have been ongoing for the last several decades. In 1967 a *Comprehensive Development Plan* was prepared by Raymond and May Associates. Zoning amendments were subsequently adopted by the Town Board and most portions of the original Plan were later incorporated into a Development Plan prepared by the Town in 1978.

In the fall of 1982, the Town retained Raymond, Parish, Pine and Weiner, Inc. to update the Town's *Comprehensive Development Plan*. The consultation prepared a series of background reports and maps that examined existing conditions including land use; natural resources; water supply; the local economy (emphasizing agricultural, fishing, and tourist industries); population and housing; community services and facilities; transportation; historic features; planning issues; and planning goals and policies. These were incorporated into the *Master Plan Update - Background Studies*, (Raymond, Parish, Pine and Weiner, Inc., 1984).

These background studies formed the basis of a Preliminary Plan prepared by the Consultants, the Town of Southold Planning Board and Master Plan Workshop Committee. After a series of meetings for public review and discussion of the Preliminary Plan, the Planning Board developed the *Master Plan Update* (Town of Southold Planning Board, 1985).

This Plan was the Planning Board's recommendation to the Town based on the work of its Consultants and input from the public. Although adopted by the Planning Board, the Town Board never adopted the *Master Plan Update*.

The *Master Plan Update* proposed that "the goals of the Town of Southold reflect the Town's interest in preserving and enhancing the natural and built environment and providing opportunities

for a level of growth and expansion of the economic base that is compatible with the existing scale of development, availability of water, existing sensitive environment of the Town and its historic heritage" (Town of Southold Planning Board, 1985, p3). The following detailed goals were proposed:

Overall planning

- Provide a community of residential hamlets that are comprised of a variety of housing opportunities, commercial, service, and cultural activities, set in an open or rural atmosphere and supported by a diversified economic base (including agriculture, marine commercial and seasonal recreation activities).
- Maximize the Town's natural assets, including its coastal location and agricultural base and achieve compatibility between the natural environment and development.
- Achieve a land use pattern that is sensitive to the limited indigenous water supply and will not degrade the subsurface water quality.

Housing/residential development

- Preserve the existing housing stock and provide the opportunity for the development of a variety of housing types to meet the needs of people at various stages of the life cycle, various income and age levels and household compositions.

Economic development

- Strengthen and diversify the Town's economic base as a means of stabilizing and expanding the tax base and year-round and seasonal employment opportunities.

Waterfront

- Protect environmentally sensitive coastal areas, maximize public access to the waterfront and achieve economic benefits from water-enhanced and water-dependent activities, particularly well planned seasonal and commercial activities in appropriate locations.

Agricultural preservation

- Preserve Southold's prime farmland and encourage the continuation and diversification of agriculture as an important element in the life and economy of the Town.

Environment

- Preserve and enhance the Town's natural environment including waterways, wetlands, tidal marshes, woodlands, bluffs, dunes and beaches.
- Maintain and protect Southold's agricultural heritage and pastoral and open qualities
- Ensure that there is an adequate quantity of high quality ground water to serve Southold's present and projected year-round and seasonal populations.

- Promote a development pattern that is responsive to sensitive areas exhibiting prime agricultural soils, poor drainage, high water table, high erosion hazard, flood hazard, sensitive coastal features, great scenic quality and woodlands.
- Maintain and improve surface water quality
- Maintain and protect finfishing and shellfishing habitats.

Cultural environment

- Preserve the historic, cultural, architectural and archaeological resources of the Town.
- Preserve and strengthen the hamlets as cultural, residential and commercial centers of activity in the Town; as a means of contributing to the preservation of historic buildings and areas and contributing a "sense of place".

Community facilities/utilities

- Ensure the provision of an adequate range of community facilities and services to accommodate existing and future Town needs in a convenient and cost effective manner.
- Maintain and improve existing utility systems and determine where it is appropriate to expand water supply, sanitary sewer, storm drainage and solid waste disposal systems in order to support the desired level of development and to maintain and protect a healthful living environment, a viable economic base and the natural environment.
- Provide an open space and recreation system adequate in size and location to accommodate a range of facilities to serve the total (seasonal and year-round) population.

Transportation

- Insure efficient movement of people and goods within Southold, as well as into and out of Town, in a manner that maximizes safety and maintains the scale and integrity of residential and agricultural areas. (Town of Southold Planning Board, 1985, p3-5)

The "Master Plan Update" also made land use recommendations that reflected the goals outlined above, and the many issues discussed in the *Master Plan Update - Background Studies*. The following land use categories provided a general indication of how various areas should be utilized and reflected desirable predominant land uses.

Agricultural and residential

Commercial

Recreation and open space

Agricultural Conservation
Low Density Residential
Hamlet Density Residential
Office/Residential
Residential/Resort

Hamlet Commercial
General Commercial
Marine Commercial/Marine
Recreation

Recreation
Open Space

Public/semi-public facilities

Light industrial/office

Source: Town of Southold Planning Board, 1985, p3-5

The future pattern of land use proposed in the *Master Plan Update* encouraged residential development to locate in and around existing hamlets "in order to preserve and enhance the historic and cultural centers of the community, to support existing commercial centers, to provide locations for moderately priced housing and to encourage efficient and effective provision of community facilities and services" (Town of Southold Planning Board, 1985, p6) and for commercial development to locate in hamlet centers. The Plan identified Mattituck, Cutchogue, Southold and Orient as major hamlet centers which should "continue to be the residential-business-service centers of the Town" (Town of Southold Planning Board, 1985, p8). New Suffolk, Laurel, Peconic, East Marion and Fishers Island were also considered hamlet centers.

Each of the four major hamlet centers were examined in detail as part of the *Master Plan Update* and more detailed land use plans were prepared. Existing conditions and various factors affecting planning, including types of development, vacant land, parking and traffic patterns, natural or environmental features, and historic areas were analyzed. The plan developed for each of the Town hamlet areas was designed to:

- *maintain the hamlet as a community focal point and an activity center*
- *strengthen the existing retail and service commercial uses in the hamlet centers*
- *provide adequate parking for commercial and public uses*
- *provide for a range of housing for younger and older residents with a range of income levels within the hamlet areas, with higher densities near the center and lower density in outlying areas. The base density of one unit per acre is shown on the hamlet maps and the range of possible densities would be limited by the availability or provision of utilities and the provision of lower cost housing*
- *recognize that transition areas exist between the hamlet business areas and outlying residential areas*
- *provide for some auto-oriented, general commercial uses at the outer edge of the hamlet to complement hamlet center commercial uses*
- *where appropriate, provide areas of sufficient size to establish office parks or light industrial parks to offer opportunities for expanded economic development within the Town*
- *provide areas for recreation activities as well as open space areas for passive recreation opportunities and for protection of environmental features*
- *suggest road improvements where desirable for smoother traffic flow within the hamlet and/or the Town*

- *preserve agricultural use of land where prime soils exist and a sufficient number of contiguous parcels have remained in farming activities to maintain the viability of agriculture in relative proximity to the hamlet center*
- *protect the quality of ground and surface waters and natural environmental features*

Source: Town of Southold Planning Board, 1985, p18-19

Lower densities of residential development were proposed in the remainder of the Town, particularly in agricultural areas and coastal areas, and even lower densities were proposed in areas where water supplies were particularly limited and where extensive areas of environmentally sensitive land exists. The *Master Plan Update* also introduced zoning and land use techniques aimed at protecting farmland and sensitive natural areas, including acquisition of development rights, clustering, agricultural use assessments and transfer of development rights.

The *Update* also identified the limited availability of waterfront sites and the high demand for expanded mooring and boat storage space. It proposed that marine-related water-dependent uses be "encouraged at appropriate locations on or near the coast and/or along creeks and bays where they do not negatively impact on residential neighborhoods or the natural environment" (Town of Southold Planning Board, 1985 p12). The *Update* distinguished between *Marine Recreation*, areas of strictly recreation-oriented marine activity, and *Marine Commercial*, areas with more intensive commercial marine activity.

The *Marine Recreation* category was recommended:

"for locations along creeks that have suitable harbor areas, but less tidal flushing than is possible in bayfront or soundfront locations. Opportunities for boat docking and launching including marinas and yacht clubs will be provided. Opportunities for restaurants, bed and breakfast establishments and resort hotels or hotels can also be available under more limited conditions" (Town of Southold Planning Board, 1985 p12).

The *Marine Commercial* category was recommended:

"for more intensive commercial marine activity, which could include marinas and boat yards with boat building, mooring facilities for recreational and/or commercial boats, mariculture operations and where appropriate, fish processing facilities or ferry terminals. Marine Commercial areas could also include some water-enhanced uses such as restaurants, resort hotels or motels, and marine oriented retail stores or museums" (Town of Southold Planning Board, 1985 p12).

The major emphasis of the Parks and Recreation section of the *Master Plan Update* was "to assure access to a range of passive and active recreation areas or facilities and to expand access to the water" (Town of Southold Planning Board, 1985, p14). The Plan also included an Open Space land use category. This showed areas set aside for open space/preservation purposes and lands that contain sensitive environmental features that should be kept open and preserved. It established a policy "to keep these areas open, but not necessarily public" (Town of Southold Planning Board, 1985, p14). This category was to provide guidance to the Town in identifying natural areas that need protection.

The Town of Southold LWRP draws heavily on the inventory, analysis, goals and land use proposals put forward in the Town of Southold's *Master Plan Update (1985)* and the *Master Plan Update-Background Studies (1983)*.

3. US/UK Stewardship Exchange Report - 1991

In 1991, Southold hosted a US/UK Stewardship Exchange Team. The Exchange program provided a chance for land use and environmental professionals from two countries to get together and learn from each others experiences, while at the same time providing pro-bono services to address the issues of sustainable economic development and countryside stewardship in the host community. Southold was one of seven case study sites in the 1991 Exchange.

The team of eight consultants, four from the United Kingdom and four from the United States conducted a study of the North Fork area. The team addressed four issues believed to be important to the future of the North Fork:

- farmland retention
- water quality
- tourism development
- affordable housing

After four intense days the team presented the following conclusion:

"The North Fork area is one of scenic beauty and rich resources, both natural and human, with a deep and meaningful history, truly one of America's great places. Yet the North Fork is under threat of drastic change spreading east from the New York metropolitan area. Unfortunately, local controls are inadequate to cope with these changes. New directions and programs are needed now to change this situation for the benefit of the entire community.

The most important conclusion of the Team in this regard is that the people of Southold share a vision in some detail of what they would like the future of their community to be, but they currently lack the programs to get there."

(US/UK Stewardship Exchange Team, 1991)

The team proceeded to make a series of recommendations on the need to streamline governmental organization and establishing a new planning process based on consensus around the community's shared vision. The team called for the Town to work with community groups to restate the shared vision for Southold, which had been articulated in the 1985 *Master Plan Update*. This report concentrated on the following aspects of that vision:

- farmland protection
- concentrating development within villages and hamlets
- provision of quality affordable housing
- preservation of the community's historic and rural character
- economic development based on the existing resources of the area
- maintenance and improvement of the area's environmental quality

The team highlighted programs that may assist in farmland protection. They recognized the need to protect surface and groundwater quality, eliminate pollution in creeks and bays, identify and eliminate non-point sources of pollution and solve the "brown-tide" problem. The team recommended promoting sustainable development "using existing agricultural, water-related recreational, fishing, historical and cultural assets, and the area's unique sense of place as its theme."

4. Southold Town Stewardship Task Force Report – 1994

In May 1992, the Town Board created the Southold Town Stewardship Task Force. The Task Force was charged with the task of studying the Town's laws, Master Plan and the recommendations of the US/UK Stewardship Exchange Team and to propose specific ways to implement these recommendations.

In its work the Task Force also found a shared vision of the area's future:

"This vision is of a Southold that has found a way to preserve and cherish its unique heritage, while sustaining a strong economic base. The special character of Southold, its unique combination of hamlet centers in the midst of working farmland and open space, all surrounded by clean and productive water, is central to this common vision"

The Final Report of the Southold Town Stewardship Task Force (1994) articulates the shared vision for the future of Southold Town and sets forth a series of recommendations to the Town Board and the people of Southold which would implement this shared vision. The recommendations were grouped in the following topics:

- preservation of farmland and open space
- sustainable economic development
- water
- affordable housing
- character of hamlets and rural setting

The shared vision put forward by the Southold Town Stewardship Task Force included the preservation of farmland and open space, enhancing the strengths of the existing local economy - agriculture, marine activities and tourism, fulfilling Greenport's potential as a maritime center, reviewing marina uses, preserving and improving the quality of water, managing surface runoff and preventing contamination of salt and fresh waters, protecting the quantity and quality of fresh groundwater, providing affordable housing for different segments of the community and maintaining the quality of the hamlets and the rural setting of the Town. The Task Force made more than thirty separate recommendations for actions that could be undertaken to implement the Master Plan Vision. Since 1994 many of these recommendations were adopted, although not all were implemented in the exact form the Task Force envisioned.

5. Southold Township 2000 Planning Initiative

In September of 1997, the Town unveiled a working strategy to initiate a more aggressive and concentrated long-term planning effort, within the framework of the Comprehensive Plan. This plan was developed by Planning Board staff in response to the increasing development pressures being experienced by the Town as the regional recession began receding in the face of a strong bull market on Wall Street. One of the purposes of this initiative was to address certain issues that had been discussed in the *Master Plan Update*, but which were in need of more research and implementation: e.g. transportation, groundwater protection, and water supply management. The initiative also attempted to integrate all the Town's long range plans into the *Local Waterfront Revitalization Program*.

The strategy reflected a need to marshal limited financial and labor resources within Town government more effectively. The amount of planning and implementation work that needed to be done required the hiring of additional staff and consulting expertise for which the Town had

neither the space nor the money. Further, voter demands that taxes and government spending be kept down meant that we would have to search for federal, state and private grants to supplement our financial resources so that outside expertise could be brought in on an as-needed basis. Further, internal operating procedures would have to be streamlined and data-processing abilities would have to be accomplished through computerization.

This initiative drew on all planning studies and documents that had been undertaken by the Town since the 1980s because these documents collectively reflected the Town's vision for itself as articulated in the comprehensive plan studies. However, it was not limited or restricted by the implementation recommendations of prior planning reports, including those of the Stewardship Task Force. This initiative was a strategic, action-oriented approach, which accomplished several things: the upgrading of the Town's mapping capabilities through the introduction and use of state-of-the-art Geographic Information System mapping techniques, the development of capital programming and budgeting plans to enable the Town to leverage financing for its implementation projects, the completion of a *Farm and Farmland Protection Strategy, January 2000*, and a blueprint for public water supply service and groundwater protection within the *Town Water Supply Management and Watershed Protection Strategy, June 2000*. Also on the agenda, a transportation management plan, and a more-detailed series of hamlet plans. These two items remain to be done.

6. Fishers Island Growth Plan: 1984, 1987, 1994

Since the early 1980s, the residents of Fishers Island have formalized their concerns about future development on Fishers Island through a series of updates to a community based growth plan. In 1984, the Fishers Island Civic Association contracted with the Trust for Public Land to compile a report that examined the current state of development on Fishers Island and the Island's capacity to accommodate future growth within its unique natural character. This report was updated in 1987. In 1988, the Fishers Island Growth Plan Committee, sponsored by the Fishers Island Civic Association, produced the *Fishers Island Growth Plan*.

The Fishers Island Growth Plan was updated in October 1994. The Growth Plan Committee reaffirmed the residents' concerns regarding growth. The Growth Plan presented a community consensus that the unique character of Fishers Island that has drawn people to the Island, "the residential orientation, the lack of tourism, the natural beauty, safety for our children and the small village atmosphere", is steadily eroding (Fishers Island Growth Plan Committee, 1994, p1). The Growth Plan Committee determined that the original Growth Plan Assumptions remain largely valid and stressed that:

- "Fishers Island must have a viable year-round population
- Efforts must be made to slow the growth of seasonal population
- The Island should remain a residential community
- For the foreseeable future, our Island's official governance will remain the same; we will continue to be a hamlet within the Town of Southold and
- The natural environment must be unequivocally protected"

Source: Fishers Island Growth Plan Committee, 1994, p1

The Growth Plan has been endorsed by the Fishers Island Development Corporation and other important local organizations,. However, the Growth Plan does not represent the policy of the Town of Southold, in that the Town has neither endorsed nor adopted it. Nevertheless, this Plan is

taken into consideration by Town officials when reviewing decisions pertaining to Fishers Island. The Growth Plan is discussed in more detail in the Reach Analysis (Reach 10).

7. Farm and Farmland Preservation Program: 1983-2002

Since 1983 with the passage of a local bond act to acquire development rights, the Town of Southold has spent \$11,912,280 to purchase the development rights to more than 1360 acres of prime agricultural land throughout the town. The Town's aggressive record of preserving agricultural lands was a factor in its being awarded a federal matching grant of \$100,000 during 1996 to continue preservation efforts. Additional bond issues were approved in 1983, 1987, 1994, 1996, 1997, 1998, and 1999 and 2001.

The Town's program has been paralleled by a similar County program for purchasing development rights. Started in 1974, the County's program has been responsible for the preservation of about 1,330 acres within the Town of Southold, also at the cost of about 7.5 million dollars. Like the Town's program, the County program is strictly voluntary.

Both agencies respond to the inquiries of interested landowners. While the Town's land preservation committees work to educate landowners about the benefits of selling development rights, they are limited to purchasing rights from owners willing to sell. With the increase in development pressure and the increasing conflicts between new residential lot owners and established farmers over standard farming practices, the Land Preservation Committee, which handles the negotiations for the purchase of development rights, is constantly seeking ways to improve the program.

The combined acreage saved under these two programs amounts to more than 2,300 acres. However, between 1968 and 1996, the Town lost an estimated 2,100 acres of farmland to development. (Source: Suffolk County Planning Department, 1996, Agricultural and Farmland Protection Plan. P.10) The agricultural land base is being lost faster than it is being saved. To compound this situation, there has been a major shift in land ownership patterns. An estimated 40 percent of the land still in agricultural production is no longer owned by the people farming it.

In 1971, the New York State Legislature passed the *State Agricultural District Act*, which authorized the formation of agricultural districts. The District Act provides a number of incentives or benefits including:

- Farmland is eligible for property tax assessment at agricultural value instead of market value,
- A public agency's right to acquire farmland by condemnation is restricted,
- The imposition of special tax levies for water, sewer, lighting and non-farm related drainage is limited,
- Local government may not enact ordinances restricting farm structure or practices beyond normal health and safety requirements.

Once included within a district, a property owner is eligible for relief in varying amounts up to 80% of county and local property taxes depending on the quality of the soils. Agricultural districts run for a term of eight years. A property owner may renew his commitment to the district every eight years. However, if a property owner leaves the district within any eight year period, he is liable for payment of back taxes and penalty fees.

Southold Town's district, Agricultural District #1, was formed in 1979 with 3,004 acres. At the time of its first renewal in 1987 the acreage total dropped to 2,959. The second renewal in 1995 saw a near doubling of that figure to 5,869 acres of farmland: slightly more than half the active acreage within the District. Some of the property owners in District have sold the development rights to their land. However, not all owners who have sold their development rights have elected to join a District.

Since 1989, the Town of Southold has required the clustering of subdivision lots where the initial property is ten acres in size or larger. In a cluster layout, the minimum required lot size can be halved so that approximately half of the original property can be left undeveloped. Where prime farm soils are involved, the Planning Board has attempted to cluster development onto the less arable portions of the subject property. Typically it will place the best soils within the boundaries of a large lot in order to increase the likelihood of keeping that land in active agricultural use. Covenants and Restrictions are placed on the subdivision map in relation to the large lot; in order to define responsible use of the land in accordance with accepted Best Management Practices and recommended soil conservation measures.

In recent years, the effort to preserve viable agricultural land has been bolstered by the efforts of the Peconic Land Trust. A non-profit land preservation organization, the Peconic Land Trust specializes in structuring land conservation and preservation deals that provide for limited development yet protect prime agricultural land. It is able to structure more creative preservation options for a property owner than can the Town, particularly where tax benefits can be realized through limited development. The Land Trust has been instrumental in saving a number of properties from full development. Because of their proven track record, the Town of Southold's Planning Board works very closely with the Trust to facilitate their limited development proposals. Further, the Trust has assisted the Town in developing and implementing databases for its new Geographic Information System capabilities.

In conjunction with these efforts, the Planning Board and planning staff began working with the Agricultural Advisory Committee and the Long Island Farm Bureau during the early 1990s to review and propose legislation to protect the agricultural industry. To date, pro-winery provisions, a Right-to-Farm bill and a Farm Stand ordinance have been adopted. Legislation to guide the location and construction of greenhouses and to prevent the wholesale removal of topsoil from prime farmlands is under discussion. It is anticipated that the Town will continue to work with the industry in order to protect the industry from harassment by residential neighbors and to ensure that prime farm soils are not lost either to development or through misuse of the land.

In January of 2000, the *Farm and Farmland Protection Strategy* was adopted by the Southold Town Board. The report outlined a strategy for leveraging the Town's bond funds for the preservation of agricultural land through more pro-active partnering with other governmental agencies and private landowners.

In January of 2002, the Blue Ribbon Commission on Preserving a Rural Southold was convened. Its charge was to make recommendations on how to improve farm and open space preservation efforts in Southold. A report was issued to the Town Board on July 2002. That report, *The Eighty-Plus Preservation Action Plan: Final Report of the Blue-Ribbon Commission for a Rural Southold, July 14, 2002*, set the following targets:

- The permanent preservation of at least 80% of unprotected land currently in the Town's agricultural inventory, some 6,900 acres, most but not all of it in the AC zone;
- The permanent preservation of at least 80% of unprotected open space, some 3,900 acres.
- A reduction in potential density of housing units of at least 60 percent, relative to what would be permitted with full buildout at current zoning.

These targets are to be attained with no substantial loss in landowner equity. To achieve these targets the Blue Ribbon Commission recommended using a combination of tools; some already in use, some with modifications and some new. The tools included voluntary conservation subdivision, a planned development district (PDD) geared towards promoting farmland preservation, purchase of development rights, and possibly, zone changes in conjunction with the PDD.

8. Open Space Preservation Plan: 1989, 1998

In 1989, the voters of Southold Town passed a one and a half million dollar bond for the preservation of key parcels of open space. This bond was in addition to the bonds adopted by the voters for the acquisition of development rights from active agricultural land. Without exception, each piece can be considered waterfront property: two on freshwater lakes, the remainder on marine waters. These properties are noted below;

Hummel's Pond -Reach 2
 Fort Corchaug -Reach 8
 Marratooka Lake -Reach 9

After the money from the 1989 Bond was spent, the voters authorized a bond in 1997, which permitted the bond money to be used for open space as well as the acquisition of development rights. This change was approved because some properties offered for preservation contained a mix of agricultural and open space values. The 1998 and 1999 bonds are structured along the same lines as the 1997 bond.

In June of 1998, the *Peconic Bay Region Community Preservation Act* was signed into law by Governor Pataki. This created a mechanism whereby Southold Town may use real estate transfer taxes to acquire properties critical to the preservation of agricultural land and open space within the town. The legislation requires each town to adopt a written plan or strategy that outlines the properties that may be considered for acquisition with the funds, and that explains the criteria that will be used to determine which properties to preserve. Only properties listed in the Preservation Plan will be eligible for acquisition by the Town for a three year period following its adoption. The owners of properties included within the Preservation Plan will have the option of preserving their land if they so chose. As with the Town's and County's Purchase, landowners interested in protecting their land from development.

Southold Town adopted the *Community Preservation Project Plan* in October 1998. A subsequent referendum on November 3, 1998 resulted in the adoption of a mandatory real estate transfer tax on specific property transfers beginning on March 1, 1999. The tax is 2% of the sale price in excess of the exempt amount, which is as follows: \$75,000 for vacant land, \$150,000 for improved properties. Since March 1999 more than 3.5 million dollars have flowed into the CPPP account.

The CPPP map (*See Map II 3 Open Space Protection*) reflects the cumulative input of Town personnel, advisory committees, and various civic, environmental, and community organizations. The map shows 653 parcels encompassing 12,622 acres of land determined to be eligible for consideration under the terms of the Community Preservation Fund.

The Preservation Fund legislation specifically provides for the establishment or preservation of the following types of land.

- Parks, nature preserves, recreation areas
- Open space, including agricultural lands
- Lands of exceptional scenic value
- Fresh and saltwater marshes, wetlands
- Aquifer recharge areas
- Undeveloped beachlands or shoreline
- Wildlife refuges with significant biological diversity
- Unique or threatened ecological areas
- Natural, free-flowing rivers or river areas
- Historic places and properties listed in NYS Register of Historic Places and properties or places protected by municipal law
- Any of the aforementioned in the furtherance of a greenbelt
- Pine Barrens
- Rivers in a natural free-flowing condition

As of July 2002, the total number of protected parcels within the Town is 668 encompassing 7,916 acres of land; approximately 22% of the total upland area of the Town. The categories of protected land, the number of parcels and the acreage are noted below:

Protected Land within Southold Town: July 2002

<u>Categories</u>	<u># Parcels</u>	<u>Acreage</u>
Churches/Cemeteries	63	235
Cutchogue/New Suffolk Park District	4	30
County Owned	81	610
DEC/State owned	55	1666
Museums	20	71
Mattituck Park District	13	71
Orient/East Marion Park District	4	50
Peconic Land Trust	9	59
Peconic Land Trust easement	7	191
Subdivision Park	11	28
Schools	8	153
County Development Rights	54	1467
Subdivision Open Space	40	410
Southold Park District	6	17
Town Development Rights	72	1298
Town Development Rights (partial)	2	82
The Nature Conservancy	12	527

Protected Land within Southold Town: July 2002		
Town Owned	179	680
Water Utilities	28	271
TOTALS	668	7916

Source: Town of Southold Geographic Information System, July 25, 2002

9. Transportation Planning: 1992-2002

Created as an ad-hoc committee in 1992 by the North Fork Planning Conference (a citizen's advocacy group) and the Stewardship Task Force, the Transportation Committee spearheaded planning for recreational trails and improved intermodal linkages. Upgraded to a standing Town committee in 1994 by the Town Board, the Committee was charged with "Present(ing) a Transportation Model, including a comprehensive scenic byway/corridor management plan, which addresses the use and protection of local resources, and their impact on town residents, for recreational and economic benefit through an innovative road-rail-trail-waterways network while maintaining the scenic, historic, and rural characteristics of the Town, as well as to guide its subsequent implementation."

In accordance with this charge, the Committee held a Transportation Symposium on October 12, 1994, the purpose of which was to review the history of transportation in Southold, to examine the current and potential congestion and other problems with the existing transportation network and to discuss alternative approaches to managing these problems. The symposium stressed the potential usefulness of intermodalism to easing existing and future traffic problems. Efforts were made to highlight the public-private partnerships that would be necessary in order to bring some of the intermodal projects into being. The Committee has continued to make tremendous strides forward since then, particularly given that it is composed of volunteers assisted by Town and State planning staff.

- ***Seaview Trails of the North Fork***

In 1995, the Committee formally launched *Seaview Trails of the North Fork, an Alternative Transportation Initiative*. This three-phase program calls for a series of scenic trails throughout the township complemented by a kayak-accessible water-trails component. Phase I is being implemented. Trail markers have been designed, and are being installed for roadside trails. Still in development is the off-road trails component. Presently the Committee is working with Planning staff, the Land Preservation Committee and the Peconic Land Trust to develop a coordinated strategy for timely acquisition and management of trail easements over private property in key scenic areas throughout the Town. Funding for *Seaview Trails* was provided by a mix of in-kind services and Planning Board recreation funds which were greatly enhanced by a federal ISTEA grant in the amount of \$393,000. Funding for Phase III, the design and development of kayak launching sites for the water-trails component, has not yet been secured.

- ***Scenic Byway Corridor Management Plan***

In 1997, the Transportation Committee received authorization to proceed with the *Scenic Byway Corridor Management Plan* for which it received \$55,000 in matching funds from the New York State Department of Transportation. Consultants were retained to assist in the development of plan.

The need for the *Corridor Management Program* came out of a recognition of the challenges facing the town as it becomes a tourist destination, while attempting to maintain its rural character. The *Corridor Management Plan* will assess the eligibility of roads within the Town of Southold for designation as Scenic Byways, pursuant to the federal Intermodal Surface Transportation Efficiency Act of 1991. The Plan will:

- identify certain roads for nomination as Scenic Byways and demonstrate how the(se) proposed Scenic Byway(s) meet(s) the basic designation criteria
- describe how the proposed Scenic Byway(s) will be operated and managed and how Scenic Byway(s) corridor preservation and enhancement will be implemented within the Town of Southold.

The premise of this plan is that “*Southold’s economic base – agriculture, fishing, tourism – is dependent on stewardship of its most precious assets: its natural and scenic resources of farmland, seascape, hamlets and heritage.*” (Executive Summary. P.1., Scenic Southold Corridor Management Plan, Ferrandino & Associates Inc. / Hutton Associates Inc. with Cotilla Associates Inc., April 2001) The analysis conducted as part of this study found that Southold’s scenic qualities were of major economic import. Accordingly, “*If Southold’s high quality of life rests on a base of prime natural resources, a relative lack of sprawl, a rich historical and architectural heritage, great scenic beauty and large quantities of farmland and open space, then it follows that maintaining those qualities should be a major objective of the Town.*” (p. 19, *Scenic Corridor Management Plan.*)

In order to accomplish this, the Plan recommended focusing preservation efforts on the Town’s “*most visible physical framework – the two scenic roadways that provide the structure for its transportation, economic, residential, and recreational uses.*” (p.ii Executive Summary, SCMP) State Route 25 and County Route 48 were targeted as the two potential scenic byways.

A two-pronged strategy was proposed: *stewardship* and *implementation*. Stewardship is needed to protect the fragile components of the scenic corridor from degradation or destruction. Along those lines, specific stewardship activities are proposed, such as management of traffic to ensure that tourism does not negatively impact the Town. Implementation of specific tactics and procedures are recommended to ensure that new development is designed or located in such a way as to enhance the scenic qualities of the corridor. In keeping with the pro-active nature of this Plan, a *Strategic Matrix* was developed which outlined specific short and long term actions that would protect the scenic corridor, and which designated various public/private partnership arrangements that could be formed in order to implement these actions. Essentially, the Plan calls for voluntary grassroots efforts by caring citizens and financial sponsorship by local businesses or corporations in joint partnership with government in order to implement it. This hands-on, bottom-up approach builds on a broad community commitment to maintain the Town’s character in the face of growth and change. Regulations have a role in this plan, but they are proposed to be used as assistive rather than punitive tools.

In July of 2001, the Town Board adopted the *Scenic Corridor Management Plan*. The Plan was reviewed by the New York State Scenic Byways Advisory Committee in September 2001 and forwarded to the State Legislature for adoption. In 2002, it passed the House and the Senate and received the Governor’s signature.

The Planning Board takes the goals of this plan into account when reviewing new applications for development along SR 25 and CR 48. Implementation of specific recommendations in this plan has already started with business groups taking the lead. The first project was a gateway enhancement project involving new signage and plantings on CR 48 near the Love Lane business district beginning in 1999. The second project was a revitalization of the streetscape of the Love Lane business district in Mattituck with brick sidewalks and new lighting. The Cutchogue business district is hard at work on a similar set of projects along SR 25 and Griffing Street and the Southold business district has put in for funding for street furniture along SR 25. In June of 2002, the Town applied for federal scenic byway funds to underground the overhead transmission lines along the Orient Causeway.

- ***East End Transportation Council***

Within the last decade, increasing levels of traffic have led to significant congestion problems in certain areas, particularly within the hamlet business districts of Mattituck, Cutchogue and Southold and between Greenport and Orient Point. The town's concerns about this situation spurred Southold Town Supervisor, Jean Cochran, in 1996, to take the lead in organizing the five East End townships (and their nine villages) to form an East End Transportation Council (EETC). Operating under the aegis of the East End Supervisors & Mayors Association, the EETC has made tremendous progress towards establishing a regional dialogue on transportation issues. Southold's Town Planner and the Chairman of the Transportation Committee both sit on the Council: the Town Planner having served as the Council's Chairwoman since its inception in June of 1996.

Through the years 1997 - 1999, the Council managed to establish a constructive dialogue with the State Department of Transportation and the County Department of Public Works regarding various transportation issues, and with the Long Island Rail Road about train scheduling and station management. One of the benefits of this improved dialogue was an Integrated Capacity/Mobility and Safety Study of the five East End towns during the years 1998-99. The North Fork Travel Needs Assessment was started in 1999 by the New York State Department of Transportation, and this information will assist the Town in developing an effective transportation management strategy, particularly within the business districts.

In 1999-2000, with the assistance of the New York Metropolitan Transportation Council, the EETC initiated the formation of a region-wide consensus-building process to resolve land use and transportation issues. Known as **SEEDS**, *Sustainable East End Development Strategies*, this federally funded process is enabling the nine villages and five towns of the East End to engage in a regional discussion and potential resolution of region-wide transportation problems. The information that will come out of this process is expected to help the Town develop an effective transportation management strategy, particularly within the business districts.

The cooperation of the County and the State in managing increased traffic will be crucial to preserving the unique quality of life in Southold. This cooperation will be critical because there are no plans to add more arterial or collector roads to the existing road network, most of which has been in existence since the late 1800s. The only new roads being built within Southold are found within new subdivisions where they are needed to access interior lots. While many of these new roads are public, some are designed to remain private right-of-ways to residential lots.

- ***New Roads***

In 1993, the Town Planning Board revised its road specifications in subdivisions to reduce the required road widths in order to maintain rural character and to reduce stormwater runoff. Maximum required road widths were reduced from 35 feet to 28 or 24 feet depending on density. As further incentive, the new road specifications permit a developer to install 20 or 16 foot-wide roads provided the overall density is equivalent to five acre zoning and the roads remain in private ownership.

In recognition of the increasing traffic congestion and the need to mitigate it, the Transportation Committee, Planning staff and the Planning Board are working with the New York State Department of Transportation to conduct traffic studies and to complete a Southold Town transportation plan in the near future. This plan will be done in conjunction with an Integrated Capacity and Mobility Study for the East End region, the latter to be conducted by the NYSDOT in coordination with the East End Transportation Council.

Although the Transportation Committee's charge does not include the Village of Greenport, the committee membership includes residents of the Village and a liaison with the Village Board of Trustees in recognition that the Village and the Town benefit from mutual cooperation and coordination. It also has included the Village in its Town-wide recreational and off-roads trails plan, particularly with regard to the locating of bicycle trails along the Long Island Rail Road right-of-way and the improvement of the existing trails network within Moore's Woods, a nature preserve comprising 192 acres at the western boundary of the Village.

- ***County Route 48 Rezonings***

In 1998 the Town adopted a moratorium on the issuance of permits or approvals for business zoned property while it conducted a land use study of the County Route 48 corridor. The corridor was defined as running from the Riverhead/Southold Town line on the west to the terminus at State Route 25 in Greenport on the east. The corridor width included all land within 1,000 feet north and south of the road, excluding properties within the Village of Greenport. A final and supplemental final generic Environmental Impact Statement was adopted in July and August of 1999. The Land Use Study used four themes from the Town's vision for itself.

- 1.) **Preservation of Farmland and Agriculture**

Farmland is a valuable and dynamic industry in the Town of Southold. The open farmlands are not only highly cherished for a their economic value, but for the scenic vistas they provide. The open space and scenery created by farmland additionally contributes to the quality of life of the residents, while promoting tourism and recreation.

- 2.) **Preservation of Open and Recreational Space**

The Town of Southold relies heavily upon its scenic beauty and open landscapes for recreation, clean air and water, as well as for its attraction to tourists and recreation-seekers. The Town has attracted many second homeowners because of its "natural resources, abundance of open space, farms, picturesque villages, and the ever-present waterfront" (Master Plan Update, 1985). Due to this open space, the Town has a tremendous development potential. Bleak pictures have been painted in a few documents, warning of strip-type development, suburban sprawl and water supply issues. The preservation of open and recreational space is not only aesthetic, but also a necessity for the present and future needs of the Town.

3.) Preservation of the Rural, Cultural, Commercial and Historical Character of the Hamlets and Surrounding Areas

The Town of Southold is renowned for its rural, cultural, commercial and historic character. This unique character is recognized in all of the documents reviewed. Based on the input of Town residents, the Final Report and Recommendations states that the two most prevalent and key issues are keeping growth in the existing hamlet centers and preserving and enhancing the surrounding rural areas. Additionally, the Master Plan Update recommends the provision for “a community of residential hamlets that are comprised of a variety of housing opportunities, commercial, service and cultural activities, set in an open or rural atmosphere and supported by a diversified economic base (including agriculture, marine commercial and seasonal recreation activities).”

4.) Preservation of the Natural Environment

Accommodating “growth and change within the Town without destroying its traditional economic base, the natural environment on which the base rests, and the unique character and the way of life that defined the Town” is of utmost importance” (*Ground Watershed Protection and Water Supply Management Strategy*). The Master Plan Update recommends preservation of the Town’s natural environment from wetlands to woodlands and to “achieve a land use pattern that is sensitive to the limited indigenous water supply and will not degrade the subsurface water quality.”

Source: *County Route 48 Corridor Land Use Study Findings Statement*. August 1999; Cramer Consulting Group, Inc.

The proximity of the CR 48 corridor to some of the hamlet centers meant that development strategies had to be harmonized. Towards that end, the study reviewed the Town’s outstanding needs which were identified as follows:

- *Provide for viable land use development at intensities sensitive to subsurface water quality and quantity.*
- *Maintain and strengthen hamlet centers as the focus of commercial, residential, and cultural activity.*
- *Preserve the open, agricultural and rural character of areas outside of the hamlet centers*
- *Provide for a variety of housing opportunities for citizens of different incomes and age levels.*
- *Enhance the opportunities for pedestrian-friendly shopping.*
- *Continue to support the Town’s agricultural economy.*
- *Maximize the Town’s natural assets, including its coastal location and agricultural base, by balancing commercial, residential and recreational uses.*
- *Strengthen the Town’s marine-recreational and marine-commercial activities.*
- *Encourage the preservation of parkland and public access to the waterfront.*
- *Support tourism by maintaining and strengthening the Town’s assets that attract tourists, namely hamlet center businesses, historic heritage, building architecture, a sense of place, rural and open character, agriculture and marine activities.*
- *Preserve prime farmland in the Town and continue to support the diversification of agriculture.*

- *Preserve the historic, cultural, architectural and archaeological resources of the Town.*
- *Ensure the efficient and safe movement of people and good within the Town.*
- *Preserve visual quality of hamlet centers*
- *Encourage appropriate land uses both inside and out of hamlet centers.*
- *Promote balanced economy and tax base.*
- *Preserve the integrity of the Town's vegetative habitats, including freshwater wetlands and woodlands.*

The study made several recommendations for land use in the County Route 48 corridor. These are listed below. (For further details, the reader is directed to the August 1999 *Findings Statement*.)

- *Re-zone parcel to more appropriate uses.*
- *Promote incentive zoning as a means to preserve agricultural and other desirable parcels, and as mitigation for change of use where appropriate.*
- *Require greater setbacks from the roadway for larger agricultural and commercial buildings.*
- *Orient buildings to limit the interruption of scenic vistas and views.*
- *Continue enforcement of the Town Code with respect to the type of products permitted to be sold at farm stands.*
- *Continue enforcement of the Town Code with respect to the conversion of agricultural buildings to other commercial uses.*
- *Cluster residential development away from the roadway.*
- *Require vegetated buffers between residential development and the roadway.*
- *Develop and implement the use of visual resource best management practices.*
- *Amend the Town Code with respect to the Residence Office (RO) District.*
- *Amend the Town Code with respect to the Limited Business (LB) District.*
- *The Town Code should be amended with respect to non-conforming use.*
- *Re-zone appropriate parcels adjacent to Mattituck Creek to MI and/or MII zoning category.*
- *Preserve the integrity of the Town's vegetative habitats, including freshwater wetland and woodlands.*
- *Modify the Town Code to allow other uses in vineyards under special exemption/special permit.*
- *Modify the Town Code to limit curb cuts to one per site unless unusual circumstances exist.*
- *Require links between the parking area of commercial operations to allow for vehicle movement between adjacent establishments.*
- *Where appropriate, consider the use of flag lots with common drives for residential development.*
- *Require that subdivided residential lots access side roads and not directly to County Road 48, where appropriate.*

Source: CR 48 Findings Statement, pages 4-9

As a direct result, the Town Board undertook several rezonings along CR 48 which had the cumulative effect of reducing the potential intensity of commercial development that may occur within the corridor.

- ***Transportation Access Management***

In 2000 the Town adopted *Chapter 22, Transportation Access Management*. This ordinance created a Transportation Commission “to assist Southold Town and its residents in finding solutions to increase transportation efficiency and created attractive alternatives to automobile travel while “reserving the scenic and historic attributes of the town, state, county and local roadways.” (*Section 22-2.C., Chapter 22, Transportation Access Management, Southold Town Code*). The Commission was charged “to develop and implement a Transportation Access Management Plan which addresses the use and protection of local resource for recreation and economic benefit through an innovative road-rail-trail-ferry network while maintaining the scenic, historic and rural characteristics of the town.” (*Section 22-4.A., Chapter 22, Southold Town Code*). Members to the Commission are appointed by the Town Board. The Commission consists of representatives of the Planning, Highway and Police departments along with civic groups, residents and different section of the business community.

The duties of the Commission are to advise the Town Board with respect to the following:

- A. *Create a framework to coordinate transportation plans and programs for the town among all related local and regional transportation agencies, groups, service providers and the private sector.*
- B. *Develop innovative transportation strategies through improvements in transit options; linkages between transportation modes; travel demand management techniques; enforcement mechanisms; public and private transit operations; and vehicle occupancy.*
- C. *Improve transportation service and efficiency within the town through improvements in traffic flow; speed limits; traffic safety; pedestrian and bicycle safety; parking design and location; and roadway lighting, signage and traffic signals.*
- D. *Maintain and improve the rural quality of life through reductions in impacts on water quality and noise; vehicular trip generation; and excessive lighting, signage and roadside litter while keeping New York State Route 25 a scenic route and County Road 48 a through-route within the town.*
- E. *Develop a fiscally feasible, acceptable integrated capacity/mobility/safety plan for the town as well as formal evaluation monitoring and update procedures to be presented to the Town Board for incorporation in the town’s comprehensive planning and funding by related agencies.*
- F. *Promote use of alternative transportation solutions through educational activities and solicit public input on an ongoing basis in discharging the above duties.*
- G. *Coordinate these alternative transportation solutions with other East End towns and villages through the East End Transportation Council to effect a unified regional transportation strategy.*
- H. *Perform such other duties and functions as may, from time to time, be directed by the Town Board.*

(*Section 22-5 Chapter 22, Southold Town Code*)

10. Recreational Facilities Planning

In 1982, Ward Associates prepared a *Park, Recreation and Open Space Survey*. This report made several recommendations.

- 1.) Acquisition of park lands and significant open spaces: Present public park land is limited and additional population growth will overcrowd and over-use facilities if not to acquire property, i.e., Department of Environmental Conservation, the County and State. This item should be a major concern of the Town Master Plan update.*
- 2.) Consideration should be given to change park district boundaries and/or consolidate park districts to be coterminous with school district boundaries. This would offer common service areas to residents, better identity and understanding of districts, and better coordination of school-park services.*
- 3.) Town should consider "Southold" Park and Beach Pass to encompass a coordinated Park District effort to allow all Town residents to participate in Park District facilities at their choice rather than being limited to home districts. The fee for the pass would be divided among all districts to compensate for the additional services to be rendered.*
- 4.) Town should consider negotiations with local park districts to administrate and operate properties of Town-wide significance, in lieu of remaining as local park district properties, i.e., Horton Point Lighthouse Museum; parks at Mattituck Inlet; Nassau Point Causeway Park, etc. These properties are of similar impact as Hashamomuck Town Beach, Southold. These facilities are of significance to all the residents of Southold Town. An interim solution to open these facilities to the entire Town would be the Southold Pass concept.*
- 5.) Town should consider a Department of Recreation and Parks with professional leadership. This department would coordinate park district operational functions. As well as Town-wide facilities, and would be the coordinator of other agency cooperation. Local park district board members would be unsalaried and would be advisory to the Department of Recreation and Parks. Savings could be established in providing a central mobile maintenance crew to service all districts and Town facilities under the Department of Highways, or the proposed Department of Recreation and Parks.*
- 6.) Town should consider a central year-round recreation complex to serve the broad based needs of the residents. Complex should include outdoor activities such as a swimming pool, court games, playground, picnicking, and a complement of indoor activities. Possible long-range goal would be to expand Peconic Senior Youth Center by merging with Peconic School when, and if, school becomes surplus and adding above outdoor complement of facilities. Outdoor swimming pool facility could be self-supporting through user fees. Limited opportunity exists in the Town for swimming pool use through private club-type facilities. Alternative is to have combined public/private facility offering "Y" type use on public property through lease arrangement.*

Source: *Park, Recreation and Open Space Survey*, pages 1 and 2

The development, design, management and maintenance of recreational facilities within the Town of Southold are handled by the Parks, Beaches and Recreation Committee: an informal staff working group reporting to the Supervisor of the Town.

Standing members include the Supervisor, the Community Development Director, the Highway Superintendent, the Town's Engineering Inspector and occasionally a Planning Board member. Their role is similar to that of a Parks Department in other municipalities. For several years now, this Committee has focused its efforts on maintaining and improving Town recreation facilities. These include: public beaches, boat ramps, ball fields, playgrounds and tennis courts. An extensive discussion of the town's recreational facilities and their location can be found in *Section II.D. Public Access and Recreation*.

Since 1997, this Committee's meetings have been attended on a regular basis by representatives of the Planning Board and its staff, and the Transportation Commission in order to ensure communications and coordination among the various players responsible for creating new recreational opportunities. Further, a Planning staff member coordinates with the Transportation Commission and the Land Preservation Coordinator in an attempt to ensure that clustered open space created by the Planning Board within residential subdivisions relates to an overall plan for off-road trails, scenic vistas and other recreational facilities.

11. Watershed/Surface Water/Resource Protection and Habitat Restoration

Long before the Peconic Estuary was designated as one of 28 national estuaries, Southold Town had a strong tradition of habitat protection and restoration. For years, the Trustees, the Highway Department, the Town Engineering Inspector and the Community Development Director worked together to pool paid labor, equipment, money and volunteers to install small scale stormwater retention and filtration facilities in an attempt to clean up shellfish habitat and protect prime shellfish beds from contaminants. Grants have been obtained for experimental or pilot drainage or habitat projects in coordination with the U.S. Environmental Protection Agency, the State University of New York Maritime Center and the Cornell University Cooperative Extension's Marine Sciences Division. A very successful seed clam and oyster program was started in conjunction with these efforts. More details on the latter programs can be found in *Section II.E. Natural Resources*.

The Town has completed its most ambitious stormwater mitigation/habitat restoration project to date: the *Mattituck Creek Stormwater Mitigation Plan*. The NYSDOS provided \$40,000 in matching funds to monitor the stormwater runoff levels and to develop and design mitigation measures. In support of this project, the NYSDEC granted the town a \$25,000 match of funds to construct remediation facilities. Additional details are provided in *Section II.J. Reach 1 Analysis*.

Through the *Long Island Sound Study*, discussed later, the Town of Southold obtained a \$20,700 grant match for grass habitat restoration at Orient Point County Park. Another \$200,000 in Environmental Protection Fund monies is being used to match Town efforts in restoring open marsh habitat in the vicinity of Narrow River, Orient.

The Town has established working relationships with the Suffolk County Department of Public Works and the New York State Department of Transportation to design more natural recharge areas and to eliminate direct discharge of road runoff from CR 48 and SR 25 into surface waters.

12. Ground Water Protection and Public Water Supply Management Plan: 1999, 2000

The Town of Southold's drinking water comes from a *sole source aquifer*. Therefore, the quality and quantity of that drinking water requires careful stewardship. There are conflicting opinions about the population the aquifer can safely *sustain*. The *sustainability* question arises out of specific characteristics that are unique to Southold Town. These include: the shallowness of the

aquifer coupled with the high degree of permeability of the sandy soils that overlay the aquifer and the elongated shape of the Town, resulting in an aquifer constricted by the pressure of salt water on three sides. The sustainable capacity issue also is complicated by the fact that the Suffolk County Department of Health Services views agricultural land uses as having greater potential to contaminate the groundwater than residential development.

In January of 2000, the Town Board adopted a clear-cut policy of aggressively pursuing the preservation of farms and farmland within the Town. The bulk of the targeted acreage lies over the deepest part of the Town's aquifer. In June of 2000, the Town endorsed the *Water Supply Management and Watershed Protection Strategy*. This report acknowledged that sufficient water to supply saturation population under currently permissible zoning densities may not exist, and that its quality had been compromised by past and ongoing land use practices. The *Strategy* takes a conservative approach with regard to sustainable development. It proposes a series of recommendations that ultimately would accomplish several objectives: reduction of population density in the area overlying the central and deepest portions of the sole source aquifer, protection of the land resource from the development pressure that may be created by the installation of public water service and prevention of further contamination of the groundwater resource by detrimental land use practices.

Implementation of this policy has already begun with the adoption of a Map showing the *Location of Existing Water Mains and a Potential Future Water Mains Relative to Protected Lands in the Town of Southold (June 2000)*. Additional implementation actions are under consideration by the Town Board, particularly in the area of reducing overall population density.

The Suffolk County Water Authority coordinates with the Town in developing its own water supply management strategy. Suffolk County's Department of Health Services is preparing an update of its *Comprehensive Water Resources Management Plan*. This information will help the Town update its own management plan.

13. The Long Island Comprehensive Special Groundwater Protection Area Plan - 1992

It is the policy of the State of New York "to provide funds for the preparation and implementation of groundwater watershed protection plans in order to maintain existing water quality in special groundwater protection areas and to further the implementation of non-point source controls for the protection of the potable supply underlying the entire recharge area" (*ECL §55-0101*). *Article 55* empowers the NYSDEC to take measures to protect federally designated sole source aquifers, such as the Magothy Aquifer on Long Island, which provide the exclusive water supply of large populations. In establishing this policy, the legislature expressed concern about the mounting evidence of groundwater contamination, identified the critical nature of certain groundwater recharge areas and established the need to develop a program for the designation, protection and management of special groundwater protection areas.

Article 55 defines a special groundwater protection area (SGPA) as a "recharge watershed area within a designated sole source area contained within counties having a population of one million or more which is particularly important for the maintenance of large volumes of high quality groundwater for long periods of time" (*ECL §55-0107*). The Article designates nine areas of Long Island as SGPAs. These are North Hills, Town of North Hempstead; the northern villages of the Town of Oyster Bay; Woodbury Road/West Pulaski Road, Town of Huntington; West Hills, Town of Huntington; Oak Brush plains, Towns of Babylon and Huntington; Setauket Pine Barrens, Town of Brookhaven; the Central Pine Barrens, Towns of Brookhaven, Riverhead and Southampton; the

South Fork Morainal Forest, Towns of Southampton and East Hampton; and Hither Hills, Town of East Hampton. These areas are largely undeveloped or sparsely developed geographic areas Long Island that provide recharge to portions of the deep flow aquifer system.

Article 55 designated the Long Island Regional Planning Board as the planning entity for the SGPAs identified on Long Island and authorized them to carry out the preparation of a comprehensive management plan for the SGPAs that recognizes the regional importance of the SGPAs. An SGPA Advisory Council was established to serve as an advisory group to the Long Island Regional Planning Board and to assist in the development, review and implementation of the management plan.

In addition to designating these SGPAs, establishing an Advisory Board and outlining the plan requirements, *Article 55* set out nomination and designation procedures for other SGPAs. In 1987, the Town of Southold designated two areas of Southold as Core Watershed Protection Areas (CWPA). This designation was based on the hydrogeologic importance of these areas as groundwater recharge sources as well as their environmental sensitivity. Both areas occupy the central mainland portion of the Town. One area includes portions of the hamlets of Mattituck and Laurel and extends westerly in a narrow band to Riverhead: Reaches 1 and 9. The second area includes portions of the hamlets of East Mattituck, Cutchogue and Peconic: Reaches 1, 2, 7 & 8. At the request of the Town of Southold, the SGPA Advisory Council petitioned the NYS DEC to incorporate these areas as designated SGPAs.

Commissioner Jorling of the NYSDEC approved this request in March of 1990. The western area was incorporated into the Central Suffolk SGPA, which includes major portions of the Towns of Riverhead, Brookhaven and Southampton. The eastern area was designated as the Southold SGPA. The locations of these two SGPAs are illustrated on *Map II-4* in Section II. E. Natural Resources. The Commissioner's modification was subject to two conditions: The SGPA plan had to discuss how implementation of the protection program "will result in the improvement of existing ambient water quality" and, it had to show how the program will assure the maintenance of sufficiently large volumes of high quality groundwater." (p. *B-1 Appendix B: The Delineation Process. The Long Island Comprehensive Special Groundwater Protection Area Plan. 1992.* Koppelman, Kunz, Tanenbaum, Davies; Long Island Regional Planning Board, Hauppauge, NY)

The Long Island Regional Planning Board's report "*The Long Island Comprehensive Special Groundwater Protection Area Plan*" (LIRPB, 1992, addresses the intentions of the State legislation which sought the preparation of a management plan "designed to ensure the non-degradation of the high quality of groundwater recharged within the SGPA" (*ECL §55-0115*). The plan addresses all eleven of the requirements set forth in *Article 55*, which was to include, but not be limited to:

- 1.) *A determination of the quality of the existing groundwater recharged through said special groundwater protection area, the natural recharge capabilities of the special groundwater protection area watershed and the dependence of any natural ecosystems in the special groundwater protection area on the water quality and natural recharge capabilities of said area;*
- 2.) *An identification of all known existing and potential point and non-point sources of groundwater degradation;*

- 3.) *Development of specific watershed rules and regulations pursuant to section eleven hundred of the public health law, which are designed to accomplish the purposes of this article;*
- 4.) *A map showing the detailed boundary of the special groundwater protection area or areas as well as a precise written description of such boundaries;*
- 5.) *A resource assessment which determines the amount and type of human development and activity which the ecosystem can sustain while still maintaining existing ground and surface water quality and protecting unique ecological features;*
- 6.) *The identification and proposal of limits on federal, state and local government financially assisted activities and projects which, directly or indirectly, may contribute, in any way whatsoever, to any degradation of such groundwater or any loss of natural surface and subsurface infiltration or purification capability of the special groundwater protection area watershed;*
- 7.) *Development of a comprehensive statement of land use management as it pertains to the maintenance and enhancement of groundwater quality and quantity;*
- 8.) *Proposal of limits on land uses that might have an adverse impact on water quality and/or recharge capabilities in the special groundwater protection area;*
- 9.) *Consideration and proposal of specific techniques, including, but not limited to: clustering, large lot zoning, purchase, exchange or donation of conservation easements or development rights, and other innovative measures sufficient to achieve the objectives of this section;*
- 10.) *Designation of specific areas within special groundwater protection areas suitable and appropriate for public acquisition; and*
- 11.) *A program for local governmental implementation of the comprehensive management plan described in this subdivision in a manner that will insure the continued uniform, consistent protection of this area in accord with the purposes of this article. (ECL §55-0115).*

The approach of the *"The Long Island Comprehensive Special Groundwater Protection Area Plan"* is consistent with the overall Long Island Groundwater Management Strategy, which calls for a high level of protection throughout Nassau and Suffolk Counties, irrespective of location; an even higher level within the deep recharge areas; and the highest level of protection in the SGPAs. The Plan offers a detailed strategy for groundwater and environmental protection for each of the SGPAs. "It includes proposals for major watershed acquisitions through a variety of means, recommendations for the restriction of activities that could have an adverse impact on current and future water supplies, and administrative programs for watershed management including watershed management rules and regulations" (LIRPB, 1992, p1-8).

The Plan includes a detailed examination of the environmental and physical conditions and an analysis of the problems and concerns in each SGPA. This is followed by some specific

recommendations for each SGPA. In addition to this specific analysis of watershed management issues, the Plan also offers a comprehensive set of recommendations designed to reduce current and future groundwater contamination, avoid creating new sources of contamination and provide the maximum protection of the groundwater in the SGPAs. The examination of the two SGPAs within the Town of Southold is discussed in more detail in *Section II.E.10. Groundwater resources*. *Map II-4* shows the location of Special Groundwater Protection Areas in Southold.

14. Report of the East End Economic and Environmental Task Force - 1994

The East End Economic and Environmental Task Force was established in January, 1993. The 49 member volunteer task force examined the economic and environmental future of the East End of Long Island, covering the Towns of Southampton, Riverhead, East Hampton, Southold and Shelter Island. The goal was to provide recommendations for legislation or executive action that would strengthen the East End economy without adversely affecting its environment.

The task force, comprising of public officials, farmers, fishermen, environmentalists, vineyard owners, marina operators and other local businessmen, provided 44 specific recommendations. They focused on four key topics:

- the agricultural industry
- the fishing industry
- the winery industry
- the recreation/second home industry

Together these four areas of economic activity are the backbone of the East End economy.

The recommendations of the East End Economic and Environmental Task Force are presented in "*Blueprint for Our Future - Creating Jobs, Preserving the Environment*" (The East End Economic and Environmental Institute, Inc., 1994). Many of the ideas and recommendations put forward in this report are relevant to the Town of Southold and they have been considered as the Local Waterfront Revitalization Program has been developed.

15. The Long Island Sound Study - The Comprehensive Conservation and Management Plan

The Long Island Sound Study (LISS) began in 1985, with federal funds to focus on research, monitoring, and assessment of water quality for the Sound. In 1988, Long Island Sound was formally designated an "Estuary of National Significance" under the *National Estuary Program*. This Program is managed by the federal Environmental Protection Agency to identify nationally significant estuaries which are threatened by pollution, development or overuse, and to promote the preparation of management plans to ensure their ecological integrity. Each estuary in the National Estuary Program is subject to a four-phased process to develop and implement a *Comprehensive Conservation and Management Plan* (CCMP) tailored to the specific needs, concerns and problems of that estuary.

The LISS included specific studies aimed at achieving a better understanding of the Sound and culminated in the CCMP, which "characterizes the priority (water quality) problems affecting Long Island Sound and identifies specific commitments and recommendations for actions to improve water quality" (LISS CCMP, 1994). In addition, the plan proposes actions to increase public education and involvement, protect aquatic resources and habitats, monitor progress, and refine management efforts.

The LISS focused on environmental problems that are Soundwide. Six problems have been identified that merit special attention (LISS CCMP, 1994):

- low dissolved oxygen (hypoxia)
- toxic contamination
- pathogen contamination
- floatable debris
- the impact of these water quality problems, and habitat degradation and loss, on the health of living resources
- land uses and development resulting in habitat loss and degradation of water quality

The LISS recommends a combination of approaches to address the environmental quality problems identified in Long Island Sound. In the area of hypoxia, toxic substance contamination and pathogen contamination, the Study recommends enhanced efforts to reduce water pollution including upgrading wastewater treatment facilities, reduction of combined sewer overflows, reduction of non-point source pollution, restriction on vessel discharges, and education to improve public understanding and appreciation of the need to protect Long Island sound water quality. For floatable debris, the Study recommends improved education efforts to prevent litter from being improperly disposed of and better efforts to clean up areas.

The LISS recognizes the critical importance of the Sound's living resources and natural habitats. Water pollution control efforts are critical to the protection of the living resource and natural systems of Long Island Sound. The study recommends the creation of a system of reserves targeted at the Sound's most significant and essential habitats. These reserves would set aside, through acquisition and other means, the most important areas for long term protection. In addition, the study recommends the enhancement of tidal wetlands protection and the establishment of harvestable, endangered and threatened species programs at the state and federal levels.

The CCMP also recommended that a restoration plan be developed for the full range of coastal and aquatic habitats adjacent to and in Long Island Sound. In order to implement this recommendation the U.S. Environmental Protection Agency (EPA) has provided a grant to the New York State Department of Environmental Conservation (NYSDEC) and the Connecticut Department of Environmental Protection (CTDEP) to develop a habitat restoration plan for Long Island Sound.

The initiative will build on habitat restoration work already being done in the two states. The initiative aims to:

- strengthen and expand current partnerships for site specific restoration projects
- establish restoration priorities
- identify sites around the Sound that are candidates for restoration

The LISCOMP incorporates much of the work of the *Long Island Sound Study*. However, the purposes of the two programs are somewhat different. The primary focus of the LISS is on water quality, while the Long Island Sound Coastal Management Program is intended to include water quality issues as part of an overall plan for the region. A major difference between the two programs lies in the enforceability of the recommendations. The LISS CCMP recommendations are enforceable only when the states of Connecticut and New York specifically bind themselves to an action. By contrast, the LISCOMP is an enforceable document under the provisions of the

CZMA, and its policies will replace those of the state *Coastal Management Program* as a guide to state and federal decision-making in the Long Island Sound coastal region. Furthermore, an agreement between NOAA and EPA will incorporate the LISS CCMP recommendations into approved state coastal management programs, in this case the LISCMP, and use federal and state consistency provisions to enforce the recommendations.

In support of the LISS, Suffolk County is preparing a *Suffolk County North Shore Watershed Management Program* which will develop strategies to limit point and non-point sources loading inputs into Long Island Sound.

16. Long Island Sound Coastal Management Program - 1994

The *Long Island Sound Coastal Management Program* (LISCMP) was prepared by the New York State Department of State to reflect the specific conservation and development needs of the Long Island Sound coastal region. Regional coastal programs focus and guide state investment and other efforts to meet the unique needs of each of New York's coastal regions. The LISCMP is the first regional coastal management program. It covers the Sound coastal area encompassing 304 miles of shoreline in Westchester County, the Bronx, Queens, and Nassau and Suffolk counties, and nearly 1.5 million people.

The vision that frames the LISCMP is "... a Long Island Sound coastal area enriched by **enhancing** community character, **reclaiming** the quality of natural resources, **reinvigorating** the working waterfront, and **connecting** people to the Sound..." (NYSDOS 1994, p9)

In order to analyze the land and water resources of the Sound, the region is examined from four perspectives - the developed coast, the natural coast, the public coast, and the working coast. Each coast was considered for both its own intrinsic value, and its interrelationship with the other coasts. These four coasts are the organizational foundation of the LISCMP. Each coast has a theme that furthers the vision of the LISCMP. These are:

<i>The Developed Coast</i>	<i>Enhance community character by improving the quality of existing development, promoting a sense of connection to the Sound, and focusing growth and investment to preserve the positive relationship between the built and natural landscapes and between existing and new development.</i>
<i>The Natural Coast</i>	<i>Reclaim the value and achieve sustainable use of the Sound's natural resources by improving the quality and function of ecological systems, respecting the dynamics of shoreline change, and providing high quality coastal waters.</i>
<i>The Public Coast</i>	<i>Connect people to the Sound and its public resources by improving visual and physical access and by providing a diversity of recreational opportunities.</i>
<i>The Working Coast</i>	<i>Reinvigorate the Sound's working waterfront, its jobs and products, at appropriate locations by protecting uses dependent on the Sound, furnishing necessary infrastructure, providing business and marketing assistance, and promoting efficient harbor operations.</i> (NYSDOS 1994)

The LISCMP established that the Sound coast is a developed coast, with nearly all of its land and water area put to some public or private use. Within the next 20 years, the projected population increase in the Long Island Sound coastal area could result in near "build-out" under current zoning, eliminating many of the open areas that presently exist. This will affect the pattern of built areas and green space, which is an important factor in defining the Sound's unique sense of place. Consequently, management of new development is critical to maintain the pattern. Equally important, the impacts of existing development on the Sound must be managed to reduce environmental damage and restore environmental quality.

Despite federal, state, and local laws to protect environmental quality, impairments continue to affect the land and water resources of the Sound. Management of non-point and point source pollution is critical for improved water quality in the western Sound and in all its embayments. Fifty percent of the natural shoreline has been hardened with erosion protection structures and building continues near the edge of bluffs. These activities disrupt natural coastal processes, presenting both increased risk to life and public cost. Twenty five to thirty five percent of the Sound's vegetated wetlands have been lost, resulting in lost habitat and increased flood potential. The Sound coastal area is at a critical juncture. So much of the natural resource base has been altered that continued habitat fragmentation, loss of wetland function, and loss of biological diversity cannot be absorbed without further decreases in the value of the entire ecosystem.

The maritime and fishing traditions of the Sound live on in its harbors and bays. There are over 193 water-dependent commercial and industrial businesses along the Sound shore, two-thirds of which are concentrated in ten harbors. These water-dependent businesses generate billions of dollars for the regional and state economies, and create jobs for thousands of Sound residents. These businesses are, however, in decline or under increasing economic pressure. Regulatory streamlining, increased business assistance, and waterfront infrastructure improvements are necessary to ensure that the Sound's water-dependent businesses thrive. Certain regionally essential services, such as waterborne transportation of sand and gravel and efficient passenger and cargo ferries must be provided. Petroleum trans-shipment and storage on the waterfront can pose environmental hazards in some of the region's enclosed, shallow harbors. However, the current delivery system can be modified through completion of a marine pipeline to reduce this potential hazard.

There are only four major recreational facilities along the Sound coast that are open to the general public. The vast majority has residency requirements. Docks and other shoreline structures interfere with public trust rights by obstructing access along the shore and the nearshore waters. Increased opportunities for both visual and physical access to the Sound's public lands must come through small, incremental actions.

The inventory and analysis of the LISCMP resulted in a series of recommendations that address the themes of the four coasts and the vision for the future of the Sound. As a whole, the 89 recommendations of the LISCMP forge a new and integrated approach for coastal management. They are, in great part, based on work done by local governments through the local waterfront revitalization program. The LISCMP defines a pattern of land and water use that protects the Sound's sensitive environmental areas, while encouraging development and economic activity in suitable locations. This is achieved through the following specific actions:

- focusing state economic development assistance in areas identified as suitable for development

- giving priority to natural resource protection and enhancement within specific areas that warrant special consideration
- encouraging water-dependent and water-enhanced businesses, such as marinas and restaurants, in designated harbors
- increasing public use of the Sound through development of regional greenways and revision of the *New York State Open Space Conservation Plan* to provide for more active recreation access to the Sound
- facilitating public and private dredging within specific harbors to improve waterborne transportation
- improving water quality in Long Island Sound through non-point source pollution control in the watersheds of its major embayments
- advancing the recommendations of the Comprehensive Conservation and Management Plan for Long Island Sound

The following summarizes the major recommendations of the Long Island Sound Coastal Management Program:

- *Special Management Areas.*

Without careful planning, the finite resources of the Long Island Sound coast cannot continue to absorb additional development and still meet future needs. Wise land use planning, environmental resource management, and targeted public investments can foster growth of a wide range of economic activities at appropriate locations, while protecting and restoring sensitive areas. The LISCMP identifies centers of maritime activity, development areas, and environmentally sensitive areas as locations where this goal can be achieved. This approach ensures a balanced and wise use of coastal resources and more efficient use of limited local, state, and federal dollars.

Maritime Centers focus on the needs of the working coast and will be the target of state investment designed to bolster water-dependent commerce and industry. Such investments, combined with other incentives and regulatory streamlining, will mean the more efficient operation of harbors, while at the same time protecting and improving natural resources and water quality. New water-dependent businesses will be encouraged to locate within, rather than outside of maritime centers. The proposed maritime centers include: Port Chester, Mamaroneck Harbor, New Rochelle Harbor and Echo Bay, City Island, Manorhaven/Port Washington, Glen Cove, Huntington Harbor, Northport Harbor, Port Jefferson, and Mattituck Inlet.

Areas for Concentrated Development are coastal locations in need of restoration and revitalization that have been previously developed and are now underutilized or deteriorated. Establishing investment priorities to encourage the consolidation of new growth in these areas that are already developed will minimize urban sprawl, protect unspoiled areas, and provide new public amenities. These areas are proposed in portions of the Village of Port Chester, the City of Glen Cove, and the Village of Manorhaven. Other areas for future consideration include the City of New Rochelle and the Village of Port Jefferson.

Outstanding Natural Coastal Areas are areas that contain significant coastal resources that are sensitive to development, and therefore in need of protection, enhancement, or restoration. Within these areas, the assemblage of various significant natural resources, such as wetlands and forested areas, indicates that resource protection is the state's priority.

The proposed natural coastal areas are: Oyster Bay-Cold Spring Harbor, Crab Meadow-Fresh Pond, and Stony Brook-Setauket Harbors. In addition to these, other areas to be considered in the future include: Pelham Bay Park-South Westchester Islands; Little Neck Bay; Lloyd Neck-Eatons Neck; Sunken Meadow-Nissequogue River; Mount Sinai Harbor; Wading River; Wildwood-Baiting Hollow; Riverhead Bluffs; Eastern Islands; and Fishers Island.

- *Increase Public Access.*

The LISCMP focuses on increasing opportunities for the public to use the Sound coast by creating a system of greenways and blueways to link public recreation and access areas. In addition, opportunities for development of small scale public recreation and access facilities are identified, and urged to be given priority for state investment. Finally, the LISCMP calls for aggressive state action to clarify and build on the public trust doctrine to secure public rights to the Sound's foreshore and waters.

- *Intergovernmental Cooperative Planning for Large Sites.*

There are large sites in the Sound coastal area in single ownership that were either previously used or proposed for a major use. These sites offer significant opportunities for meeting an array of regional needs, from economic development to public access and open space. The size of these sites could accommodate large scale development, thereby affecting the region. To fully realize the regional benefit of these large sites, the LISCMP proposes that affected public agencies cooperate in planning for their reuse. In the Long Island Sound coastal area, these sites include: sites in the City of New Rochelle; sand and gravel properties in the Town of North Hempstead; the Kings Park Psychiatric Center in the Town of Smithtown; the Shoreham nuclear facility site in the Town of Brookhaven; and the Jamesport LILCO site in the Town of Riverhead.

- *Wetland Restoration.*

Fifteen key wetlands along the Long Island Sound coast are in need of restoration. The LISCMP presents a wetlands mitigation strategy to ensure "no net loss" of wetlands. Mattituck Creek is one of the proposed wetland restoration sites.

- *Maintain the Natural Shoreline and Protect Public Investment.*

The LISCMP encourages the state to maintain the remaining 50% of the Sound shoreline in a natural condition, and restore, when feasible, the remaining shoreline. Public expenditures to address coastal flooding and erosion hazards should be limited to areas of significant public investment: City Island and the Throgs Neck; Cross Island Parkway; Bayville; Asharoken Tombolo; Sunken Meadow State Park; and portions of identified Areas for Concentrated Development and Maritime Centers. New development in coastal high hazard areas will be discouraged through a variety of incentives and disincentives.

- *Reduce Coastal Non-point Source Pollution.*

To improve coastal water quality, the LISCMP advances the recommendations of the *Long Island Sound Comprehensive Conservation and Management Plan* and the *Federal Coastal Non-point Source Pollution Control Program*. Management measures to reduce non-point source pollution from a wide range of pollution causing activities in the Sound watershed must be adopted under these federal programs.

- *Support Commercial Fishing.*

The LISCMP calls on the state to support the Sound's existing commercial fishing fleet, while protecting declining fish stocks. Huntington and Centerport Harbors, Northport Harbor, Port Jefferson and Setauket Harbors, Mount Sinai Harbor, and Mattituck Inlet need infrastructure investment and marketing assistance. The state must also ensure equitable allocation of fish stocks.

- *Restructure Petroleum Delivery and Storage.*

To protect water quality in shallow enclosed harbors, the program encourages petroleum transshipment facilities in Oyster Bay and Cold Spring Harbor to be phased out. Petroleum facilities in the Hutchinson River, Hempstead Harbor, Port Jefferson, and Northville should be protected. The LISCMP would encourage the development of additional offshore transshipment points to inland storage sites.

- *Improve Dredging Management.*

The LISCMP recommends providing for maintenance of existing authorized channel depths in all Maritime Centers except Port Jefferson, Centerport, Hempstead, and Manhasset Harbors where authorized depths exceed the needs of water-dependent uses; and expediting and coordinating dredging projects within Maritime Centers.

- *Support Coastal Management Efforts of Local Governments.*

The LISCMP recognizes that local governments, particularly through their land use control powers and capital programs, are important partners in the state's program for improved coastal management of Long Island Sound. State support is needed for local governments to: complete, revise, or prepare local waterfront revitalization programs; strengthen land use control laws; and more effectively use other powers granted to local governments. The LISCMP includes revised coastal policies. These represent a consolidation and refinement of the current 44 state coastal policies to take into account the specific situation of the Long Island Sound. This provides comprehensive and geographically specific policies and standards designed to reduce, limit or eliminate adverse impacts resulting from actions within the Long Island Sound coastal area.

The LISCMP policies provide for channeling state investments and action to encourage development in areas within or immediately adjacent to existing developed areas where infrastructure and public services are adequate, and where topography, geology, and other environmental conditions are suitable for and able to accommodate it. The revised policies were prepared to achieve the appropriate use of coastal lands and waters by promoting a pattern of development that enhances community character, preserves open space, forges links to the natural and cultural heritage of the Sound, meets regional economic needs, makes efficient use of infrastructure, and is compatible with protection of coastal resources. All coastal area infrastructure resulting from state investment will be appropriate for the level of development, so as not to induce additional growth. The nature of the changes to the state coastal policies in the LISCMP is not substantive. The subject matter of the state coastal policies remains the same. The changes are refinements, clarification, geographic specificity, and establishment of priorities to guide state decision-making.

The Long Island Sound coastal policies are:

- Policy 1 Foster a pattern of development in the Long Island Sound coastal area that enhances community character, preserves open space, makes efficient use of infrastructure, and minimizes natural resource impacts.

- Policy 2 Protect Long Island Sound's water-dependent uses and promote suitable use of Maritime Centers.
- Policy 3 Promote sustainable use of living aquatic resources in Long Island Sound.
- Policy 4 Protect existing agricultural lands in the eastern Suffolk County portion of Long Island Sound's coastal area.
- Policy 5 Minimize loss of life, property, and natural resources from flooding and erosion.
- Policy 6 Protect and improve water quality and supply in the Long Island Sound coastal area.
- Policy 7 Minimize environmental degradation in the Long Island Sound coastal area from solid waste and hazardous substances.
- Policy 8 Protect and improve air quality in the Long Island Sound coastal area.
- Policy 9 Protect and restore the quality and function of ecological systems within the Long Island Sound coastal area.
- Policy 10 Provide for public access to coastal waters, public lands, and public resources of the Long Island Sound coastal area, and foster a range of recreation opportunities.
- Policy 11 Preserve the historic resources of the Long Island Sound coastal area.
- Policy 12 Enhance visual quality and protect scenic resources throughout Long Island Sound.
- Policy 13 Promote appropriate use and development of energy and mineral resources.

The vision, themes, recommendations, policies and standards of the LISCOMP provide the basis of the Town of Southold LWRP. The LWRP represents a local refinement of the regional approach adopted by the Department of State. It will implement or advance many of the recommendations of the LISCOMP as they effect the Town of Southold. These include the historic maritime communities program; wetland restoration at Mattituck Creek; open space protection at Mattituck Creek, Dam Pond, Brecknock Hall and on Fishers Island; consideration of the Eastern Islands and Fishers Island as additional Outstanding Natural Coastal Areas; protection and improvement of water quality; erosion concerns; the development of greenways and blueways; public access and recreation improvements at Mattituck Inlet and Creek, Goldsmiths Inlet, Peconic Dunes, and Inlet Pond; the identification of Mattituck Inlet as a Maritime Center; and the protection of existing farmland and agricultural use in Southold.

For further information on the current status of the Long Island Sound Study and implementation thereof, the reader is directed to search the internet at <http://www.longislandsoundstudy.net/ccmp/living.html> or to contact the program office at: Long Island Sound Study, EPA Long Island Sound Office, 888 Washington Boulevard, Stamford, CT 06904-2152, Phone: (203) 977-1541 Fax: (203) 977-1546

17. Long Island Sound Historic Centers of Maritime Activity - 1997

The LISCOMP identified a number of communities as historic centers of maritime activity. These communities include sheltered bays and harbors that contain water-dependent businesses such as marinas, yacht clubs, boat yards, commercial fishing operations, ferries and commercial ports. Because these areas have traditionally been utilized for maritime purposes, they also contain valuable historic resources.

To ensure that the historic maritime communities identified in the LISCOMP receive special recognition and support for the protection and use of their historic maritime resources, state legislation was enacted in 1994 (*Ch. 587, 1994*) to provide for a study of these historic centers of maritime activity. The purpose of the study is to identify, recognize and recommend how to preserve and manage the historic, recreational, commercial, natural and cultural resources in fourteen historic maritime communities on Long Island Sound and three historic maritime

communities on the Peconic Bay. These included the hamlet of Orient-Oyster Ponds, Mattituck Inlet and the Village of Greenport.

NYSDOS was given primary responsibility for preparation of the study, with assistance from *NYS OPRHP* and *NYSDEC*. The Historic Maritime Areas Advisory Committee was established to prepare the study. The final report, *Long Island Sound Historic Centers of Maritime Activity* was completed in the spring of 1997.

The report found that a lack of common knowledge regarding the significance of a community's maritime past, loss of traditional maritime skills, deteriorating historic maritime fabric and impairment of supporting natural resources threaten the region's maritime communities. The Committee recommended that:

the state act as a catalyst, using existing programs and working with the private sector, to:

- *foster awareness of our historic maritime tradition*
- *strengthen working waterfronts and make them visually accessible to the public*
- *develop a maritime industry workforce*
- *protect and enhance the marine environment*
- *preserve the historic maritime fabric*
- *celebrate our maritime heritage*
- *promote appropriate heritage tourism destinations*
- *foster linkages among Historic Maritime Communities*

(*NYSDOS*, 1997)

The report presented a series of detailed recommendations based around the establishment of a voluntary statewide historic maritime community program. This would use the LWRP process and the *Heritage Areas Program* as vehicles for state assistance.

The report outlines the following procedure for Historic Maritime designation and indicates the components of a *Historic Maritime Plan*:

“A community interested in participating in the Historic Maritime Community Program would prepare a Historic Maritime Community Plan as part of its Local Waterfront Revitalization Program. Upon approval of its plan by the Secretary of State and the Commissioner of Parks, Recreation and Historic Preservation, the community would be designated a Historic Maritime Community and would be eligible for assistance under both the Local Waterfront Revitalization Program and the Heritage Areas Program.”

Historic Maritime Community Designation

To be designated a Historic Maritime Community under the *Heritage Areas Program*, a community would submit its Historic Maritime Community Plan - as an element of its *Local Waterfront Revitalization Program* - to the Secretary of State and the Commissioner of Parks, Recreation and Historic Preservation for approval. To receive a Historic Maritime Community designation, a community would need to demonstrate the following:

- maritime activity of greater than local importance or the ability to accommodate such maritime activity;
- a special physical integrity of the maritime resources;
- historical and cultural resources of greater than local significance that played a vital role in the development of the community or region;

- resources with the potential to provide public benefits through interpretive programming, education, and recreational uses; and
- a demonstrated commitment to the Local Waterfront Revitalization Program and the guidelines and requirements of the New York State Heritage Areas Program.

Historic Maritime Community Plan

The *Historic Maritime Community Plan*, prepared as an element or phase of a *Local Waterfront Revitalization Program*, would emphasize the following components:

Foster local awareness of historic maritime resources, by including:

- interpretive plan (to include a list of interpretive goals and objectives, list of natural/historic/cultural resources, evaluation and selection of maritime theme(s), visitor market analysis, formulation of interpretive programs and projects, choices of appropriate interpretive collateral)
- natural/historical/cultural resources public awareness campaign with a special events component
- public education component

Protect historic, architectural, and archeological resources by:

- surveying and evaluating historic, architectural, and cultural resources that played a vital role in the development of the community or region
- implementing local measures to protect historic properties

Maintain the economic vitality of the working and recreational waterfront and surrounding areas, by including:

- assessment of development opportunities
- business plan
- investment package

Share maritime history, by including:

- marketing plan
- promotion and public relations components
- transportation plan"

(NYSDOS, 1997, p29-31)

Environmental Protection Fund Local Waterfront Revitalization Program grants would be available from the Department of State to communities wishing to prepare Local Historic Maritime Plans. The Town of Southold may be seeking these funds to prepare separate Historic Maritime Plans for Mattituck Inlet and Creek and Orient/Oysterponds to be included as amendments to this LWRP.

18. The Peconic Estuary Program

The Peconic Estuary was admitted into the *National Estuary Program* in 1992. As in the LISS, the *Peconic Estuary Program* (PEP) resulted in the preparation and implementation of a CCMP that is tailored to the specific needs, concerns and problems of the Peconic Estuary. The PEP is a partnership of federal, state and local interests that is working to protect, maintain and restore the natural resources of the Peconic Estuary.

The foundation of the PEP lies in the *Brown Tide Comprehensive Assessment and Management Program* (BTCAMP) established in 1988 by the Suffolk County Department of Health Services (SCDHS). The goal of this Program was to assess and make recommendations on water quality and environmental issues relative to the Peconic Estuary. "The first objective was to research the causes and impacts of the Brown Tide, identifying any remedial actions and defining those areas which require further study. The second objective was to investigate more conventional water quality problems affecting local bay areas so that corrective actions to minimize any present or future water quality problems could be identified and evaluated" (SCDHS, 1992, piv). The Program concentrated on the Peconic Estuary system and focused on the heavily stressed western Peconics. The final management plan was supported by comprehensive water quality monitoring, an assessment of pollutants and their sources, an analysis of land use and computer modeling.

The Brown Tide was a significant issue addressed by the BTCAMP. It also addressed conventional water quality problems and recommended "the general policies of "no-net increase" of direct nitrogen loading to surface waters and "no substantial degradation of groundwater" in the Peconic River and Flanders Bay groundwater contributing areas.... A "no degradation of surface water quality" policy is recommended for the eastern Peconic system" (SCDHS, 1992, pv). It also recommended that pollution control efforts should be focused on prevention of additional coliform loading and that stormwater runoff remediation should occur primarily on a site-specific basis. This work highlighted the fragile nature and the ecological and economic importance of the Peconic Estuary. This increased awareness led to the establishment of the PEP.

The PEP quickly built on information contained in the BTCAMP and developed an Action Plan (PEP, 1994) which addresses impacts from nutrients, pathogens and the Brown Tide. The Action Plan included PEP initiated actions and many existing and new Federal, State and local programs "to control, research, and remedy the impacts of some of the estuary's key problems" (PEP, 1994, p1). At the same time as developing and implementing the Action Plan, the PEP continued to work on the development of the CCMP.

Contracts were let to conduct much of the necessary inventory and technical assessment work. These included studies of:

- surface water quality modeling
- sediment nutrient fluxes
- estuarine use and economic value assessment
- toxic substances and sediment characterization
- identification of rare, endangered, threatened and wildlife species of special concern and critical habitat areas
- a determination of the abundance, distribution and ecological importance of submerged aquatic vegetation

The results of these studies and the recommendations of the Action Plan have been incorporated into the *PEP Final Comprehensive Conservation and Management Plan* which was approved by the USEPA on November 15, 2001. The Plan characterizes the priority water quality problems affecting the Peconic Estuary and identifies specific commitments and recommendations for actions to improve water quality, including a policy of "no net increase" in shoreline hardening structures. It also examines the protection and restoration of living resources and related land use issues.

Specific recommendations on the following topics are part of this Plan:

- Brown Tide
- Nutrient Pollution
- Habitat and Living Resources
- Pathogens and Closed Shellfish Beds
- Toxics
- Critical Lands Protection
- Public Education and Outreach
- Financing
- Plan Implementation and Post-CCMP Management
- Environmental Monitoring Plan

It is worth noting here that the Critical Lands component of the CCMP (Chapter 7 of the PEP CCMP) will serve as a useful tool for State and local agencies. Known as the Critical Lands Protection Plan, the CLPP is designed for State and local agencies engaged in land acquisition for open space purposes. It sets forth criteria that would be used to determine acquisition priorities, such as properties located within the following areas:

- PEP Critical Natural Resource Areas
- US Fish and Wildlife Service 1994 National Wetlands Inventory
- Within 1000-foot of freshwater streams and bay coastlines
- Within the groundwater contributing area to nitrogen-stressed sub-watersheds as defined in Chapter 3 of the PEP Comprehensive Conservation Management Plan

In closing, many of the PEP CCMP recommendations are applicable to water quality management in Southold. The CCMP also includes specific recommendations and actions applicable to the Town of Southold. For detailed information about the CCMP and its current implementation status, the reader is referred to websites maintained by the U.S. Environmental Protection Agency, the New York State Department of Environmental Conservation and the Suffolk County Department of Health Services as well as contacting Vito Minei, Program Manager, Suffolk County Department of Health Services, Office of Ecology, Griffing County Center, Riverhead, NY 11901, Tel: (631) 852-2077 Fax: (631) 852-2743.

19. NYS Coastal Non-point Pollution Control Program

The *NYS Coastal Non-point Pollution Control Program* can be a means of implementing pollution control. There are several major components of the coastal non-point program that signal significant changes in government response to pollution control. First is the geographic area affected. Because water quality is affected by land use, the coastal non-point program must address land uses that can affect coastal waters. For the Town of Southold, this means that the program affects the entire watershed rather than merely the riparian areas or the existing coastal boundary. Because of the interrelationship of land use and water quality, Congress required that the coastal non-point program be developed jointly by the coastal management and water quality agencies. At the federal level, this means that program responsibility is held jointly by NOAA and EPA, while at the state level, the Department of State and the Department of Environmental Conservation are partners.

As point sources of pollution are controlled, non-point pollution makes up a greater proportion of the total remaining pollution load to a system. Most existing programs aimed at non-point pollution control are voluntary. Probably the most important aspect of the coastal non-point program involves the assumptions made in determining pollution management policy. The program explicitly redefines the traditional strong linkage between cause and observed water quality effect. This redefinition is critical, because it is cumulative rather than individual impact that is important for the many individually small sources. As the relative impact of a single source, such as a single malfunctioning septic system or a single parking lot, becomes smaller, it is correspondingly difficult to detect and measure that impact on the environment. As Weinberg (1972) noted, "No matter what the environmental insult, to measure an effect at extremely low levels usually requires impossibly large protocols." This principle is obvious in our everyday life. The addition of a single car to an already crowded highway has an impact on total traffic, but that effect is likely to be too small to notice. By contrast, the addition of many vehicles, as happens when a parallel road is closed for repairs, is immediately noticeable.

This principle means that, for individually very small sources, determining the effect on Long Island Sound, or even a stream tributary to the Sound, is effectively impossible. The coastal non-point program addresses this problem by making three assumptions: (1) existing information is sufficient to demonstrate that a certain activity has pollution potential, (2) there is evidence that certain alternatives are available to reduce the potential for pollution, and (3) the results of detailed studies can be generalized to most situations.

It is clear that the first assumption is appropriate. Despite the difficulty in linking, say, fertilization of one lawn with nutrient enrichment of a bay, we can confidently show that the enrichment is the result of many lawns being over-fertilized. The second and third assumptions are closely related. For each of the pollution sources thus far discussed, numerous detailed studies have been conducted which show the effect of alternative management practices. For example, many detailed studies have addressed the topic of street runoff. A particular study might evaluate the effectiveness of a particular approach, such as periodic street sweeping, on pollution loadings. These studies as a whole demonstrate that alternative approaches can be used to reduce pollution loadings to waterbodies and that, while there are limitations, the results of the individual studies can be generalized.

The coastal non-point program, therefore, exemplifies the next step in pollution management, in which pollution-generating activities are managed, even though it is difficult or impossible to demonstrate the importance of each single pollution instance. The program will manage such activities in coastal watersheds.

The coastal non-point program recognizes that it may also be necessary to apply additional management measures to reduce pollution from sources which either:

- occur relatively rarely and are therefore not found throughout the coastal watersheds or
- cumulatively increase pollution loadings in an area to the extent that watershed-wide measures will be inadequate to achieve water quality goals.

An example of the latter case would be a small embayment which is severely impacted by septic systems, roads, and lawn fertilizers. If the flushing capacity of the system is too small, application of the various management techniques used watershed-wide may still not reduce pollution loadings

to an acceptable level. In such a case, it may be necessary to apply more stringent standards, referred to as "additional management measures" in the coastal non-point program.

The coastal non-point program also provides for the designation of "Critical Coastal Areas," areas in which new or substantially expanding land uses may cause or contribute to the impairment of water quality. Within these areas, additional management to preserve existing high quality water may be appropriate. Thus, while the basic coastal non-point program will affect the entire Sound watershed, site specific conditions may mean that certain areas will be subject to additional management.

20. Village of Greenport Local Waterfront Revitalization Program: 1988, 1996

The Village of Greenport LWRP was adopted and approved in 1988 and amended in 1996. The whole of the Village is included within the coastal area. The LWRP is an action-oriented planning strategy to encourage and coordinate the revitalization of the Village. The LWRP recognizes that Greenport owes its development and vitality to its waterfront location. Historically, the local economy has been based around water-dependent industry, such as boating, commercial fishing, fish processing and shipbuilding. In recent years tourism activity and second home ownership has increased, attracted by the activity and ambience of the working waterfront and the adjacent shops, restaurants and historic homes. Encouraged by renewed interest and economic activity, some vacant, or underutilized and deteriorated properties have been redeveloped, although key waterfront parcels remain either vacant, (most notably the Mitchell property), or in need of redevelopment (the Mobil Terminal Building at the southeast corner of Clark and 4th streets). Some of the main issues arising as the Greenport waterfront is redeveloped are: the increased competition between commercial and recreational boats for limited waterfront space, competition between water-dependent and non-water-dependent uses and the increased competition and conflict over the use of the water surface of the harbor areas.

The LWRP seeks to ensure that as Greenport develops and its waterfront and downtown are revitalized, it maintains the Village's heritage as a working waterfront community.

The Village of Greenport LWRP provides a comprehensive revitalization package. The goals of this revitalization effort are:

- to maintain and protect existing water-dependent uses and where it is possible and necessary encourage expansion of these uses
- to redevelop the remaining underutilized or deteriorated waterfront properties for water-dependent uses
- to strengthen Greenport's role as a commercial fishing seaport
- to provide for continued and expanded public access to the waterfront
- to enhance the Village of Greenport's position as the commercial and business center of Southold Town
- to conserve and enhance the strong residential character of established residential areas throughout the Village of Greenport
- to improve the visual quality of the Village of Greenport
- to provide the necessary infrastructure improvements to accommodate development proposals in the waterfront and Central Business District.

The Village of Greenport LWRP refines the New York State Coastal Policies to reflect these goals and the unique local situation. It also presents a series of projects that implements these goals and

policies. These projects include a harborwalk, baymens dock, commercial fishing vessel support facility, parking and transportation study, redevelopment of the Mitchell property, the development of waterfront parks, a transportation museum, a central business district design plan and a shipbuilding project. Some of these projects have been implemented. Currently, the Village is focussing its attention on the redevelopment of the Mitchell property and the implementation of the harborwalk.

The Village's Harbor Management Committee has prepared a *Harbor Management Plan* (December 1998) which focuses on the harbor itself and the immediate waterfront properties surrounding it. It's intent is to eliminate use conflicts within the harbor and to encourage better, more coordinated use of the harbor resource. The status of the Village of Greenport Harbor Management Plan is not known since it has not been adopted by the Village Board.

21. Conclusions

The proceeding pages describe the formal and informal set of plans, operational policies and initiatives that currently provide guideposts for decision-making at the local level. These activities are taking place within a clearly understood, if unarticulated, context by the people involved: be they elected officials, public employees, university research personnel, appointed committee members, or volunteers.

As stated in the Introduction, the Southold LWRP builds on all of the above noted work, plans and programs.

C. LAND USE AND DEVELOPMENT

1. Existing land use and zoning

The predominant land use in the Town of Southold traditionally has been agriculture. Residential development typically was located on less productive soils on the fringes of the farmland and along the waterfront. Commercial and industrial development tend to be clustered around the hamlets, which are Laurel, Mattituck, Cutchogue, New Suffolk, Peconic, Southold, Greenport (unincorporated and Incorporated), East Marion and Orient. Some of these hamlets have grown in size and population to the point where their residents think of them as villages. Others have settled into a quieter level of existence where for instance, the post office and one or two other businesses may be the primary center of activity. Only Greenport became a separate incorporated Village in 1838. Greenport's rise as a Village reflected the importance of the maritime and shipping industries within the town's economy. Some of the hamlets, such as New Suffolk, Southold and Orient had strong waterfront commerce operating from their shorelines particularly during the days before the railroad was built in the 1840s.

Since the middle of the 20th century however, the percentage of land used in farming has been declining to the point where the collective sum of land in non-agricultural uses is now greater than that in agriculture. Table II-4 below describes the approximate acreage found in twelve different land use categories. The categories attempt to account for all the existing land uses found within the Town and to help in "characterizing community layout and function, determining land available for development, estimating future population levels and preparing master plans."

Source: Suffolk County Planning Department, 1998

**Table II-4 Existing Land Use Acreage within Southold Town
by Land Use Category**

Land Use Category	Upland Acreage	% of Total
Low density residential	5,806	16.7
Medium density residential	4,231	12.1
High density residential	236	0.6
Commercial	570	1.6
Industrial	156	.4
Institutional	1,281	3.6
Recreation & Open Space	3,614	10.4
Agriculture	9,853	28.4
Vacant	6,539	18.8
Transportation	2,253	6.4
Utilities	83	.2
Waste Handling	70	.2
Total	34,692	

Source: *Peconic Estuary Program Existing Land Use Inventory SCDP, Draft, January 1997*

****Note:** This Table includes acreage on Fishers and Plum Islands. Plum Island encompasses 823 acres. Fishers Island encompasses about 2,560 acres. Fishers Island’s land use categorization was done by using tax assessor’s codes, which were not verified by aerial photo interpretation or field inspections. Further, this categorization does not include the Town’s underwater holdings. *This information should be used carefully, for it represents a “snap-shot” of the land use pattern found within the Town during the year 1995. As such it is but an estimate of the amount of land in use at that particular time.*

As can be seen from the Table above, in 1995, the two dominant land uses within Southold Town were residential and agricultural in character, with each consisting of close to a third of the total acreage. Vacant land comprised nearly 20% of the total.

The Town’s entire watershed drains to either the Peconic Estuary or the Long Island Sound, each of which is the focus of a regional resource management program. Approximately 33% of the Town lies in the Long Island Sound watershed. The remaining 67% of the Town’s land mass drains into the Peconic Estuary.

As evidenced in the next Table, Southold’s upland acreage consists of small holdings. There are fewer parcels on the Sound principally because of the fact that the Sound shoreline is less indented by creeks and inlets than the Estuary shoreline. Also, traditionally, residential development was clustered on the more protected estuarine shoreline as opposed to the more exposed bluffs on the Sound.

Table II-5 Upland Acreage

Upland Acreage Town-wide	34,369
Number of parcels Town-wide	18,324
Upland Acreage in Peconic Estuary watershed	23,161
% of acreage in Peconic Estuary watershed	67%
Number of parcels in PEP	13,439
% of number of parcels in PEP	73%
Upland Acreage in LIS watershed	11,207
% of Acreage in LIS watershed	33%
Number of parcels in Long Island Sound watershed	4,885
% of number of parcels in Long Island Sound watershed	27%

Source: Suffolk County Planning Department, 1997.

It should be noted here that the *Long Island Sound Management Program* and the *Peconic Estuary Program* used different criteria for defining the Town’s watershed boundaries. The Town recognizes the validity of the LIS and PEP sub-watershed zones for the scientific research and modeling values they contribute towards developing a regional resource management program. The information generated about the sub-watershed zones will be considered and factored into the Town’s LWRP program on an ongoing basis. However, in order to facilitate effective

governmental administration of the program, the LWRP's recommendations and implementation strategies will be presented in accordance with the Reach format described in *Section I*.

(i) Residential uses

Residential development, which comprises approximately 30 percent of the land area, is concentrated in the Incorporated Village of Greenport, the Town's hamlet areas and in the vicinity of the many creeks and inlets found along the Peconic Estuary shoreline, particularly on the peninsulas of Little Hog Neck and Great Hog Neck. Residential density varies from one unit per acre or less in agricultural areas, to 5 to 10 units per acre in some of the older seasonal communities. The average density ranges between 2 to 4 units per acre. According to the 1990 U.S. Census, there are 12,979 dwelling units within the Town, 11,845 or 91.2% of which are located outside the Incorporated Village of Greenport.

In 1990 more than 90% of the housing stock was detached single family dwellings. More than 50% of the housing stock was owner-occupied, slightly more than 11% was rented and about 35% were considered to be second or summer homes. (Sources: *A Statistical Profile of Southold Town: 1990. Southold Town Planning & Zoning Committee, October 1993. P. 9.*) Through the years, many of the seasonal homes were winterized and expanded when their owners retired and decided to live within the Town on a year-round basis. The 2000 Census figures substantially mirror the 1990 figures.

For all of the Town's history and focus on its historic buildings, its housing stock is relatively young. In 1990 only 22.2% of the stock was built before 1939. *Section II.F.* of this inventory contains a detailed description of the Town's historical resources, including historic homes. New housing has been added at a relatively steady rate of about 2,000 units per decade since 1950. It is interesting to note that nearly 47% of the housing stock is three-bedroom dwellings. Nearly 24 % contain only two bedrooms, and nearly 20% contain four bedrooms. (*A Statistical Profile of Southold Town, 1993. P.10.*)

Earlier, in *Section II.A.5.Economy*, the influence of the financial industries within the metropolitan New York region on the local economy and real estate market was described. The potential impacts of existing and proposed commercial development within the Town of Riverhead on Southold's economy also were outlined. The underlying reason the Town of Southold is a prime market for real-estate investment is the region's superlative natural and cultivated landscapes. In recent years, the increased suburbanization of westward towns and the mounting traffic congestion of the Hamptons has resulted in an upsurge of interest in the quieter pace of the North Fork, particularly in Southold Town. The geographic isolation of the Town has become less of an obstacle as Long Island's population continues to increase, traffic congestion up west continues to worsen and disposable income remains fairly high.

A detailed description of existing and proposed residential development patterns will be provided within each Reach Analysis. In this section, the discussion of residential development will focus on general development trends and their implications for local waterfront planning and management.

Residential development within the Town of Southold traditionally has not followed the pattern typical to suburban towns to the west. With few exceptions, most subdivision lots in Southold were designed and sold as vacant lots, not built lots. This is a significant contrast to the situation

where a builder or construction company will acquire land, subdivide it and proceed to build-out the subdivision within a set time period. The end result of the latter approach is an instant “community” where all the homes are of similar age and architecture. By contrast, the strong second home market within the Town has resulted in a great deal of custom building. Accordingly, there will be a range of architectural styles and ages of homes within a neighborhood. As a result, few neighborhoods within the town have the “cookie-cutter” appearance characteristic of the average American suburb. Within the past five years, there has been a change in this pattern: the increasing attraction of Southold as a bedroom community for young families has resulted in a small upsurge in the building-out of subdivisions in the typical suburban manner. These subdivisions are typically found on the outskirts of the hamlets on formerly farmed land.

As mentioned earlier in *Section II.A.6.*, between 1950 and 1990, the population of the Town of Southold increased an average of 17% per decade since the 1950s. The actual rate of increase fluctuated greatly during that time with a high of 26% during the 1970s and a low of 3.5% during the 1980s. However, during this same period, new housing stock was added at a fairly steady rate of 2,000 dwelling units per decade. In reviewing these statistics, it is important to keep in mind that the year-round population figures are based on U. S. Census data, which does not include as year-round residents those people who own homes in the Town but who reside in them on a seasonal basis: the summer residents and the retired people who split their time between Southold and a more southerly residence. In other words, much of the seasonal housing stock was classified as vacant housing.

The primary ramifications of this situation are: the large percentage of second home owners and retirees means that the pressures for certain public services are either artificially low (e.g. schools) or highly seasonal (e.g. police). Along the waterfront, the existence of seasonal homes means that the demand on the groundwater resource and the threat of septic wastes leaching into the nearby surface waters fluctuates with the seasons. Once these homes are converted to year-round dwellings, particularly if a bare-bones summer cottage is expanded to a more luxurious retirement home, complete with water-using appliances and swimming pools, then the potential impact on the environment and public services is greater. This poses a serious problem on smaller waterfront lots that originally were created with a summer cottage in mind, not a year-round dwelling. Some of these properties are non-conforming in size and frequently they require variances from County Health Department requirements for the placement of well and septic systems. (For the purposes of this discussion, although the Town has required two acres of land for new lots since 1986, any lot of less than 40,000 square feet (about one acre) is considered to be non-conforming insofar as County Health Department requirements are concerned. Health Department regulations are the primary reasons why the town does not cluster lots down to sizes lower than 30,000 to 40,000 square feet. (More detail is available about the impact of water supply and Health Department regulations on zoning and residential land use in *Section II.C.2.(i) Water Supply.*) Of particular concern along the waterfront is the location of septic tanks too close to the water’s edge. Many older homes have been permitted to expand without being required to relocate their septic systems or leaching fields away from the water’s edge.

One unfortunate result of the intensified development of undersized lots is the increased need for public water to provide potable drinking water. As described in greater detail in *Section II.C.2.(i)*, the Suffolk County Water Authority has extended public water supply mains Little Hog Neck and Nassau Point so as to address existing problems with water quality and quantity near the waterfront. Both of these peninsulas on the Peconic Estuary are heavily developed.

The bulk of the Town's bay and creek fronts are developed with residences. There are very few large undeveloped parcels of land left along the Peconic Estuary shoreline. Further, much of the residential development is located on undersized lots that do not conform to the one or two acre zoning requirements. To complicate matters further, some developed lots have more than one structure used for residential purposes. Frequently, property owners try to split these lots on the grounds that there are two separate residences involved. Although the Planning Board strongly recommends against further subdivision of these lots, property owners have the right to petition the Zoning Board of Appeals for a variance based on character of the neighborhood or hardship, and many of these requests have been granted.

The current Zoning Map of the Town of Southold was adopted in 1989. It provides for four general categories of land uses: Residential, Business, Industrial and Marine. The respective zoning districts are discussed in conjunction with each of the general land use categories. Residential zoning districts include the following:

- R-400 (equivalent to 10 acre zoning)
- R-200 (equivalent to 5 acre zoning)
- R-120 (equivalent to 3 acre zoning)
- R-80 (equivalent to 2 acre zoning)
- R-40 (equivalent to 1 acre zoning)
- A-C (equivalent to 2 acre zoning)

The R-40 district encompasses most of the Town's older neighborhoods where the bulk of the land already was subdivided and developed by the early 1980s when the groundwork for the 1989 Zoning Map was laid. Much of this development is on lots of less than an acre in size and much of it lies on or within close proximity to the shoreline of the town's creeks or the Peconic Estuary. The A-C zoning lies over the best agricultural soils. The R-80 zoning included prime agricultural land adjacent to established R-40 or other developed areas. R-120 zoning is found almost exclusively on Fishers Island. R-200 zoning is found principally in Orient south of SR 25 and form just west of Narrow River Road out to the Point. R-400 zoning is found on Robins Island and on the western-most portion of Fishers Island. *Map II-6* shows the zoning categories and their locations. The rationale behind R-120, 200 and 400 is explained in the *Reach Inventory Analysis, Section II.J*.

(ii) Agricultural uses

As mentioned in the Introduction to this section, particularly *Section II.A.5.*, which discussed the Town's economy, agricultural land uses dominate the landscape within the Town. As of 1999, close to a third of the Town's land area, nearly 10,000 acres, were in active agricultural production.

The industry has undergone major changes within the last two decades. For several generations prior to the 1970s, Southold's farmers focussed on the growing of potatoes, a crop well suited to the region's sandy, but fertile soils. Other crops were produced, such as vegetables and fruits, but on a lesser scale. During the 1970s a number of trends converged to cause the industry to undergo a major diversification in the types of crops grown and in the nature of crop production. These trends are categorized and discussed here as follows:

- an increased awareness of the potential for groundwater contamination,

- the rising costs of farming particularly with regard to obtaining labor and to purchasing and using fertilizers and pesticides,
- heightened competition for agricultural land, and
- changing market preferences.

- **Increased awareness of the potential for groundwater contamination.**

In the late 1970s the Suffolk County Department of Health Services began documenting a hitherto unknown threat to the groundwater aquifer: the leaching of chemicals from fertilizers and pesticides applied to farm fields. The finding of TEMIK, an aldicarb-based pesticide produced by Union Carbide, Inc., in private wells near farmfields led to an intensive well-monitoring program throughout the East End region. Although this pesticide had been approved for use on farms by the U.S. Environmental Protection Agency, not enough attention had been paid to the rapid rate with which these compounds could leach through sandy soils such as found in this region. The rapid percolation rate combined with the very slow rate at which the chemical compounds decomposed into non-toxic forms caused health officials to take a much closer look at standard application practices of fertilizers and pesticides on farms. As the underground plumes of aldicarb-contaminated water affected a widening ring of private wells downgradient from farm fields, the concerns of public health officials and town residents converged on the agricultural industry and pressured it to reduce the usage of fertilizers and pesticides. Further, aldicarb and other easily leached compounds were banned from use on Long Island.

One immediate and extremely effective response by the industry was to incorporate Integrated Pest Management (IPM) programs wherever possible in order to reduce the need to apply fertilizers or pesticides. The Long Island Horticultural Research Laboratory of Cornell University and the Cornell Cooperative Extension took the lead in developing and testing IPM techniques and in customizing those techniques for local crops and individual growing situations. However, one major casualty of the outright ban on aldicarb was the potato industry. Decades of planting potatoes almost to the exclusion of any other crop had led to a monoculture situation whereby certain pests, most notably the Colorado Potato Beetle, were immune to all but a few pesticides: one of them being aldicarb. Without this tool in their arsenal, farmers saw yields per acre drop to the point where the crop became unprofitable. In 1987, about 10,400 acres were planted to potatoes throughout Suffolk County. By 1995, there was a precipitous drop to about 6,000 acres countywide. Farmers were faced with either finding other crops to replace potatoes or quitting the business. But, shifting to another crop meant jettisoning specialized tillage methods or equipment and acquiring new techniques or equipment. Not everyone was able to cope or finance this change.

- **Rising costs of farm operations.**

The Arab-imposed oil embargo of the late 1970s had a serious domino effect on the agricultural industry. Petroleum-based fertilizers and pesticides became more expensive, and as the price of fuel continued to increase, the cost of purchasing and applying these substances began to eat into already thin profit margins. This situation combined with the public outcry for the agricultural industry to be better stewards of the town's ground and surface waters resulted in greater use of IPM techniques and in more diversification of crops planted. Concomitant with these changes, farmers faced a shortage of helping hands. As family sizes shrank or their children opted to go into non-agricultural occupations, farmers needed to find competent labor. The increasing emphasis on higher education and the influx of residents from outside the Town who were unfamiliar with farming meant a reduced pool of young men and women available as seasonal hands. Within the

last decade, an influx of immigrants or laborers from Poland and Latin America have enabled many farmers to stay in business.

- **Heightened competition for agricultural land.**

While the industry was coping with environmental problems and financial woes, it also was under siege by developers. Many elderly farmers whose children had decided against following in their footsteps were faced with the necessity of financing their retirement by selling their land. In some cases, children who inherited the farm were unable to pay the federal and state inheritance taxes which often amounted to nearly one third of the total assets. As a result, much viable farmland was sold. Unfortunately, much of that land was not bought (and could not be bought) by other farmers. In the 1970s, the economics of land being what they were, the agricultural value of an acre could range from \$1,000 to 3,000, but the residential value of that same raw acreage ranged from \$5,000 to \$50,000 depending on proximity to water views and water front. As developers began buying up farms, farmers wanting to expand their acreage were forced to either rent or find ways to make their properties more productive.

Today, while raw land values (before being platted into building lots) have not returned to the inflated heights of the early to mid-80s, they remain high enough to be a prohibitive obstacle for the average farmer wanting to acquire additional acreage. For instance, agricultural raw acreage is valued between \$5,000 and \$8,000 an acre. That same raw acreage can be sold to a potential subdivider starting at around \$20,000 an acre and climbing up from there, depending on location and access to the waterfront.

- **Changing markets for agricultural products and market preferences.**

Nationally, the American agricultural industry has seen major changes, especially within the last twenty years. Smaller family run farms have become a rarity as farms have become consolidated into large corporate enterprises encompassing hundreds and sometimes thousands of acres. Local farmers provide a sharp contrast to the national picture because the average farmland parcel is a mere 17 acres. (*Note: This number reflects average parcel size, not necessarily the average acreage farmed by one farmer.*) In order to compete with larger, more efficient corporate farm operators, particularly their ability to market their products through large regional distributors, local farmers have had to improve productivity and search for far more localized and specialized marketing niches for their products. (See [Map II-7 Agricultural Lands](#).)

In response to this (and the other challenges mentioned earlier) the local agricultural industry has become quite diversified. The most visibly successful niche has been that created by the wine grape growers. Other significant crops or operations, in order of their acreage, include:

1. vegetables
2. grain
3. potatoes
4. sod & nursery
5. field corn
6. fruit
7. greenhouses

- 8. horses
- 9. christmas trees

(Source: *Southold Town Farm and Farmland Protection Strategy*, Town of Southold, Draft September, 1999)

- **The wine grape industry.**

The wine grape industry started in Cutchogue in 1973 with one intrepid pair of growers acting on the advice of John Wickham, a local farmer of international repute. It has since grown into a multi-million dollar industry encompassing close to 3,000 acres of planted acreage, the vast majority of it located within the Town of Southold. There are at least twenty-six wineries within the East End region, seventeen of which are located within Southold Town alone. This figure includes two new vineyards that produce wine but have no tasting rooms. Nor does it include the many small wine producers known as “boutique” wineries: very small producers who grow or buy local grapes and who ferment their wines by arrangement with the major wineries. In addition, there are many growers who do not produce wine, but who grow and sell their grapes to local vinters. As a crop, vineyards are estimated to be grown on about 18% of the actively farmed acreage.

The bulk of the wine produced in the Town of Southold is produced under the North Fork Appellation, meaning that more than 80% of the grapes used to make the wine are grown on the North Fork of Long Island. The industry’s success is directly attributable to the unique combination of well-drained soils and the mild maritime-influenced microclimate. The Mattituck-Cutchogue-Peconic-Southold area enjoys more days of sunshine than any other region in the State of New York.

The economic impact of this industry is sizable. According to the Long Island Wine Council “It produces almost \$65 million in gross annual sales, generates \$3.5 million in annual sales tax revenues and employs, directly and indirectly over 4,000 people.” (Source: *Long Island Wine Industry Fact Sheet 2002*: Long Island Wine Council.) Table II-6 lists the existing wineries within the Town of Southold.

Table II-6 Wineries located within Town of Southold:

Reach 1	Macari Vineyards & Wineries Lieb Family Cellars
Reach 6	Old Field
Reach 7	Corey Creek Vineyards Osprey’s Dominion Vineyards
Reach 8	Bedell Cellars Bidwell Vineyards Gallucio.Estate.Vineyards/Gristina Winery Castello di Borghese at Hargrave Vineyards Lenz Winery Peconic Bay Winery Pellegrini Vineyards

Table II-6 Wineries located within Town of Southold:

Pindar Vineyards
Pugliese Vineyards
Raphael Vineyards
Reach 9 Laurel Lake Vineyards

• ***Future trends within the agricultural industry***

As development pressures increase and the value of their land escalates along with the pressure, we can expect farmers to continue to diversify and strengthen their market niches in order to remain profitable. One area that is experiencing an upsurge in growth is greenhouse production. Within the last year, the number of greenhouses being installed has increased noticeably, generating complaints from residential neighbors who had assumed that land from which development rights had been purchased could not be used for any type of agricultural structure. New York State's Agriculture and Markets Law classifies greenhouses as a farm structure, hence exempt from New York State building and fire codes. Unless specifically noted, the purchase of development rights does not preclude a farmer from installing greenhouses integral to his operation.

This situation has been a focus of concentrated effort by the Town's Code Committee, the Town Attorney, the Town's Agricultural Advisory Committee, the Planning Board and Planning staff. However, a consensus has yet to be reached on proposed regulations for the siting and screening of greenhouses. This dialogue is illustrative of the difficulties the Town faces in maintaining a balance between the needs of its agricultural industry in a changing economy and the expectations of its residents, and second-homeowners that farmland from which development rights have been purchased should remain as open vistas. At the heart of this dilemma lies the fact that the very demand for open space vistas and traditional farms by potential residents is forcing farmers to maximize production on the remaining land by shifting from traditional crops to greenhouse production which can take place year-round.

It is too early to make predictions, but if this nascent trend continues, the Town will have to take into account the potential permanence of greenhouse structures on the agricultural landscape and the potential increase for year-round freight operations to transport these products to market. Presently, the Long Island Rail Road has no significant freight service to the East End. Consequently, all products must be taken to market by truck, or by ferry if the market is in New England. Currently, most trucking takes place during early morning hours when residential traffic is at its lowest level.

(iii) Business and industrial uses

The town's zoning map sets aside approximately 1,353 acres of land for business and industrial uses. Most of the business-zoned properties are located within or adjacent to the traditional business centers of the hamlets, although there are a fair number of parcels outside the hamlets, mostly along CR 48.

Not all business-zoned property is developed. Of the developed property, not all of it is occupied. Although this has not been quantified, there is recognition that many business properties are either unused or underutilized.

The town's industrial properties are less centrally located. Significant blocks of industrially zoned land lie outside the business centers: around the Town's sanitary landfill and between Southold and Greenport. As with business zoned property, much of it is undeveloped. However, the reasons for this have more to do with the nature of the local economy and the environmental limitations posed by much of the property that is zoned Industrial than any other factor.

During 1996 several changes were made to the Light Industrial and Light Industrial Office zones. These zones were amended to delete retail uses, which the Town wishes to consolidate in its hamlet business centers. Certain commercial recreational uses requiring large amounts of land were added to the list of permitted uses in industrial zones. Although the mix of recreational uses in an industrial zone might seem incongruous, the fact remains that some of the properties in the Light Industrial Office zone are best situated for large-scale recreational complexes. For one thing, the LIO zone requires three acres of land per use. For another, the large scale of a typical recreational complex is not likely to be a good fit with the smaller, more pedestrian scale of the hamlet business centers.

As shown below, the minimum required lot size ranges from 20,000 square feet in the Hamlet Business district to 120,000 feet (three acres) in the Light Industrial Office district.

Hamlet Business	20,000 square feet
General Business	30,000 square feet
Limited Business	80,000 square feet
Light Industrial	40,000 square feet
Light Industrial Office	120,000 square feet

Hamlet Business is the most intensive and retail-oriented zoning district. General Business is designed to accommodate uses requiring larger lots and greater access to automobiles. Limited Business was intended to provide for limited business activity outside the traditional hamlet business centers.

The Light Industrial district is the more intensive of the two industrial districts. The Light Industrial Office was intended to provide a campus-like setting for larger corporate operations. For the purposes of the LWRP, it is important to note that in both LI and LIO districts, the Town permits as of right, boat building, boat servicing and boat storage facilities, excluding wholesale or retail sales of boats or related accessories. Although these uses are affiliated with water-dependent uses, they do not require waterfront locations. Waterfront property zoned for marine uses is limited in quantity. Currently, there are no major boat building manufacturers or custom boat builders located within Southold Town.

Land use surveys indicate that approximately 2 percent of the land use in the Town is given over to commercial activity (both business and industrial). However, this figure should be considered a conservative estimate for two reasons: 1) almost the entire agricultural industry operates from land zoned for residential purposes, yet this industry generally is not factored in as a commercial activity and 2) the town permits certain types of businesses to be run out of residences located in residential zoning districts. Not all of these occupations are immediately evident from an aerial photograph, a windshield survey or a field inspection. In fact, with the rise in telecommunications and the heightened use of personal computers and facsimile machines, the number of businesses

being run from the home has increased but it is difficult to quantify this phenomenon. The types of occupations which the Town permits to be run from residences include the following:

- *Home business offices* – offices providing the service of consulting, advertising, designing and/or marketing and which typically require a home personal computer, telephone and/or facsimile transmission machine.
- *Home occupations* – gainful activity customarily conducted within a dwelling unit and clearly secondary to the residential use: such activities may include those of baymen, fishermen, and tradesmen, a term which may include, but is not limited to, carpenters, plumbers, landscapers, painters, masons and electricians, provided no retail sales or services are conducted on site.
- *Home professional offices* – offices or studios for a doctor, dentist, teacher, artist, architect, engineer, musician, lawyer, magistrate or practitioners of similar character

Waterfront commercial activity is technically considered a business use and is governed under the Marine I and II zoning districts of the Town's Zoning Code. These two zoning districts will be discussed below in *Section (iv), Water dependent and water enhanced uses*. However, it should be understood that much economic activity associated with the waterfront and the coastal resource may take place outside of the Marine business zoning districts.

(iv) Water-dependent and water-enhanced uses

There are a significant number of water-dependent and water-enhanced uses in the Town of Southold. *A water-dependent use is a use that requires direct access to the water in order to function.* Water-dependent uses are an integral part of the long-term economic vitality and public enjoyment of coastal areas. By contrast, *water-enhanced uses are those that benefit economically from a coastal location, but do not require it to function.* However, water-enhanced uses, such as restaurants often generate revenue that not only supplements that of the primary water-dependent uses, many of which are marginally profitable, but that may actually sustain the dependent use. Often, the addition of water-enhanced uses provides opportunities for expanded public enjoyment of the waterfront parcel than would otherwise be the case.

Two regional studies have highlighted the economic importance of water-dependent and water enhanced uses. The *Long Island Sound Coastal Management Plan* (DOS, 1994) examined the working coast of Long Island Sound and concluded that "protecting and promoting Long Island Sound's working coast uses is important to the region's maritime heritage and economy" (DOS, 1994, p261). These uses generate billions of dollars for the regional economy and are vital to the economic health of the region. A report prepared for the Long Island Sound Study, *The Economic Importance of Long Island Sound's Water Quality Dependent Activities*, estimates that the total 1990 use value to New York State of recreational boating and recreational fishing on the Sound was in excess of \$1.8 billion. Of this figure, recreational boating accounts for \$1.4 billion. Clearly, recreational boating represents the highest economic use of the Sound. (The total use value was calculated by adding estimates for use value plus the economic impacts or multiplier effects resulting from the use. This figure does not include other significant economic activities on the Sound, such as commercial fishing, ferry transportation, waterborne commerce, and industrial uses; it also does not include the value of the Sound's natural resources.) Recreational boating and fishing are the predominant water-dependent uses on the Sound, but the other water-dependent activities, noted above, also contribute significantly to maintaining the diversity and economic balance in the region.

The *Peconic Estuary Program* also assessed the economic value and impact of key estuarine-related economic uses of the Peconic Estuary. Initial work found that "resource-related economic sectors -- particularly those associated with seasonal tourism and recreation, including retail -- play an important role in the economy" (Economic Analysis, Inc, 1995 p2). The value and magnitude of a wide range of uses including commercial fishing and shellfishing, sportfishing, boating, beach use, non-consumptive wildlife-associated recreation and hunting were calculated and found to be regionally significant. The bulk of the Town's southern border and the majority of its working waterfront lie on the Peconic Estuary, a natural resource shared by four other towns. Although the Census data does not separate out estuarine-based sectors of the economy, it is useful to look at the impact this natural resource plans in the regional and local economy. A study conducted under the auspices of the *Peconic Estuary Program* estimated the impact of estuarine resources on the economy of the entire East End of Long Island. Economic activity was divided into seven distinct categories, which are shown in *Figure 5*. In order of their relative share of the whole (in terms of dollar value, they are:

- Marinas
- Wholesale seafood
- Ferry services
- Boat dealers
- Commercial fishing
- Commercial shell fishing
- Excursions

Marinas generate the largest share of the activity, 24 percent. They are closely followed by the Wholesale Seafood Market and Ferry Service categories, each with a 22 percent share of the activity. Boat Dealers account for 16 percent of the total. Commercial fishing and shell fishing together contribute 16 percent of the total. Excursions make up less than one percent of the total.

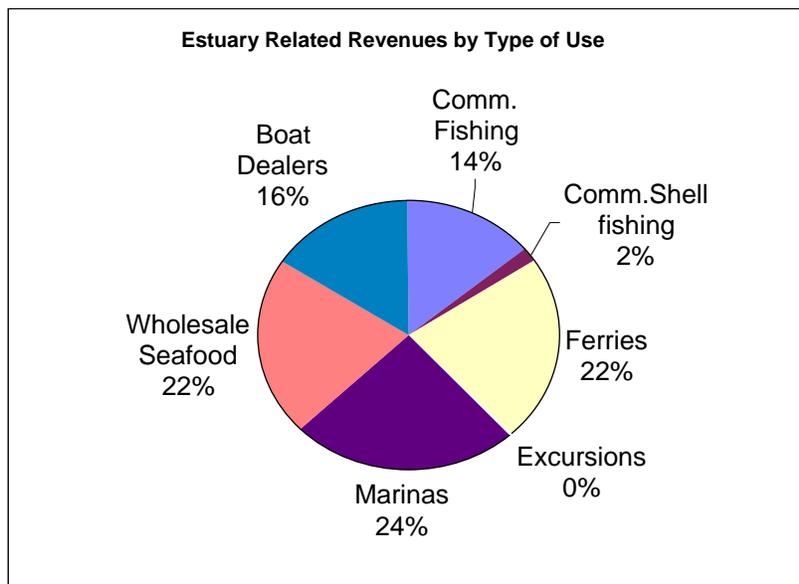


Figure 5: Estuary Related Revenues by Type of Use

While these revenues were directly attributable to the Estuary, it is evident that the volume is highly dependent on the ecological health of the Estuary. Clearly, the wholesale and commercial fish/shellfish industries which collectively represent about 38 percent of the revenues generated, would not survive for long if the Estuary were to become polluted or overfished. It is worth noting that the recreational boating industry is comparable in economic terms to the fishing industry. Boat dealers and marinas together account for 40 percent of the total revenue derived from Peconic Bay. The boating industry may be located on land, but its viability depends to a significant degree on the quality of the boating experience that is available.

Figure 6 describes the estimated impact of the Peconic Estuary on the regional tourism industry. As noted, the largest impact (34 percent) is felt in the Food Retail sector (e.g. Grocery Stores). The next largest category is restaurants at 20%. Gasoline Stations account for another 11 percent. The remaining categories and percentages are indicated on Figure 6.

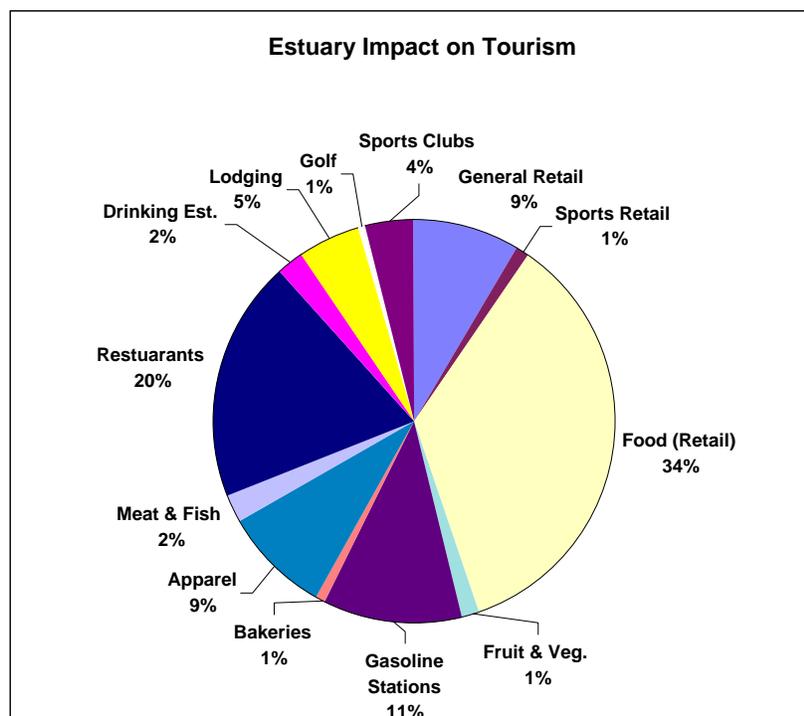


Figure 6: Estuary Impact on Regional Tourism

Since the data were not tabulated separately for individual towns, we can only assume that these percentages roughly approximate the situation within the Town of Southold.

Source: *The Peconic Estuary Perspective on Uses, Sectors and Economic Impacts Revised Final Report*. November 1996. Thomas Grigalunas and Jerry Diamantides.

The *Long Island Sound Coastal Management Program* also found that "the economic contributions of working coast uses to the region could be enhanced if the factors that significantly impair their ability to function were better understood and addressed by state and local government and the public" (DOS, 1994, p.262).

These factors include:

- competition for space on the waterfront and space in the water;
- inadequate or deteriorated coastal infrastructure;
- impacts of regulation and taxation;
- degradation of coastal resources;
- and a lack of public understanding of the day-to-day operational needs of working waterfront uses (DOS, 1994, p262).

These problems could be addressed through various means including appropriate zoning, the preparation of harbor management plans and public sector support of maritime industries. If the wherewithal were marshaled to resolve these problems we could significantly enhance the economic, commercial, recreational, and cultural values associated with the working coast.

Historically, the Town of Southold has been an agricultural community, taking full advantage of the fertile soils and the moderating climatic effects of its coastal location. However, a significant portion of its commercial and recreational activity has taken place on the waterfront. The Town has had a long history of utilizing the natural resources of the surrounding waters and of the extensive shoreline with its sheltered bays and inlets. Traditional water-dependent uses included whaling (briefly), commercial fishing and shellfishing, shipbuilding, and shipping of local products to New England and New York City. It wasn't until the mid 1800s, that the Town flourished as a tourist destination, with many summer visitors to the area enjoying the Town's coastline for its fishing, recreational and scenic opportunities.

Today, the waterfront remains an important focus of the Town's economy and certainly its sense of place. There are two main economic activities that rely on a waterfront location and the natural resources of the Town's surrounding waters. These are recreation/tourism and commercial fishing/shellfishing. The activities afforded by these two categories of uses include boating, recreational fishing, clamming, diving and swimming. In addition, marinas are a source of both direct and indirect employment. The commercial fishing and shellfishing industry and its associated support facilities has been a traditional source of employment in the Town, albeit one that is experiencing an overall decline due to depleted fisheries or fluctuating environmental conditions. The Peconic Estuary shellfishing industry and the Long Island Sound fishing industries (commercial and recreational) are of Statewide and national importance. Each of these local amenities attracts year-round residents as well as seasonal residents, transient boaters and tourists.

Commercial and charter boats operate out of Mattituck Inlet (Reach 1), Orient Point (Reach 5) and the Village of Greenport. The largest concentrations of marine-related businesses outside of the Village of Greenport occur on Mattituck Creek (Reach 1) and in the Mill Creek area (Reach 6). The regional importance of Mattituck Inlet (Reach 1) as a location of water-dependent uses was identified in the *Long Island Sound Coastal Management Program* (DOS, 1994). The Inlet was designated as one of ten Maritime Centers on Long Island Sound. These Maritime Centers are "the most suitable and appropriate locations for new or expansion of existing water-dependent commercial and industrial uses" (DOS, 1994, p315). The importance of Mattituck Inlet as a center of water-dependent uses is examined in more detail in the Analysis for Reach 1.

Mariculture operations outside of the Town's seed-clam and oyster program are few in number, existing only in Reaches 1 and 5. These operations are discussed later in *Subsection (iv)(c) Aquaculture-mariculture activities*. Southold Town recognizes the potential and economic significance of aquaculture: farmed species account for 20% of the world's harvested seafood. By the year 2000, this percentage is expected to increase to 25%. (Source: *National Fisherman, Trends and Technology, July 1995. Vol.76. No.3.P.18.*) This use is currently permitted under the M-I and M-II zoning districts, which are explained in the next several paragraphs. A more detailed description of existing and proposed mari- aqua- culture activities within the Town can be found below.

- **Description of Marine zoning regulations.**

The Town currently has two zoning classifications, M-I and M-II, that define the water-dependent and water-enhanced uses which are permitted on the waterfront. The primary difference between the M-I and M-II districts is one of degree. The M-I zones are found in more protected and environmentally sensitive areas and the zone itself allows a restricted number of uses. The M-II zones, by contrast, can be found in the more open waters and near creek mouths. The zone permits a greater number and intensity of uses than that permitted in M-I.

M-I's purpose is "to provide a waterfront location for a *limited* (emphasis supplied) range of water-dependent and water-related uses, which are those uses which require or benefit from direct access to or location in marine or tidal waters *but which are located within the town's tidal creeks or natural coves*" (emphasis supplied). (Chapter 100-110 Zoning Ordinance, Town of Southold Zoning Code)

The uses permitted as of right in this district include:

- Marinas for recreational or commercial boats including sale of fuel.

- Docks, slips, piers, wharves for pleasure or fishing trips or vessels.

- Boatyards for building, storing, repairing, renting, selling or servicing boats, which may include the following accessory uses: sales of marine equipment or products, dockside facilities for fuel, and where pump-out facilities are available, restrooms and laundry facilities for overnight patrons.

- Boat and marine engine repair, sales and display, yacht brokers and marine insurance brokers.

- Retail sale or rental of fishing, diving or bathing supplies and equipment if accessory to a marina, boatyard or ships' loft or chandlery.

Uses permitted by Special Exception of the Zoning Board include:

- Beach, yacht and boat clubs including accessory uses such as swimming pools, tennis courts and racquetball facilities.

- Mariculture or aquaculture operations or research and development.

In contrast to M-I, the purpose of M-II is "to provide a waterfront location for a *wide* range of water-dependent and water-related uses, which are those uses *which require or benefit from direct access to or location in marine or tidal waters and which, in general, are located on major waterways, open bayfronts or the Long Island Sound.*" (emphasis supplied) (Chapter 100-120 Zoning Ordinance, Town of Southold Zoning Code) The uses permitted in this district as of right

include **all** of the uses permitted in M-I whether by right or by special exception. In M-II, the uses requiring Special Exception include the following:

Restaurants, excluding outdoor counter service, drive-ins or curbside establishments.
Ferry terminals.

Transient hotels or motels subject to two conditions: minimum lot area for the use must not be less than three acres and the number of guest rooms shall be limited by the availability of public water and sewer and shall require four thousand square feet of land per guest unit.

Fish processing plants.
Fish markets (for fin or shell fish), whether wholesale, retail or a combination thereof.
Museums with a nautical theme or art galleries.

The more intensive uses permitted on M-II properties reflects the perception that open or well-flushed waters are better able to deal with the detrimental environmental impacts that typically accompany these uses. As seen on *Map II-6*, most M-II properties are suitably located. It is worth noting at this point that many of the M-I and M-II properties noted on the Zoning Map were zoned C-Industrial prior to 1989. The C-Industrial zoning category permitted many uses which were neither water-dependent or enhanced and which were totally inappropriate for the waterfront.

The distribution and extent of water-dependent and water-enhanced uses within the Town of Southold are outlined below. More site-specific details are provided in the Reach Analysis section of this document.

(a) Marinas and recreational boating

The discussion that follows recognizes that there are three types of marinas within the Town of Southold such as: commercial marinas that provide slip spaces and a wide range of related support services, private marinas that provide slip space or mooring services only, and yacht clubs. In this text, Yacht clubs and private marinas are distinguished from commercial marinas because yacht clubs and private marinas typically are non-profit membership or association-type organizations, whereas commercial marinas are profit-making businesses. But, these distinctions aside, the functional characteristics, maintenance and operating needs, problems, and environmental effects of commercial marinas and yacht clubs/private marinas may, in a few cases, be similar.

Many commercial marinas provide all of the services necessary for operating, storing, and maintaining vessels including the specialized services once offered exclusively by boat yards, such as engine, hull and deck, and equipment repairs. Support services that may be found at marinas include a wide range of activities; boat repair and maintenance, storage, boat launch and haul out, vessel winterization, boat and engine sales, fuel, pumpout facilities, and sail making and repairs (engine, hull, deck and equipment). These activities may be part of the marina operation, a separate business operating within the marina, or an independent business either in proximity to a marina or at an offsite location. Not all support services offered by a marina are necessarily water-dependent. While some services derive from a water-dependent use, and ultimately support a use of the water, they do not demand a waterfront location to exist.

Research for the *Town of Southold's Harbor Management Plan* (Allee, King, Rosen and Fleming, Inc. 1995) found docking facilities for an estimated 3,370 to 3,530 craft in the Town's waters. This figure included slips or moorings located within commercial marinas, private marinas, yacht clubs, homeowner association boat basins, and individually owned docks and bulkheads. Of this total, about 600 were moorings. Most of the moorings were located off mainland Southold (510): 51 percent in the bay and 49 percent in creeks. The remaining 90 moorings were located in West Harbor on Fishers Island. There were 30 boat access points in the Town: 28 of which were located on the mainland. These included 7 ramps operated by marinas, 10 ramps provided by the Town, 2 ramps operated by the State, and 1 ramp provided by the Mattituck Park District. There are also eight small boat launches. High concentrations of recreational boating activity are found at Mattituck Inlet (Reach 1); Gull Pond (Reach 5); Mill Creek (Reach 6); Jockey Creek/Goose Creek (Reach 7); Broadwater Cove/East Creek, Cutchogue Harbor and Schoolhouse Creek/New Suffolk (Reach 8); James Creek (Reach 9); and West Harbor (Reach 10).

- **Marinas**

Marinas within Southold offer the range of full-service facilities typical of the U.S. Northeast. The marinas themselves range in type from private yacht clubs, family-operated marinas, commercial boatyards to marina franchise operations. Several marinas in Southold could easily be ranked in the top 5 percent of marinas in the nation for operational quality and range of services.

In 1995, an extensive survey of recreational marinas within the Town of Southold was carried out as part of the preparation of the Town of Southold Harbor Management Plan. This included privately-owned "public" marinas, referred to here as *commercial*, defined as a fee-pay marina offering slips and ramps for rental to the general public for a fee, park district marinas, and private marinas, such as yacht clubs, associations, and dockominiums. The marina survey shows the number of slips, types of storage, availability of pumpout systems, amenities, fueling and repair services, transient slips, ramps, and other uses. Survey data was supplemented with interviews with marina owners, field investigations, analysis of aerial photographs and review of permit records.

The survey identified 2,368 slips in the Town of Southold. Of these, 2,115 slips were located within the public marinas and 253 were in the private marinas. There were 31 fee-pay, privately-owned (*commercial*) marinas open to the public that ranged in size from 30 to 180 slips. These marinas were concentrated at Mattituck Inlet (Reach 1), Sterling Basin (Reach 5), and Mill Creek Inlet (Reach 6).

Eight pump-out facilities were available and could be found in Reaches 1, and 5 through 7. There were and are no pump-out facilities in Reaches 2 through 4, which are along the Long Island Sound, where there are no marinas, or on Fishers Island (Reach 10). Fueling and repair services are available in all Reaches except Reaches 2 through 4. Some marinas have designated transient slips, but most do not. Most marinas make unoccupied or un-rented slips available to transient craft on an as-available basis. All the marinas indicated having adequate on-site parking. This was supported by a Town parking survey undertaken in June, July, and August of 1989. The distribution of these marinas is summarized in Table II-7 and illustrated on *Map II-8*. The facilities and services that

these marinas provide are discussed in more detail in the respective Reach Analysis for the Reach they are located within.

Locally, most marinas started out as small, family-run operations. The high value of the waterfront for residential development and the slim profit margins coupled with more stringent environmental regulations have served to wean out the faint-hearted. To survive, some marinas have become part of or affiliated with regional or national corporations in the boating industry. Others have improved and expanded the usual ancillary services found at a marina, some of which include: boat handling lessons for women, swim pool clubs, and weekend, weekly or seasonal boat rentals. Like the local farmers, local marina operators have had to become creative to survive in a highly competitive and difficult field. And like the local farmers, the desire to be in the local marina business is driven by a love of the way of life it offers and not the profit margins.

As in the agricultural industry, there has been an evolution in the marina industry. For instance, the development of convenient, one-stop boating centers offering a wide variety of services is an important trend in the marina industry locally as well as nationally. In successful marinas, over 50 percent of gross revenues can be attributed to support services: e.g. boat sales and brokerage, boat and engine maintenance and repair, boat accessory equipment sales, pump-out facilities, boat storage, and amenities, such as pools, tennis courts, snack bars, restaurants, laundries and rest rooms with showers. Additionally, many marinas provide some type of winter storage, including upland open storage, sheds, or in-water storage using bubble systems or ice breakers. These types of services give boating centers a competitive edge over less diversified marinas.

Source: Interviews with local marina owners/operators and trade publications, 1998.

Dry rack storage is another national trend evident within Town. Dry racks are utilized by Petersons (Reach 1), Port of Egypt (Reach 5), Southold Marine Center (Reach 7) and Strongs Marina (Reach 9). In 1995, these marinas provided rack storage for about 290 boats. This represented about 12 percent of the total boats kept in marinas throughout the Town. This is well above the national average of about three percent. These facilities are utilized as in/out (wet/dry) use in the summer as well as for winter storage. Many other marinas provide some type of winter storage, including upland open storage, sheds, or in-water storage using bubble systems or ice breakers.

Dry rack requires little in-water or linear shoreline space and offers an opportunity to expand the customer base and to more efficiently utilize upland space year-round. Additional benefits include: reduced maintenance costs for in-water facilities, such as bulkheads, pilings and docks, less need for extensive dredging to enlarge basins, and fewer adverse environmental impacts from large numbers of in-water vessels.

Dry rack storage does suffer from some problems, such as community opposition to increased customer traffic and the visual impacts of the racks on the landscape, increased vessel damage liability from transferring vessels on and off the racks, increased fire hazard from the close proximity of boats with full fuel tanks, and customer preferences for in-water storage. Some of these issues may inhibit the use of dry rack storage for marina and boat yard expansions in the near future.

However, the opportunity to use dry rack storage as a means of expanding the industry's capacity to handle larger numbers of boats, thereby enhancing public access to the waterfront, while preserving environmentally sensitive waterfront should not be ignored or discouraged. Successful dry rack facilities could serve as a promotional example for expanding the customer base and number of people served by marinas and boat yards. Dry racks could also be used to demonstrate how cumulative and secondary impacts of new or expanded marinas and boat yards could be minimized. In Southold, dry rack storage may be the only way increased demand for recreational boating can be met without increasing the number of marinas permitted within the Town or allowing existing marinas to expand their land holdings. Given the prohibitive cost of waterfront in Southold, and the narrow profit margins of most marinas, the latter option is highly unlikely. The former option, rezoning waterfront to permit more marinas, is not considered feasible at this time due to the limited number of vacant properties left along the waterfront that are suitably located for a marina.

Which leads to the next question: whether the existing marinas have the capacity to expand their services in response to an increase in demand? Not all the property zoned M-I or M-II is developed to capacity. A few properties can be categorized as under-developed or vacant. These are listed in Table II-4. Although it is clear that additional capacity is available to service increased demand for recreational boating, the degree to which that demand can be satisfied is not: and probably cannot be precisely defined for a number of reasons. To stay economically viable, the industry must keep in tune with the fluctuating recreational preferences of the American boating public, which is discussed in some detail in the next section on recreational boating. Its ability to respond at the marina level is going to depend in part on the nature of the trend, the physical layout of the local marina, and the degree of flexibility provided by local zoning regulations. Because the 1989 Zoning map set a cap on the number of marinas that may exist in Town, there are limited opportunities for new or expanded marinas.

In a sense, given the potential market, by restricting the number of marinas that may locate on the waterfront, the Town has created a limited commodity. It is crucial to note that the marina industry within Southold Town faces certain difficulties related to the environmental sensitivity of the waterfront and the increasing development pressures. The high costs of maintaining a qualified and year-round labor force in a very seasonal industry, coupled with the significant and ongoing expense of building and maintaining dockside structures pose significant obstacles to the expansion of existing facilities and the development of new ones. As with the agricultural industry, the cost of purchasing raw land is perhaps the major stumbling block. Also as with the agricultural industry, the only potential buyers of raw land for marina development are corporate entities or investors with sufficient financial resources. However, as mentioned earlier in this section, the profit margin in the marina industry, contrary to what most people seem to think, is actually quite small. What this means is that the potential for under-developed or vacant marine-zoned properties to be developed in response to the need for more access to the waterfront may not be particularly strong. This may become an issue of concern, particularly given the clear potential for population growth and a concomitant need for more recreational opportunities. This situation is discussed again in this text under *Section II.K. Opportunities and Key Issues*.

As stated earlier in this section, commercial marina development and operations must reflect long-term customer preferences in order to survive. The recreational boating industry has seen many changes in its long history. Yachting used to be the preserve of the wealthy and the upper middle classes. Today the industry has a much broader recreational mass market appeal and this can be seen in the wide range of boating products available to the American consumer: from very affordable wind-surfers, canoes and kayaks to jet-skis to sailboats and power boats, which run the gamut from simple runabouts to luxurious cruising “homes” on the water. Boating is a popular sport, but locally it has yet to recover from the regional recession of the late 1980s and early 1990s. According to industry statistics, 1988 was a high point for boater registration nationwide. The industry suffered a decline starting in 1989, which is slowly reversing as the stock market remains bullish.

However, the nature of the industry has changed. As put by the industry itself “...*people are not buying new boats, but are fixing up or adding new toys to the vessels they already have.*” (Special Report “Taking stock of the boating business” Boating Industry. January 1998 p.16.) Aside from the vicissitudes of the industry, most marina operators recognize that protecting the Peconic Estuary from further degradation will help protect the recreational boating industry.

- **Private docks**

Tables II-7 and II-8 provide an inventory of the public and private marinas and some estimates of the number of craft kept at private homeowners' docks along the Town's waterways. Many local property owners keep a boat at a private dock that is owned by another private property owner. The Town's zoning regulations permit waterfront lot owners in residential zoning districts to maintain accessory “*Boat docking facilities for the docking, mooring or accommodation of non commercial boats, subject to the following requirements:*”

- (a) *There shall be docking or mooring facilities for no more than two (2) boats other than those owned and used by the owner of the premises for his personal use.*
- (b) *The Town Trustees shall approve new boat docking facilities.*
- (c) *Boats at such docking facilities shall not be used for overnight sleeping purposes.”*

The Town's zoning code clearly permits extensive use of the privately-owned waterfront for docking of recreational boats. At first glance, the Code permits at least two boats in addition to the owner's boats, on which there is no cap as to the number. In reality, however, there are environmental and physical constraints which often restrict the number of boats that are kept at private docks. For starters, few waterfront lots have the shoreline width to accommodate extensive docking facilities. And, not all waterfront lots are located on deep water suitable for the docking of boats. Further, in some open areas with sufficient water depth, the predominant wind and wave patterns are such that building and maintaining a dock are cost-prohibitive endeavors. Finally, close proximity to marked channels may limit dockage capability in creek waters.

As private dockage and moorings in our sheltered creeks increase, so have the conflicts between the rights of individuals to dock their boats and the rights of boaters to an unfettered navigation channel. In the local creeks, large boats pose significant maneuvering problems not only to themselves but to others as the finger piers needed to dock them encroach closer into navigation channels. Although this has not been quantified, the consensus is that the number of private docks has not only increased in number, but in size. The traffic congestion in some creeks coupled with the visual impact of docks and boats lining the shoreline is significant. It could be argued that the character of some of the Town's creeks has been irrevocably changed by the proliferation of boats and docks along the shoreline.

One result of the increasing demand for private dock space, has been the increase in applications to bulkhead shorelines for the sole purpose of building new dock space as opposed to preventing erosion of the shoreline.

Table II-7: Distribution of commercial and private marinas

	Location	Name	Approximate # in-water ships	
Reach 1:	Mattituck Inlet	Mattituck Inlet Marina	78	
		Petersons Marina	70	
		Mattituck Fishing Station	40	
		Mat-a-Mar Marina	91	
		Mattituck Park District	0	
Reach 5:	Gardiners Bay	Orient-by-the-Sea	93	
		Narrow River	Narrow River Marina	65
		Orient Harbor	Orient Yacht Club	49
	Spring Pond	Crescent Beach Association*	10	
		Summit Estates*	10	
		Cleaves Point Homeowners Association*	20-25	
		Gardiners Bay Estate*	10	
		Sterling Basin	Stirling Harbor Shipyard and Marine	180
		Brewers Yacht Yard	150	
		Brewers Marina	32	
Reach 6:	Pipes Cove	Pipes Cove Condominium*	8	
	Brick Cove	Brick Cove Marina	138	
	Mill Creek	Goldsmiths Boat Shop	160	
		Port-of-Egypt	224	
		Albertsons Marina	86	
		Mill Creek Marina	50	
		Harbor Lights*	5	
Reach 7:	Southold Bay	Harbor Lights*	5	
	Town Creek	Goldsmiths (Founders Landing)	45	
		Southold Park District Marina	15	
		Southold Marine Center	165	
	Jockey Creek	Plock Property*	5	
		Reydon Shores*	50	
		Paradise Point*	10	
		Southold Shores Boat Basin*	5-10	
		Corey Creek	Laughing Waters Association*	20
	Corey Creek Association*		20	
	Munnakona Waters Association*		17	
The Cove*	15			
Reach 8:	Broadwater Cove	Broadwater Cove Marina	48	
		Haywater Cove Association*	10-15	
	Wickham Creek	Cutchogue Harbor Marina	115	
	Schoolhouse Creek	New Suffolk Ship Yard	55	
		Tuthill Docks	55-60	
		Cutchogue Harbor	Old Cove Yacht Club	3
	Anchor Inn Marina		35	
	Capt. Marty's Fishing Station		0	
Reach 9:	James Creek	Strongs Marina	90	
		Village Marine	25	
	Horton Creek	Mattituck Yacht Club*	3	

Reach 10:	Brushes Creek	Brushes Creek Marina	30
	West Harbor	Goose Island	7
		Fishers Island Marina	70
		Pirates Cove Marina	12

Note: *private marina

Source: Allee, King, Rosen and Fleming, Inc, 1995; (Revisions: Town of Southold, 1999)

Table II-8: Distribution of private docks

	Waterbody	# of Private docks
Reach 1	Mattituck Inlet	80-90
	Long Creek	8-10
Reach 5	Long Beach Bay/Narrow River	1
	Orient Harbor	3
	Dam Pond	3
	Gull Pond	80-90
	Spring Pond	15-20
Reach 6	Pipes Cove	10-15
	Brick Cove	15-20
	Budd's Pond/Beixedon Estates	25-30
Reach 7	Town Creek	18-23
	Jockey Creek	60-70
	Goose Creek	45-55
	Reydon Shores/Paradise Point	80-90
	Corey Creek	35-40
	Richmond Creek	12-16
	Cedar Beach Point	28-33
Reach 8	Little Creek	10-14
	Broadwater Cove	35-40
	Wickham Creek	14-18
	Mud Creek	60-65
	East Creek	60-65
	Little Hog Neck	60-65
	West Creek	7-9
Reach 9	Deep Hole Creek	50-55
	James Creek	40-45
	Brushes Creek	14-18
Reach 10	Silver Eel Cove	5
	Hay Harbor	10
	West Harbor	35
	Fishers Island Sound	10-12

Note: Estimates of craft at private docks is based on 1993 aerial photographs.

Source: Allee, King, Rosen and Fleming, Inc., 1995

Table II-9: Town-issued creek moorings permits, 1994, 1997, 1999

	Waterbody	Number of moorings 1994	Number of moorings 1997	Number of moorings 1999
Reach 1	Mattituck Inlet	27	22	22
Reach 5	Narrow River*	15	16	16
	Gull Pond	29	28	28
Reach 6	Hashamomuck Pond	7	20	20
Reach 7	Town Creek	19	15	15
	Jockey Creek	9	8	8
	Goose Creek	31	32	32
	Corey Creek	17	14	14
	Richmond Creek	12	16	16
	Cedar Beach Point	4	3	3
Reach 8	Little Creek	9	13	13
	Broadwater Cove	7	4	4
	Wickham Creek	2	1	1
	Mud Creek	10	9	9
	East Creek	21	23	23
Reach 9	Deep Hole Creek	5	3	3
	James Creek	20	19	19
Reach 10	West Harbor	90	90	90
	TOTAL	334	336	336

* Narrow River also has 30 stakes for boats.

Sources: Town of Southold, Fishers Island Civic Association, January 1995
Town Trustees, January 1998

- ***Moorings***

Moorings allow the in-water storage of boats without the extensive man-made shoreline improvements that are necessary for slips and dockage. Moorings are distributed throughout the creeks, harbors and bays of the Town of Southold.

In 1997, permits were issued for 336 moorings within the Town, 239 on the mainland, and 90 at Fishers Island. Areas with a particular concentration of moorings are Mattituck Inlet (Reach 1), Gull Pond (Reach 5), Town and Jockey Creeks (Reach 7), Goose Creek (Reach 7), Corey Creek (Reach 7), East Creek (Reach 8), James Creek (Reach 9), and West Harbor (Reach 10) on Fishers Island. The distribution of moorings permits issued in 1997 is outlined in Table II-9. Details on these moorings are discussed in the Reach Analysis. Stake moorings are permitted in certain locations: 30 permits for stakes were issued in Narrow River in 1997.

On the mainland, mooring and staking permits are issued by the Town Trustees. Boats longer than 35 feet are not permitted to moor in waters of the Town of Southold. The majority of craft moored in the creeks are under 25 feet with the greatest number being in the 15 to 19-foot range. The Town Trustees, in conjunction with the Bay Constable, determine the appropriate locations for the creek moorings on a case-by-case basis. This is done by factoring in the protection of navigational channels, boat sizes, types of craft, as well as the protection of natural resources and shellfishing beds. As a result, it has been determined that certain creeks, or certain locations within creeks, have reached their mooring capacity. Persons seeking a mooring in these creeks are put on a waiting list, and are issued permits when they become available. These creeks are noted in Table II-10.

Table II-10: Creeks at mooring capacity: 1997 (updated to 1999)

Creek	Waiting List #
Reach 1 Mattituck Creek	59
Reach 5 Narrow River (for stakes and moorings)	35
Gull Pond	16
Reach 6 Hashomomuck Pond	2
Reach 7 Richmond Creek - South Harbor Road Stake Area	2
Goose Creek - Gagens Landing Stake Area	14
Jockey Creek	1
Reach 8 Mud Creek	1
East Creek	1
Reach 9 James Creek (room for boats under 16 feet)	6

Source: Town of Southold, Trustees, January 1997/1999

West Harbor (Reach 10) on Fishers Island contains 90 moorings. This is the largest concentration of moorings for recreational boats in the Town of Southold. The Fishers Island Harbor Committee has been granted the authority by the Town Board to approve applications for mooring permits and set fees on the island.

There are only a few moorings in the open waters of Long Island Sound (Reaches 1-4). However, there are a relatively large number of moorings within the open waters of the Peconic Estuary (Reaches 5-9) in Southold. In 1994, an estimated 264 moorings existed in the Peconic Estuary. The distribution of these moorings is outlined in Table II-8. This figure represents more than the number of mooring permits issued in 1994 for the Town's mainland creeks. Permits and fees have not been required for moorings in the open waters off Southold, although the Town Trustees have reserved the right to charge fees for moorings in these state waters (i.e., outside of the *Patent* lands) "whenever a comprehensive mooring program for State waters is initiated". In 1997, the Town Trustees established a Mooring Committee to look into developing a permitting system for mooring in State waters within 1,500 feet of the shoreline. In 1998, they proposed to the Town Board that a fee permit system be adopted. Opposition was heard from some boaters and marina operators at the public hearing and no further action was taken by the Town.

Table II-11 below indicates the estimated number of moorings (264) within the Peconic Estuary during 1995. In 1999, the number was estimated to be closer to 500. (Source: Bay constable's field observations). This growth reflects the extent of increased demand for access to the water.

Table II-11: Estimated numbers of moorings in the Peconic Estuary

	Waterbody	Estimated # of moorings
Reach 5	Gardiners Bay/Orient Harbor	50
	Gardiners Bay/Stirling Harbor	30
Reach 6	Pipes Cove	10
	Conkling Point	15
	Budd's Pond to Town Creek	10
Reach 7	Shelter Island Sound - Town Creek/Goose Creek	10
	Shelter Island Sound - Goose Creek/Paradise Point	5
	Little Peconic Bay - Cedar Beach/Corey Creek	4
	Little Peconic Bay off Little Neck	20
Reach 8	Little Peconic Bay along Nassau Point	10
	Cutchogue Harbor	50
	Little Peconic Bay off New Suffolk	10
Reach 9	Great Peconic Bay off Deep Hole Creek	20
	Great Peconic Bay off James Creek	10
	Great Peconic Bay - Brushes Creek to Town Line	10
TOTAL		264

Source: Town of Southold, April 1995

The main thrust behind a mooring permit program would be to ensure that these boats are safely moored. Frequently boats are moored in or too close to boat channels thereby impairing navigation. Some have been placed perilously close to bathing beaches, shellfishing beds and wetlands vegetation. If a program is developed, the Trustees will be able to ensure that the location of moorings is appropriate, refining the current haphazard placement of moorings by boat owners. The program also will enable the Town Trustees

to resolve complaints over mooring placements and will enable the Bay Constable to enforce mooring violations. Also of concern are the hidden costs of lack of mooring regulations. The Bay Constables are called upon to retrieve boats that have broken loose from moorings that were inadequately located or insufficient to hold the boat in strong winds. The cost of responding to complaints about moorings and the retrieval of breakaway boats currently is being absorbed by the Town, but should not be. Reasonable mooring fees would cover the cost of patrolling and administering a mooring grid. Proper mooring gear would reduce incidences of breakaway boats. And regulation of the mooring fields would ensure that shellfishing grounds were not disturbed.

Traditional mooring systems such as mushroom anchors, though proven dependable, can cover considerable water area. For example, with a 20-foot craft and a maximum water depth of 6 feet, the recommended swing circle can have a scope radius of 65 feet, or a diameter of 120 feet, occupying about ¼ acre of water area.

There are alternatives to the traditional mooring system that reduce the amount of necessary water area and therefore increase the number of boats that can occupy the mooring area. The Orient Yacht Club regulates moorings associated with its membership. The alternatives available to the Town are:

- Fore and aft moorings that eliminate the swing circle (implemented by the Trustees)
- Moorings that have better bottom holding power, allowing a shorter scope
- Linear mooring systems are more innovative and allow boats to tie up laterally to fixed common mooring line

As competition for mooring space increases, it may be necessary to require the use of alternative mooring systems which will allow for greater numbers of boats to be moored within a prescribed area.

- ***Anchorage***

There is one federal anchorage in the Town of Southold, located at the head of Mattituck Inlet (Reach 1). Estimates are that this anchorage, which covers an area of about 6 acres, is used by about 30-75 transient craft during the course of a summer season. It is an important harbor of refuge particularly since it is the only such anchorage between Mt. Sinai Harbor and Plum Gut, a distance of about 40 miles. By agreement between the Town and US Army Corps of Engineers, all persons using this anchorage may gain access to land by way of the Mattituck Park District's docks at the head of Mattituck Creek.

- ***Boat Access Points***

There are 29 boat access points (ramps) in the Town of Southold. These access points include a mix of formal and informal boat launches, all of which offer an affordable opportunity for the small boat owner or the occasional boat user to enjoy the water. They are also important to those who cannot afford to keep their boats at a marina and to baymen needing flexible access to the water. The location of these facilities are examined in more detail in *Section II.D. and the Reach Analysis*.

(b) Commercial fishing and shellfishing

Eastern Long Island is the center of the State's commercial marine fishing industry. The two key areas of harvest are the deeper waters and migratory passageways of Long Island Sound and the shallower nearshore waters of the Peconic Estuary. Southold has a long history of commercial fishing and this activity continues to be an important element in the Town's economic base. Income to fishermen is just one aspect of the local benefits of the industry. Secondary activity includes sale of fishing supplies, processing, wholesalers, transporters, and suppliers with local, regional, and statewide economic and fiscal benefits.

Numerous species of finfish, crustaceans, and shellfish are harvested commercially from Long Island Sound. An important area of finfish resources are the deep open waters of The Race, located just south and west of Fishers Island, and Plum Gut, which lies between Orient Point and Plum Island. These are major migratory passageways for fish in and out of the Sound. Offshore fishing in deeper Sound waters centers on lobster, butterfish, weakfish, bluefish, fluke, herring, flounder, squid, and porgy. However, overall, fish stocks are declining due to overfishing.

The *Long Island Sound Coastal Management Program* (DOS, 1994, p280) noted that in 1991, New York's total harvest from Long Island Sound was 16,567,563 million pounds of fish and seafood with a dockside value at \$21,244,262. This represented 33 percent of the total volume of fish harvested in New York State and 40 percent of the total value. It is worth highlighting the fact that lobsters currently are the most harvested marine resource in New York State, with 80% of the landings from Long Island Sound alone. (J. King, Trustee, November 1999)

It is important to note that the dockside value does not represent the total use value which includes, in addition to dockside value, the economic impacts or multiplier effects resulting from commercial fishing activity in the New York portion of the Sound. If computed, the total use value in 1991 for commercial fishing activity would represent a value equivalent to approximately three times the dockside value or close to 63 million dollars.

The Peconic Estuary has historically been considered as an important commercial fishery. "This estuary currently supports important commercial fisheries for more than 30 species of finfish and crustacea" (NYSDEC, 1995, p8) including weakfish, winter flounder, scup, bluefish, butterfish, blackfish, and black sea bass. The Peconic Estuary also features excellent shellfishing beds. However, "Recent landings data has documented an overall decline in the total catch of fish and crustacea within the estuary, particularly during the last few years. While the cause of this downward trend is uncertain, it is likely that coastal overfishing, habitat degradation, and the outbreak of the Brown Tide have all contributed to the observed declines" (NYSDEC, 1995, p8).

A thriving commercial fishery is based in Mattituck Inlet and Creek (Reach 1). Commercial fishing vessels are docked in Mattituck Creek year round, along with lobster boats, commercial charter and open party fishing boats. Mattituck Inlet is the narrowest and shallowest commercial fishing vessel port on Long Island. These physical constraints limit use of the harbor to boats less than 60 feet in length. Shoaling at the mouth of the inlet poses some obstacles to deep draft boats.

In 1987, the commercial fishing vessels in Mattituck centered on 3 to 4 trawlers. A decade later, the fleet fishes 150 to 200 days per year, but the small size of the boats limits winter fishing. There are also between 20 and 25 small lobster boats in the harbor making day trips to Long Island Sound. A couple of lobster boats also fish for conch. The inlet supports a small hard clam, oyster, and soft clam industry when open. Almost all of the commercial fishing activity in Mattituck is family-owned and operated.

Mattituck provides excellent dock opportunities for commercial fishermen. Over 250 feet of dock space is available. One of these docks has a hydraulic crane to unload fish. Unlike many ports on the Sound, there is some gear storage space available in the harbor. No ice is available, and individual captains have fuel hauled directly to their boats. Haulout and annual maintenance of commercial fishing boats are provided by one firm in the harbor; however, shoaling in the haulout area has made it difficult to service large boats. Mechanical and engine repairs are done by on-call mechanics.

The Orient-by-the-Sea Basin (Reach 5) serves as a commercial base for party boats and lobster fishermen. Commercial harvesting operations are also found in Orient/East Marion (Reach 5) and in New Suffolk (Reach 8). Commercial fishing facilities are considered in detail in the Reach Analysis.

Private operators, or "baymen," work from various places throughout the Town and together they are major contributors to the commercial fishing activity of Southold. Most baymen sell their products directly to retailers and wholesalers immediately after harvesting, either at the dock or shoreline or within a few miles of the harvest area. Hard clams, oysters, soft clams, mussels, and lobsters are often sold directly to restaurants or retail food establishments without using wholesalers as middlemen, although many baymen sell to wholesalers when retail demand slackens. Some baymen prefer to sell to a distributor. One such local company is the Braun Oyster Company, in Cutchogue one of Long Island's largest seafood distributors and processors. This processing, packaging and shipping facility is located inland on State Route 25. There are other smaller, local, distributors.

The Village of Greenport, which is not included within Southold Town LWRP, is an important center for commercial and recreational sportfishing. The Village is the home for a number of seafood-processing companies, which are discussed in Greenport's LWRP document.

Within the bays and creeks, commercial harvesting activity is dominated by baymen. Working from small shallow-draft boats kept at on-shore/off-shore stakes, moored, trailered and launched by ramps, or kept at local marinas, baymen harvest the bay waters and the more brackish waters of the inland creeks. Primarily harvested are hard clams, oysters, and eels. More recently, bay scallops have been harvested with the return of harvestable scallops. Table II-12 provides a summary of the Town's shellfish harvest areas and an indication of their productivity. These areas are illustrated on [Map II-9](#).

Table II-12: Shellfish harvest and seeding areas

<u>Creek Areas</u>	Creek	Productivity*	Shellfish seeding
Reach 1	Mattituck Inlet	Most productive	Yes
Reach 2	Goldsmiths Inlet	Least productive	Yes

Table II-12: Shellfish harvest and seeding areas

<u>Creek Areas</u>	Creek	Productivity*	Shellfish seeding
Reach 5	Gull Pond	Least productive	
	Dam Pond	Fair to good	Yes
Reach 6	Long Beach Bay	Most productive	Yes
	Pipes Neck Creek	Least productive	
	Hashamomuck Pond	Most productive	Yes
Reach 7	Budd's Pond	Least productive	
	Town Creek	Most productive	Yes
	Jockey Creek	Most productive	Yes
	Goose Creek	Most productive	Yes
	Corey Creek	Most productive	Yes
	Richmond Creek	Fair to good	Yes
Reach 8	Cedar Beach Creek	Fair to good	Yes
	West Lake	Least productive	
	Little Creek	Least productive	
	Wunnewata Pond	Least productive	
	Broadwater Cove	Fair to good	Yes
	Haywaters Cove	Fair to good	Yes
	Mud Creek	Fair to good	
	East Creek	Fair to good	
	Wickham Creek	Fair to good	
	West Creek	Fair to good	Yes
Reach 9	Halls Creek	Least productive	
	Down's Creek	Least productive	Yes
	Deep Hole Creek	Fair to good	
Reach 10	James Creek	Least productive	
	Brushes Creek	Least productive	
	West Harbor	Most productive	
	East Harbor	Most productive	

<u>Bay Areas</u>	Location	Productivity*
Reach 5	Youngs Point to Long Beach Point, nearshore waters	Most Productive
Reach 6	Pipes Cove nearshore waters	Most Productive
	Conkling Point to Pipes Cove and to Brick Cove, nearshore waters	Fair to Good

	Shelter Island Sound, Brick Cove to Budd's Pond, nearshore waters	Most Productive
	Budd's Pond to Founders Landing Park, nearshore waters	Fair to Good
Reach 7	Paradise Point to Reydon Shores to Cedar Beach Point, nearshore waters	Fair to Good
	Little Peconic Bay, off Hog Neck Bay and Cedar Beach Creek	Fair to Good
<u>Bay Areas</u>	Location	Productivity*
Reach 8	Little Peconic Bay, off Nassau Point, nearshore waters	Fair to Good
	Cutchogue Harbor, Nassau Point to New Suffolk, nearshore waters	Most Productive
	Robins Island nearshore waters	Most Productive
Reach 9	Great Peconic Bay offshore between James and Brushes Creeks	Fair to Good

* *Productivity may vary from year to year*

Source: Town of Southold, May 1995

Recreational and commercial shellfishing within Town waters requires a license from the Town of Southold. Commercial baymen must also obtain a DEC commercial shellfishing permit. Table II-13 shows the trends in Town-issued licenses. This illustrates a general decline in the number of permits issued in the late 1980's. This can be attributed to the decline in the scallop resource caused by the impacts of the Brown Tide. With the temporary resurgence of the scallop resource, the total number of issued licenses in 1994 increased. Between 1992 and 1994, the number of resident non-commercial shellfish permits issued increased by 373 (up 21 percent), and commercial permits increased by 118 (up 75 percent). While these increases are substantial, the resident non-commercial permits remain well below the 1984 levels of 2,724, and commercial permits have once again just about reached the 280 issued in 1984, after a minimum of 90 issued permits in 1992.

Table II-13: Trends in Town-issued shellfish permits: 1980-1999

Year	Resident Non Commercial	Commercial	Temporary Resident	Junior Commercial
1980	--	247	47	--
1982	751	175	91	--
1984	2,724	280	213	--
1986	1,873	163	106	--
1988	1,764	134	128	--
1990	1,751	90	117	--

Year	Resident Non Commercial	Commercial	Temporary Resident	Junior Commercial
1992	1,740	157	90	--
1994	2,113	275	97	3
1995	1,013	150	107	0
1996	919	220	89	3
1997	2,167	249	125	1
1998	1,894	179	114	1
1999	1,464	84	102	0

Because of the implications for human health, the NYSDEC Bureau of Shellfisheries regulates the taking of shellfish areas to protect against the human consumption of contaminated shellfish. Within the Town, many of the better shellfishing areas are closed year-round. These closures generally run from early spring to early or late fall. The reasons for closure vary from creek to creek, but the principal reasons are; stormwater runoff from streets, residential properties, and agricultural lands; wastewater from failing septic systems; and the discharge of wastewater from boats. The areas affected by shellfish closures are discussed in more detail in *Section II.E.11* and in the Reach Analysis. A brief description of the different shellfish harvests follows.

- ***Clams***

Hard clam spawning on Long Island typically takes place from May through September. Hard clams are marketed in three general size categories based on shell size. Littlenecks are the smallest, and have the highest dockside value because the small clams are the most tender when eaten raw on the half-shell. Cherrystones are intermediate in size, and chowders are the largest. All clams less than littleneck size of 2.54 centimeters or one inch are seed clams, and are illegal to harvest and market according to New York State Environmental Conservation Law. Hard clams eventually reach an old age period during which growth is slow and interrupted. Hard-shelled clams are primarily harvested from the tidal creeks, harbors and small embayments in Southold (SCDHS, unpublished Draft Brown Tide Study).

Until recently, the hard-shelled clam resource in the Peconic Estuary was of secondary economic importance in comparison to the harvest of the world-renowned Peconic/Gardiners Bay scallops and oysters. The average annual landing of hard clams from Peconic and Gardiners Bays over a 21-year period (1966-1986) is approximately 15,000 bushels, which represents 3 percent of the average annual hard clam landings reported in Suffolk County during this time. Unlike towns in western Suffolk County, it estimated that the recreational catch from the Peconic Estuary often exceeds the commercial harvest of hard clams. The high recreational catch is attributed to the influx of summer residents (SCDHS, unpublished Draft Brown Tide Study).

Soft-shelled clams are harvested from both the north and south shore coastal waters in Southold (Drumm, NYSDEC, February 22, 1991). Surf clams are also found in the muddy bottom sediments of tidal creeks.

Surf clams were once abundant in Long Island sound. A relatively large and important commercial surf clam harvest used to take place in the Riverhead and Southold coastal waters of Long Island Sound. In 1989 over 3.7 million pounds of surf clams were landed in Mattituck with a reported value of over \$1.36 million (Briggs, NYSDEC, February 23, 1991).

- ***Oysters***

The majority of Southold's oyster beds were created by historical aquaculture activities. The culture of the American Oyster has been an important industry in the Peconic Estuary since the late 1800s when oyster companies imported oyster "seed" from out-of-state and transplanted these young oysters into the Peconic Estuary. In 1884, an Act to cede lands underwater in Gardiners and Peconic Bays to Suffolk County for the sole purpose of oyster culture was passed by the New York State Legislature. This Act gave oyster cultivators access to some prime hard clam and scallop beds, and created a major conflict between the oyster cultivator and the clam and scallop harvester. Much of the current negative attitude toward leasing of underwater lands can be traced back to the substantial number of leases held by oyster cultivators at the turn of the century (SCDHS, unpublished Draft Brown Tide Study).

By the 1930's the oyster industry was already in decline throughout Long Island, although the Gardiners/Peconic Bay estuary was still producing significant amounts of oysters for sale to outside markets. The oysters were often shipped in the shell as opposed to producing points outside of New York where oysters were sold as open or shucked oysters. Suffolk County oysters were often quoted in the market as twice the price of southern oysters. Oyster culture flourished until the mid-1980s when the Peconic Estuary was severely impacted by the effects of the Brown Tide. The last commercial oyster company on the North Fork ceased operations by 1987. Many parties are active in rejuvenating the oyster industry within the waters of Southold, seeding creeks and producing a commercial harvest.

- ***Bay scallops***

Bay scallops became the next most important fishery in Southold after the demise of commercial mariculture operations, from the 1930's until the mid-1980's. Prior to the occurrence of Brown Tide, Bay scallops were commonly harvested from all of the major creeks and the coastal embayments off Southold's Peconic Estuary shoreline. Bay scallops are typically found on coarse bay bottoms in the nearshore areas to depths of about 50 feet (Gosner, 1978). Bay scallops typically have a short life span of 18 to 22 months and adults generally have one spawning season, which occurs from late spring through summer. Long Island bay scallops typically experience a mass mortality during the mid-winter of their second year. Although eelgrass beds probably offer the ideal setting habitats, scallops have set throughout the Town's coastal waters even in areas devoid of vegetation. The continued health of the bay scallop population is inextricably linked to water quality and the absence of the Brown Tide. This Brown Tide nearly

eradicated the bay scallops in the Peconic Estuary. Brown Tide is discussed in more detail in *Section II.E.6*.

Bay scallops typically command the highest price per pound of all marketable seafood taken from the Peconic Estuary (National Marine Fisheries Service, December 20, 1990). The vast majority of bay scallops landed in New York State have originated from the Peconic Estuary. However, records indicate that the annual landings of bay scallops have experienced wide fluctuations, which are probably the result of changes in environmental conditions.

During the 21-year period from 1966-1986, 5.7 million pounds of bay scallop meats were harvested from the Peconic Estuary. The average annual production during this period was 271,000 pounds, with the peak production of 683,000 pounds occurring in 1974, and the lowest production of 5,200 pounds occurred in 1986 as a result of the Brown Tide bloom. This was the lowest production recorded by NYSDEC and its predecessor agencies since it began publishing records on fishery landings in 1946. In the early 1980's the reported dockside value of Bay scallops landed was as high as \$1.8 million. As a result of the precipitous decline caused by the Brown Tide, the dockside value of bay scallops landed in 1986 was reported as only \$27,000 (SCDHS unpublished Draft Brown Tide Study). According to the Cornell Cooperative Extension Service, although bay scallops had experienced drastic declines since 1985 due to Brown Tide, scallop populations are currently on the rise, and Fall 1992 harvests were more productive than the past five years in certain portions of the Peconic Estuary. This was assumed to be an early indication that the standing crop was rebuilding itself. However, subsequent harvests have cast doubt on that assumption.

The Peconic Estuary Bay scallop fishery is not only important to the State's commercial fishing industry; it is of national significance as well. In 1982, for example, Bay scallop catches from the Peconic Estuary accounted for approximately 28 percent of the total United States landings of this species. Suitable habitat for the Bay scallop is found in the states of Massachusetts, Rhode Island, New York, New Jersey and North Carolina. The Bay Scallops found in the Town's waters are biologically distinct from populations growing in more southern coastal waters. The extent of the habitat, therefore is extremely limited so that a major portion of the suitable habitat along the Atlantic Coast is found in the Peconic Estuary (SCDHS, unpublished *Draft Brown Tide Study*). *In 1982, the 500,000 pound Peconic Estuary scallop harvest accounted for 28 percent of all U.S. landings and had a dockside value of \$1.8 million. After appearing in the Peconic Estuary in June of 1985, and persisting in high, though decreasing concentration for extended periods in 1985, 1986, 1987, and 1988, the brown tide bloom virtually eliminated the bay scallop population. By 1987 and 1988, the brown tide harvest had dropped to only about 300 pounds per year. As a result of re-seeding efforts and the disappearance of the brown tide, bay scallop landings once again reached pre-brown tide levels in 1994. Based on NYSDEC data, 266,448 pounds of scallops worth \$1,732,357 were harvested in 1994; however, a brown tide bloom in 1995 caused severe scallop mortality. The 1995 scallop harvest dropped to 23,000 pounds, valued at \$180,000. The 1996 scallop landings came in at only 53 pounds, valued at \$400.*

(Source: *Peconic Estuary Program Draft Final CCMP, October 2000.*) Between 1996 and 1999 there were no major brown tide blooms within the Peconic Estuary, but the scallop fishery has not yet rebounded back to former highs.

(c) Aquaculture/mariculture activities

To promote, protect, and expand the local shellfish resource, the Town of Southold has been actively involved in the grow-out of clams, oysters, and scallops. Starting in 1980 with the culture and release of approximately 60,000 hard-shelled clams, the Town of Southold has been raising small sized hard clam "seed" on submerged rafts in Goose Creek. In 1987, the Town cultivated and released approximately 250,000 seed clams in various tidal creeks across Southold. In 1988, the Town switched to using newly-designed polyculture rafts, which could support approximately four (4) times as many seed clams compared with the conventional rafts.

By the end of 1988, the Town had raised over 1 million hard clams to an average predator-free size and relocated them to the following tidal bottoms:

Reach 4	Dam Pond	75,000 seed clams
Reach 5	Little Bay	135,000 seed clams
Reach 7	Town Creek	75,000 seed clams
	Jockey Creek	75,000 seed clams
	Goose Creek	150,000 seed clams
	Corey Creek	150,000 seed clams
	Richmond Creek	30,000 seed clams
Reach 8	Nassau Point	30,000 seed clams
	Wunneweta Pond	30,000 seed clams
	Broadwater Cove	100,000 seed clams
	Mud Creek	30,000 seed clams
	West Creek	35,000 seed clams

By 1990, over 2 million hard clams and more were being grown out and released yearly into the same tidal areas. The Town established a Hatchery Program at the Suffolk County Marine Environmental Learning Center at Cedar Beach (Reach 7) in 1991 in cooperation with the Cornell Cooperative Extensive Service Marine Science Program. The hatchery has limited space and is operating at capacity. In the past few years, Southampton Town has contracted with the Cedar Beach hatchery for its own clam seeding program. During 1999, the hatchery produced for the Town's seed program: 2 million clams, half a million oysters, and a half a million scallops. The cost of the clam seeding program is minimal relative to harvested value. Since 1988, the annual expense has been less than \$18,000 per year.

Results of the Town's seed clam program have been variable, depending upon the creeks which have received seed. The seed clam program has been supported by Town funds in combination with grant monies from New York State. Since the program's inception in 1980, several of the recipient transplant creeks have become seasonally closed to shellfish harvesting due to a degradation of water quality and/or the establishment of local marinas and mooring areas. The Town is concerned about the limitations this may

place on seasonal summer residents who cannot take advantage of the program to the same extent as year-round commercial harvesters (McMahon, TOS, February 25, 1991).

In June of 1992, the Town formed a Shellfish Advisory Committee with participating members representing the Town Trustees, the Town CAC, Bay Constable, the Baymen’s Association and Community Development Office (McMahon, February 1993). The Shellfish Committee oversees the seed clam program. It has worked to re-open closed areas by initiating water quality improvement projects. Partially as a result of dialogue with the state, these areas were re-opened to shellfishing in 1999: parts of Goose Creek (Reach 7), East Creek (Reach 8), and Fishers Island (Reach 10).

In 2001 Cornell Cooperative Extension started an innovative community based program called S.P.A.T. The acronym stands for *Southold Project in Aquaculture Training*. Through a series of monthly hands-on workshops. Lay people are introduced to the world of aquaculture from the growth of algae to the cultivation of shellfish and the design and construction of associated equipment. This program has been phenomenally successful. More than 100 people have signed on to assist Cornell researchers in the growing of oysters, clams and scallops. The participants work alongside researchers in keeping accurate records as they raise 2000 oysters, clams or scallops to market size. Twenty-five percent of the survivors must be returned to Cornell for reseeding purposes. Market sales of seed or product are prohibited. (S.P.A.T. master Shellfish Gardener Fact Sheet: Kim Tetrault, Hatchery Manager, Cornell Cooperative Extension)

In addition to the seeding program, there are five private aquaculture facilities in the Town waters. These are summarized in Table II-14. These activities are important for supporting the local shellfish operations, businesses, and economy. Historically, some of these enterprises have sold shellfish to other Long Island towns and baymen groups in support of their local shellfish replenishment programs. These aquaculture facilities are discussed in more detail in the respective Reach Analysis.

Table II-14 Private Aquaculture facilities in the Town of Southold

	aterbody	Company	Product
<u>Reach 1</u>	Mattituck Inlet	Blue Point Oyster Company	Oysters
<u>Reach 5</u>	Gardiners Bay		Dredging clams and re-seeding or transplanting
<u>Reach 7</u>	Southold Bay	Plock Shellfish Preserve	Oysters and clams
<u>Reach 8</u>	Little Peconic Bay	Great Peconic Bay Shellfish Farm	Oysters and clams
Reach 10	West Harbor	Fishers Island Oyster Farm	Oysters
	Island Pond	Ocean Pond Corp.	Oysters

Source: Town of Southold, 1995/1999

LNX, Inc F-95-756, Little Peconic Bay (Reach 7). Placement of up to 1,200 shellfish cages and up to 1,200 racks on 257 contiguous acres of privately controlled underwater

land, located to the southwest of Cedar Beach, Great Hog Neck. Minimum water depth above structures will be 25 feet. The shellfish cages and racks will be used for shellfish aquaculture for the cultivation of hard clams, oysters and bay scallop. Corps, Coast Guard, DEC permits and DOS consistency still outstanding.

There is one pilot mariculture operation for finfish operating within Southold known as Mariculture Technologies. This operation is based in the village of Greenport, but the grow out cages are located at Plum Island (Reach 5). The facility imports summer flounder fingerlings from hatcheries in the northeast U.S. The fish are shipped to Southold to grow to harvestable size, then are processed and shipped out of a processing plant within the Village of Greenport. Additional information is provided in the Reach 5 Inventory and Analysis.

(d) Recreational fishing

Recreational fishing includes angling from the shore or beach, fishing from private boats, and fishing aboard a recreation-for-hire fleet. The recreation-for-hire fleet consists of both party and charter boats. The *Long Island Sound Coastal Management Program* (DOS, 1994) estimates that there are 100 party and charter boats operating within the Long Island Sound region. Party boats are vessels that allow the general public to board the vessel without advance reservations and that typically depart on a regular schedule for recreational fishing outings. These boats are large, ranging in size from 40 to 135 feet, and usually carry 35 or more passengers per trip. Charter boats, which range in size but can be as large as party boats, are vessels that have been reserved by a smaller group for a recreational fishing outing on a specific date and to catch specific types of fish.

The majority of the estimated 100 recreational fishing vessels on the Sound are smaller charter boats called "six packs." The name comes from the license necessary to operate these boats, which limits them to carrying no more than six passengers. These boats are usually less than 40 feet long and are mostly used on a part-time basis. The owners of these boats usually have another occupation as their principal source of employment and are in the business of operating their boats for hire, usually for charter, to supplement their income. Larger boats, seven people or more, are also used as charter boats. There are fewer of these boats on the Sound than the "six packs" and even fewer are used on a full-time basis.

Party and charter boats are recreationally and economically valuable. Party and charter boats provide access to a recreational fishery in the open waters of the Sound not otherwise accessible to the average person. Statewide data from the AT Kearney Study prepared for the Department of State indicates that the leading recreational fishing activity in the state involves organized day trips on professional for-hire boats. For the years of 1984 to 1987, salt water recreational fish harvest statistics show that charter boats led other modes of recreational fishing, such as angling from a beach and pier, and private boats in the number of fish caught and weight of catch. The Long Island Sound Study estimates that the 1990 total sport fishing value for the New York State portion of Long Island Sound was \$418 million. This figure does not include the recreational boating value estimate for Long Island Sound which was \$1.4 billion. The estimated values for these uses include the use value plus associated economic impacts or multiplier effects.

The finfish resources and the aesthetic appeal of the Peconic/Gardiners Bay system attract numerous recreational fishermen to the Town of Southold. The most sought after species by anglers include winter flounder, striped bass, bluefish, snapper, weakfish and porgy. Recreational fishing makes an important contribution to the tourism and economy of Southold. Local businesses, restaurants, marinas, etc. cater to the needs of fishermen and boaters who use the waters extensively during the summer season. Within the Town, the larger recreational charter craft are based in Mattituck Inlet (Reach 1). Smaller, charter boats operate out of marinas in Reaches 5 & 6.

(e) Ferries

There are three ferry services in the Town of Southold and one that lies within the Village of Greenport. These are: from Orient Point (Reach 5) to New London (and from West Harbor on Fishers Island (Reach 10) to New London), the federal government runs a regular ferry from Orient Point to Plum Island for employees of the Animal Disease Research facility and there is a ferry between Shelter Island Town and the Town via Greenport Village. With the exception of the latter, these ferry services are discussed in more detail in the Reach Analysis for Reach 5.

The primary issues of concern to the Town with regard to ferry service are how to control the land-based impacts of the service as well as to ensure safety on the high seas and a minimum of conflict between recreational boaters, commercial and sport fishermen with ferry operations. This discussion of the issues in this document is necessarily constrained by the fact that the Town of Southold is embroiled in litigation over an existing situation involving ferry service between Orient and New London.

The Town is dealing with a basic question: to what degree a municipality can control a privately operated ferry service that was commissioned under the now defunct Interstate Commerce Commission? The situation is complicated by the fact that when the Interstate Commerce Commission was disbanded in 1988, jurisdiction over interstate ferry services remained with the federal government, but there are no federal licensing, rate-making or service rules about interstate ferries in effect at this time. In the absence of over-riding federal regulations, the Town must deal with this issue within the parameters of the *State's Coastal Zone Management Act (16 USC S1451 et. Seq.)* This issue is discussed in more detail in the *Reach 5 Inventory and Analysis* and in *Section II.K. Inventory and Analysis – Summary and Conclusions*.

(f) Dredging and navigation

A network of navigation channels has been developed in the Town. Some channels provide general navigation access and others provide access to small areas servicing a limited segment of the adjacent shorelines. Many of our local creeks are shallow, and experience shoaling at their mouths, thereby requiring dredging to permit boats larger than canoes, kayaks or shallow-draft rowboats. The location of navigation channels within the Town and the agency responsible for channel maintenance is identified in Table II-15.

Table II-15: Navigation channels

	Waterbody	Maintenance
Reach 1	Mattituck Inlet – channel and anchorage	ACOE
	Mattituck Inlet – Long Creek	SCDPW
Reach 5	Orient Point Ferry	Private
	Gull Pond	SCDPW
	Stirling Harbor	ACOE
	Plum Island Ferry	USDHS
Reach 6	Mill Creek	SCDPW
Reach 7	Cedar Beach	SCDPW
	Goose Creek/Jockey Creek/Town Creek	SCDPW
	Corey Creek	SCDPW
	Richmond Creek	SCDPW
Reach 8	Little Creek	SCDPW
	Mud Creek	SCDPW
	Broadwater Cove	SCDPW
	East Creek	SCDPW
	West Creek	SCDPW
	Wickham Creek	SCDPW
	Halls Creek	SCDPW
Reach 9	Deep Hole Creek	SCDPW
	James Creek	SCDPW
	Brushes Creek	SCDPW
Reach 10	Silver Eel Harbor	Private
	West Harbor	ACOE

Sources: *Analysis of Dredging and Spoil Disposal Activity Conducted by Suffolk County, County of Suffolk, New York, Historical Perspective and a Look to the Future*, Suffolk County Planning Department, October 1985.

Town of Southold Local Waterfront Revitalization Program Document Review: Letter to Supervisor Joshua Y. Horton, Thomas R. Sheridan, Deputy Center Director for Operations, Plum Island Animal Disease Center, Department of Homeland Security, July 16, 2004.

- ***Dredging***

With one exception, two public agencies are responsible for the maintenance of navigational channels within Southold Town: the U.S. Army Corps of Engineers (ACOE) and the Suffolk County Department of Public Works (SCDPW), with the majority of the dredging projects being conducted by the SCDPW. The U.S. Department of Homeland Security maintains the harbor entrance to the Plum Island Animal Disease Center (PIADC) by way of joint permits from the ACOE and the State of New York; a practice that had been followed by the USDA when the facility was under their jurisdiction. There are also a number of private channels that are maintained by homeowners' associations and individuals. For many of the creeks and inlets dredging is

necessary to maintain an adequate navigable depth for modern boats. In addition to providing navigational safety, the maintenance of certain channels also improves the tidal flushing of creeks and inland waterbodies. The dredging of creeks and inlets is examined in more detail in the Reach Analysis.

The ACOE maintains three areas in the Town of Southold for navigational purposes. These are at Mattituck Inlet (Reach 1), West Harbor on Fishers Island (Reach 10) and Stirling Basin, located within the Village of Greenport. Mattituck Inlet, Orient Point, and Stirling Basin are the responsibility of the New York District of the Army Corps of Engineers (ACOE); West Harbor on Fishers Island is under the jurisdiction of the New England District.

The Mattituck Inlet channel project was originally authorized in 1964 to provide access for commercial fishing and deep-draft recreational vessels. This inlet was re-dredged by the ACOE in 1990 and again (in part) during 2003-4. The two jetties were rebuilt during the years 1995-6. On Fishers Island, West Harbor was originally dredged to provide access to a petroleum terminal and for deep-draft recreational vessels. Maintenance dredging of Plum Island Harbor and/or channel has taken place circa 1972 and during the 1990s.

In Southold, there are twenty-five areas that are dredged by the SCDPW; some on a regular basis, dating back to 1959. The extent of county dredging depends on the funds available. Each year, the towns in Suffolk County send SCDPW a listing of priority sites to be dredged. These are reviewed to determine priorities. Since justification for this service is to keep channels clear for navigation, all dredging projects conducted by SCDPW must meet certain criteria to qualify for funding. The underlying premise is that any dredging and navigational maintenance project must be a legitimate public expense and provide public benefits. In general, the County will dredge only the mouths of selected embayments. In an area that is strictly residentially developed and where no public or quasi-public facilities are served, the County will only perform interface dredging of shoals at the mouth of the inlet or creek, where it intersects a navigation channel or larger water body.

Up until 1992, the County dredged Goldsmiths Inlet, as part of an agreement between the Town, County and State. Since 1992, the Town has dredged Goldsmith's Inlet on an annual basis. About 5,000 cubic yards are removed from the inlet entrance. The inlet is not navigable. The primary reason for the dredging is to keep the inlet mouth open so as to maintain tidal flow and to provide an outlet for the fresh water draining into the pond from Autumn Lake and the surrounding terrain. Thus the dredging serves two purposes. It maintains the salt-tolerant ecosystem and it prevents the flooding of the pond banks. The dredged material is usually deposited on Kenney's Beach.

Dredging in areas not maintained by the Federal government or the SCDPW, must be performed through private contracts. Generally, homeowner's associations or other private individuals band together to retain private contractors to perform the dredging. Such action requires approval from the Town, and the issuance of a permit pursuant to Chapter 97 of the Town Code, the Wetlands Law, in addition to applicable State and Federal permits.

Historically, the creeks and inlets were dredged in their entirety, and the dredged material was deposited in wetland areas. Although for the most part, dredged material within the Town has been clean of toxic materials, the practice of covering large masses of wetlands with wet sand had a detrimental impact on the ecology of the creeks, often resulting in a permanent loss of the wetlands. Today, these practices have changed and upland disposal is not common. Now, dredged material in the Town of Southold is used almost exclusively as beach nourishment. The dredged materials generally consist of sands and gravel of a grain size and composition similar to the beaches adjacent to the dredge site. The use of dredged material for purposes of beach nourishment and erosion control are discussed in more detail in the Reach Analysis where dredging takes place and in the examination of coastal erosion in *Section II.I*.

The deposition of dredged material from outside State and Town waters to areas within the Town has recently become a controversial issue within the Town of Southold. In 1995, the U.S. Navy announced plans to dredge the navigation channel in New London harbor to allow its submarines to safely access its Groton facility. The dredged material within the New London harbor is known to be heavily contaminated with heavy metals and other pollutants. The U.S. Navy's proposal to dump the dredged material within New York State waters and Southold's Town boundaries has met with concerted opposition from the State, and Town, particularly Fishers Island residents. The proposed disposal area is in close proximity to the heavily fished area between Race Rock and Fishers Island. The long-term effects of disposing of highly contaminated dredged material on a nationally and state significant sport fishing resource is of great concern to the Town. The disposal of contaminated dredged material within the Long Island Sound region of Southold Town does not have local support.

- *Navigation aids*

The U.S. Coast Guard supplies navigational buoys and channel markers in the four areas with federal navigation channels. These navigational aids delineate paths of travel and navigation hazards, as well as the special Federal anchorage area in Mattituck Inlet. Buoys and channel markers can be found in the vicinity of Robins Island and Cutchogue Harbor, Greenport harbor, in the channels between Shelter Island and Southold mainland, and in Plum Gut, located between Orient Point and Plum Island (Guldi, SCDPW, February 1991). Many of these navigational devices contain horns, bells or flashing lights. In Long Island Sound, which supports extensive commercial shipping, various buoys and other navigational aids mark the locations of rocks and shoals located offshore. In addition, the Town has placed approximately 60 navigational devices at the mouths of the creeks and inlets among the north and south shores. Buoys have also been located by the Town in Hay and West Harbors on Fishers Island (Dzenkowski, TOS, February 1991).

There are a number of historic lighthouses on the Southold mainland and in the waters off Fishers Island. These include the following:

- *Horton Point Lighthouse* (Reach 2, 103 feet high);
- *Orient Point Lighthouse* (Reach 4, 64 feet high);

- *Bug Lighthouse*, located at the western end of Orient State Park (Reach 5, 90 feet high);
- *Plum Island Lighthouse* (Reach 5);
- a 14-foot light structure, located at the end of the Youngs Point breakwater (Reach 5);
- *Race Rock Lighthouse*, located southwest of Fishers Island (Reach 10, 67 feet high),
- *North Dumpling Lighthouse*, located northwest of Fishers Island (Reach 10, 94 feet high);
- *Little Gull Island Light Station* (Reach 10, 90 feet high); and
- a 55-foot light structure located at the mouth of Silver Eel Cove (Reach 10).

Source: *Region Three Chart Kit, BBA, Inc., 1989.*

Navigational lights are also found in Greenport Harbor and at the end of the Mattituck Inlet jetty.

In general, outside the creeks and shallow nearshore waterbodies, the bays are open waters. There are fish traps, weirs, and shellfish racks to be avoided. There are navigation aids at certain locations to identify subtidal shallows at channel entrances. On the Sound, open water is generally farther offshore. Nearshore waters are characterized by submerged rocks that pose a danger to cruising craft. Another issue of concern to boaters who cruise local waters during twilight, evening or early morning hours is the careless, unshielded use of lights along the shoreline making it difficult to see navigational lights clearly and quickly. Since night-time boaters are few, this issue has not garnered much attention in recent years. Nevertheless, it is an issue that deserves more attention given the importance of recreational boating to the Town and the potential to draw tourists by water from other regions.

(v) Public/quasi-public uses

The Town has the usual inventory of public and quasi-public properties that are necessary for the functioning of a community. The Town owns several acres of property which it uses to deliver municipal services, such as police protection, highway maintenance, governmental services (Town Hall, Recreation Center, Human Resources), equipment storage and maintenance, and solid waste disposal. There also exist several quasi-public jurisdictions which operate separately from Town government. At the local level, these jurisdictions include: fire districts, school districts, park districts and library districts. At the federal level, there are post offices. Each of these districts is listed in Table II-16.

There are no institutes of higher learning or trade schools located within the Town. There are many clubs and other organizations which perform valuable community services. These organizations embrace a range of issues and interests including cultural, service, religious, fraternal, political, environmental, scientific, historic/archeological, business, sports and military service. Many of these groups own property and buildings which are rented by individuals or other organizations for events not related to the building's primary occupants. There also are a number of health or social service related facilities located within the Town which are operated by public, private and non-profit agencies. In the beginning of 1998, there were twenty-two known, organized religious groups operating out of twenty-one separate locations. (Source: Local Telephone Directories)

These properties often include a church or synagogue and other support buildings or facilities in addition to parking lots. Some of these religious organizations own substantial tracts of land that are used for cemeteries. Table II-16: Other Governmental Jurisdictions within Southold

Post Offices: There are nine post offices within the Town of Southold:

Mattituck

Cutchogue

New Suffolk

Peconic

Southold

Greenport - The Post Office is located within the Village of Greenport, but its service area includes portions of Greenport outside the Village proper.

East Marion

Orient

Fishers Island

Fire Districts: There are seven fire districts within the Town of Southold, all of which are run by volunteers. Each provides emergency medical care as well as land and water rescue services:

Mattituck

Cutchogue

Southold

Greenport

East Marion

Orient

Fishers Island

School Districts: There are five school districts within the Town of Southold:

Mattituck-Cutchogue (this is a merged district which includes Laurel)

New Suffolk (grades K-6 only)

Southold (this district includes Peconic)

Greenport

Orient (grades K-6 only)

Library Districts: There are five public libraries within the Town of Southold:

Mattituck

Cutchogue

Southold

Greenport (located within the Village of Greenport)

Fishers Island

Park Districts: There are four park districts within the Town of Southold:

Mattituck

Cutchogue-New Suffolk

Southold

Orient-East Marion

Unlike the other districts, the Park districts do not include the landmass of the entire town within their boundaries. For instance, there are parts of Peconic and Greenport that are not included

within a Park district. No part of Fishers Island is within a park district. As a consequence, residents in these areas do not have access to park facilities other than Town-owned parks or school district recreation facilities. Each Park district limits access to residents of that district and their guests. Town, Park and School district properties and facilities are described and discussed in more detail in *Section II.D. Public Access and Recreation*.

(vi) Vacant land

In 1983, *The Master Plan Update - Background Studies* (Raymond, Parish, Pine and Weiner, 1984) identified 30% of the Town's land as vacant or underutilized. This category included large vacant tracts, undeveloped subdivisions, in-fill lots, and undeveloped portions of large lots along with actively farmed land. A more recent update of the Town's vacant lands indicates that 18% of the Town's land remains is considered vacant. This classification does not include land in agricultural use

The term "vacant lands" has to be used with caution because it includes properties whose development potential may be severely restricted by environmental factors. For instance, tidal marshes, fresh water wetlands, wooded wetlands, bluffs, dunes and beaches are not considered developable or buildable lands. While each Reach Analysis contains a more detailed examination of vacant lands and overall development potential, *Subsection (viii) Development Potential*, below, contains a discussion of the development potential threat within Southold Town using a more precise indicator than "vacant" land.

(vii) Protected open space

The Town encompasses an area roughly 54 square miles in size, with nearly 163 miles of shoreline. The many scenic vistas of farm fields, wetlands, creeks and open waters that are readily seen throughout the Town give the impression that there is a great deal of open space. In fact, though, only 10 percent of its landmass is considered to be protected open space. Another 7 percent is protected agricultural acreage.

There are varying degrees of protection available for land and a careful distinction must be made between land that is protected for open space purposes and land that is protected for agricultural purposes. Land that is protected for agricultural purposes was discussed earlier, in *Subsection (ii)* and in *Subsection B.14*. Although it is protected from development, agricultural land is essentially a working landscape complete with structures and associated uses.

The Town protects non-agricultural land in any of several ways, including outright purchase, conservation easements, scenic easements and clustered open space within subdivisions. Although not generally thought of as open space, stormwater filtration reedbeds, recharge basins and protected drainage swales or easements are part of the town's inventory of open land. Thus, the land area in use as recharge basins, whether owned by the State, County and Town, is included along with natural retention areas, e.g. augmented wetlands and reed beds and natural drainage swales that are protected from development by conservation easements. Within the last ten years, the Town Planning Board has encouraged or required the retention, enhancement and protection of natural drainage swales in residential subdivisions and on commercial sites whenever possible instead of requiring the creation of recharge basins surrounded by chain-link fencing.

Existing geographic databases do not show all protected areas, particularly those protected by conservation or drainage easements on filed subdivision maps. In time, we hope to be able to

display all such drainage easements so as to give a truer picture of the network of stormwater retention, filtration and recharge facilities.

(viii) Development potential

As mentioned earlier in *Subsection (vi) Vacant land*, the term “vacant” has limited usefulness in an agricultural area where seemingly unused land may in fact be part of an active agricultural operation. For the purposes of this document, all vacant and agricultural land is grouped together as having immense development potential. This acreage is estimated as comprising at least 20% of the total land in Southold. The potential for development is considered to be significant.

2. Public services and facilities

(i) Water supply

The Town of Southold depends exclusively on groundwater for its potable water supply. Referred to as a *sole source aquifer*, this groundwater source is part of Hydrogeologic Zone IV. (Source: *The Long Island Comprehensive Special Groundwater Protection Area Plan. LIRPB. 1992. P. 1-4.*) Zone IV also includes Shelter Island and the northern and eastern portions of the South Fork in addition to the eastern portion of Riverhead. It is characterized by shallow flow systems that discharge to streams and marine waters. In Southold, a large part of this aquifer has been contaminated by nitrates and organic chemicals. The large extent of sandy soils allows certain chemical compounds to percolate quickly through the topsoil down to the water table. Salt water intrusion along portions of the developed shoreline is another issue, particularly where summer cottages were converted to year-round residences or during times of drought. A more detailed explanation of the Town’s hydrogeological resources and the nature and extent of groundwater contamination is provided in *Section II.E. Natural Resources, Subsection 10. Groundwater Resources.*

The preponderance of residents in the Town of Southold rely on private wells. A much smaller percentage (as estimated 35 %) (Source: V. Scopaz, Town Planner: 1998) obtain their water from community wells or public water supplies. The development of public water had a significant impact on population density in the areas where it was first established. Therefore an understanding of the history of public water in Southold is crucial to grasping the planning issues facing the Town today.

• Mainland Southold:

In 1887, the Greenport Water Company was started for the purpose of providing safe drinking water and reliable fire protection principally within the boundaries of the incorporated Village of Greenport. It was a privately owned company which subsequently was purchased by the Village in 1899. At that time, the water plant consisted of five supply wells on Moore’s Lane, pumping capability of 1,000 gallons per day, and nine miles of water main. The plant supplied only 30 percent of the Village at that time. (Source: *Village of Greenport. 100 Years of Community Service. Official Inspection 1887-1987*)

As time went on, the demand was outstripping the ability of the wells located within the Village boundaries. In the 1940s, the Village expanded the system by obtaining a franchise from the Town of Southold to pump water from an area entirely outside the Village boundaries. The franchise area extended from Peconic Lane in Peconic, eastward to Old Shipyard Lane in East Marion. Several

new wells were drilled within the franchise area, and limited additional service was provided along the main roads outside the Village. (Source: Village of Greenport Water Utility Company).

Within the last decade or so, the Village was under increasing pressure from the Suffolk County Department of Health Services to improve the quantity and quality of its water, and to extend service to areas within its franchise that needed it. The capital investment required to upgrade and expand the system was considerable. On December 29, 1997, the Village sold the bulk of the Water Company to the Suffolk County Water Authority. It retained ownership and control of the distribution lines within the Village boundaries which serve approximately 820 customers. (Source: Suffolk County Water Authority. *1997 Annual Report*.)

The sale was a turning point. Up to this time, the Village essentially controlled the growth of development within the Southold-Greenport area, particularly those areas needing access to potable water. Strange as it may seem, although the water pumped and distributed by the Village came from wells located within the Town, the Town had no control whatsoever over the distribution of that water. The Town had granted the franchise without any strings attached; other than that residents within the franchise area were, technically speaking, entitled to obtain public water from the Village water company. With the sale of that system, the Village essentially relinquished its control to the SCWA.

The SCWA is a public water authority that services most of Suffolk County, but is not affiliated with County government, its name notwithstanding. It has been a presence within the Town of Southold since the late 1980s when it was asked by the Town to purchase a small, failing water company in Captain Kidd Estates in western Mattituck. Since that time, the Authority has expanded operations, and purchased land for wellfields, the latest expansion being the acquisition of the Greenport system. The SCWA now owns about 232 acres of land within the Town: on which are located 14 well fields and pumping stations. Three additional well fields are under construction. There are a total of 21 active wells, 3 inactive wells, and 7 under construction. There are 79 miles of water main in service with an additional 26 miles planned in the near future. The Authority services 4,925 customers, 820 of which are within the Village of Greenport. (Source: S.C.W.A., January 23, 2001)

A close look at the development density in town reveals that the presence of the Greenport system permitted denser development than could have been tolerated otherwise. For instance, Eastern Long Island Hospital, San Simeon Nursing Facility, numerous hotels and dense development within the Village would not have been possible without the availability of public water along with sewage treatment. The latter is discussed in the next subsection.

The sale of the Greenport water supply company to the SCWA generated major concerns that an improved public water supply system would drive population density upwards and would lead to accelerated development. The SCWA has much deeper financial reserves and capabilities with which to improve and expand the system than did Greenport Village. In October of 1997, the SCWA responded to the Town's request for technical planning assistance and cooperation in the development of a *Water Supply Management and Watershed Protection Strategy* by agreeing to commit up to seventy-five thousand dollars worth of cash and in-kind services to develop this strategy. As identified in the Strategy Outline, among the Goals of this effort are to develop coordinated policies and procedures for protecting the aquifer from future contamination and for ensuring the integrity of the Zoning Code.

On June 20, 2000 the Town Board endorsed the *WSM & WP Strategy* as "a guiding policy document to be used in the preparation of legislation or operating procedures (as may be needed) for Town Board consideration and possible adoption pursuant to standard legislative procedures". (Town Board Resolution, June 20, 2000)

On July 6, 2000, the Town Board adopted the following resolution:

RESOLVED that the Town Board of the Town of Southold hereby AMENDS RESOLUTION NO. #31 of the June 20, 2000 Southold Town Board Meeting by inserting the word "Potential" in front of Future Water Mains.

Resolution to read as follows:

WHEREAS the Town Board of the Town of Southold wishes to begin implementation of the aforesaid policy by setting clear limits as to the future distribution of public water supplies into agricultural lands targeted to remain in agricultural production, as well as to guide the provision of needed public water supplies to existing residential development, and

WHEREAS adoption of this map is not be construed as a guarantee of the provision of public water supply within a specified time frame or in a specified order of priority; now, therefore, be it

RESOLVED, in conjunction with the above-noted endorsement of the Water Supply Management & Watershed Protection Strategy, that the Town Board of The Town of Southold hereby adopts a Map entitled "Locations of Existing Water Mains and Potential Future Water Mains Relative to Protected Lands Within Southold Town", and dated June 2000.

- *Fishers Island:*

The water supply, treatment, distribution and storage facilities for Fishers Island are owned and operated by the Fishers Island Waterworks, a subsidiary of the Fishers Island Development Corporation (FIDCO), which owns most of the island. (Source: *Fishers Island Water*

Supply/Watershed Study A.R. Lombardi Assocs, Inc., 1994). The FIDCO water supply system, originally constructed in the early 1900's, services approximately 600 customers, using 22 miles of water mains, an equalization reservoir, a surface water treatment plant, a groundwater treatment facility, a well field and three surface water reservoirs: Barlow Pond, Middle Farm Pond and Treasure Pond. Until recently, Barlow Pond was the primary source of the Island's drinking water, augmented with water from Middle Farm Pond, if needed, during peak summer usage. Water from Barlow Pond was treated in the 1 million gallon-per-day surface water treatment plant, constructed during the 1920s and located adjacent to Barlow Pond. This treatment plant was withdrawn from service in 1990 and is on stand-by in case of severe drought where the Pond may need to be pumped in order to augment the Middle Farms well field.

(ii) Wastewater treatment

The Town of Southold is largely unsewered. A very small number of developments within the Town are connected to the Village of Greenport Sewage Treatment Plant. This includes the San Simeon Nursing Home, eight dwelling units within the San Simeon Residential Apartments, the Greenport High School, the KOA Camp Grounds, the Driftwood Cove Apartments, Silver Sands Motel, and Peconic Landing Life Care. One pending project has a contract with the Village to connect to the STP when these projects are constructed: Cliffside Tidemark Motel. Each of these projects lies outside of the Village boundaries.

The Village sewage treatment plant (STP) was built around 1938. It was upgraded in June 1992 and currently has permits to treat 0.65 million gallons per day (MGD) of wastewater. The plant currently is operating at about 70% of capacity. The plant delivers secondary treatment of wastewater which is discharged about 500 feet offshore through an outfall pipe at Clark's Beach (Reach 3). (Sources: G.Hickson, Village of Greenport, 1991, 1993, T. Cybulski, Utility Operations, Village of Greenport, 1998)

Engineering studies envisioned the plant operating at capacities of .8 and 1.2 MGD. However, in order to meet operating criteria associated with these capacities, the current STP would have to be enlarged and probably upgraded to tertiary treatment standards. Before the Village pursued this course of action an evaluation of the costs involved would have to be undertaken. No further expansion of the plant is anticipated at this time. It is likely that the remaining capacity of the plant will be needed by the existing and pending allocations (noted above). (Source: Cybulski, 1998).

The majority of Town residents, including most Fishers Island residents, dispose of their sanitary wastes through the use of subsurface septic disposal systems, such as leaching pools/ cesspools, and septic tanks. In areas of shallow depth to groundwater (e.g. most of the Town's coastline), the treatment of sanitary waste through the use of subsurface septic disposal systems is an environmental concern. Because there is relatively little separation between the bottom of the leaching pool and groundwater, there may be inadequate treatment of the sanitary waste due to the lack of soil to filter the effluent before it enters the ground or surface water. Once sanitary waste constituents enter the groundwater they may rapidly migrate seaward, entering surface waters. This inflow could be a serious problem for surface water quality and is one of the many issues that is currently being analyzed by the SCDHS as part of their *Brown Tide Study* and the *Peconic Estuary Program*.

Scavenger wastes, the material pumped out of cesspools and septic tanks, are highly concentrated wastes that can pose a threat to groundwater quality. Until 1986, the standard practice within

Southold, not including Fishers Island, was to allow private cesspool carters to dump this waste, untreated, into unlined lagoons at the landfill. In June 1986, the Town began requiring scavenger waste be taken to a treatment facility that was designed to use biological and chemical processes to de-toxify the wastes. The facility was built by the Town: financed almost entirely with federal and state funds. However, it is located within the Village of Greenport adjacent to its sewage treatment plant.

Initially, treated wastes were pumped from the scavenger facility into the sewage treatment plant. In April of 1996, this practice was stopped for a number of operational and financial reasons. Today the waste material is no longer treated. Rather, it is held, then shipped to another sewage treatment plant which is owned by the County of Suffolk and located at Bergen Point, Brookhaven. The scavenger waste facility has a total holding capacity of approximately 140,000 gallons.

During 1997, more than 2.3 million gallons of scavenger wastes (an average of 9,022 gallons per day) were delivered to the facility. Of that amount, a mere 30,000 gallons came from customers within the Town of Shelter Island. The volume of waste being handled by the plant has declined since 1987 when more than 3.8 million gallons of scavenger waste were received. The reasons for the decline are not known. The cost of operating the facility and shipping the wastes is covered by permit fees which typically are passed along to the individual property owners. (Sources: *Informational Bulletin. Town of Southold Scavenger Waste Treatment Facility. 1998. Year End Report: 1997 Scavenger Waste Treatment Plant. Year End Report: 1987 Scavenger Wastewater Treatment Facility.*)

(iii) Solid waste management

The Town of Southold currently owns and operates a municipal solid waste disposal facility encompassing approximately 60 acres of land. It is located on the north side of County Route 48 in Cutchogue within Reach 2. Most of the residential municipal solid waste (MSW) generated within the Town is handled at the facility, while most of the Town's commercial waste is taken to out of town facilities by private carters.

Operations at the solid waste consist of the following:

- An unlined landfill, now closed, which ceased operations on October 8, 1993,
- a solid waste and recyclables transfer station that accommodates both commercial and residential users,
- a permanent household hazardous waste storage facility,
- a yard waste composting operation,
- a construction and demolition debris holding and transfer station,
- a holding area for household appliances and tires awaiting transfer to processing facilities outside of Southold Town
- a reuse center for the free exchange of items otherwise destined for the waste stream.

(Source: James Bunchuck, Solid Waste Coordinator, Solid Waste District, Town of Southold.
Correspondence: February 5, 1998)

Wastes and recyclables are collected and delivered to the complex either by private carters or by individual "self-haulers" who may bring their own materials and recyclables directly to the facility.

All users have the option of obtaining annual permits from the Town to gain entry to the facility or of paying a single-entry fee, based on vehicle size, each time they use the facility.

Until October 8, 1993, when landfill operations ceased pursuant to a stipulated agreement with the New York State Department of Environmental Conservation, all material brought to the landfill was buried there. Since then, the Town has shipped all garbage, rubbish (bulky items), and construction and demolition debris to approved out-of-state disposal facilities. To pay for this “long-haul” waste disposal method, the town implemented an expanded system of user-based disposal fees rather than add these costs to the general tax levy. The fees consist of vehicle permit fees, waste tipping charges and a volume-based *pay-per-bag* disposal system. The tipping charges apply primarily to commercially-generated waste, while the *pay-per-bag* system, (i.e. the “Town Yellow Bags”) applies to most private residential waste. Under this system, all residential garbage consisting of non-bulky items must be placed into specially marked and priced plastic bags for disposal, whether the garbage is picked up by a private carter or delivered to the collection facility by the resident. All disposal costs, including the cost of long-haul shipping, are covered by the appropriate bag.

To minimize the impact of new disposal costs both on residents and the Town budget, the Town greatly expanded its recycling program. Since there is no fee for disposing of separated recyclable materials, the Town bag system gives residents a direct economic incentive to recycle. As markets for recyclable items were identified and contacted, operations at the collection facility have been modified to provide more areas for receiving, sorting and storing the increased flow and numbers of recyclables. At present, the following types of items are accepted for recycling: cans, three types of paper, corrugated cardboard, glass bottles, some plastics, polystyrene and fluorescent light bulbs.

Public awareness and participation in the recyclables program are encouraged through public information and education efforts which include the use of brochures, newsletters, TV shows and school demonstration projects. In 1994, the first full year of long-haul disposal and the *pay-per-bag* system, recycling tonnage doubled. The program’s success resulted in the Town receiving the Governor’s *Special Achievement Award for Recycling* in 1996, as well as over three hundred thousand dollars in grants to offset the cost of equipment and machinery purchased since 1993 for this program.

Recyclables are marketed directly by the Town to vendors. The Town does not use long term contracts for this purpose, but, rather, negotiates the best price as market conditions change. Some recyclables are shipped to vendors by the Town using Town-owned trucks and trailers, while others are picked up by the vendors themselves from the transfer station. Specific shipping arrangements are determined by work force requirements, distance and convenience.

Waste oil brought to the disposal complex is deposited in one of two 275-gallon tanks located adjacent to the recyclables/garbage drop-off building. When full, the waste oil is picked up by a licensed NYSDEC waste oil collector located in Westhampton Beach.

To discourage the dumping of toxic and hazardous wastes, the Town initiated a S.T.O.P. program (Stop Throwing Out Pollutants) in 1986. A hazardous waste collection area was set up within the main disposal facility. An extensive and continuing public education campaign cautions residents against disposing of certain household, garden and workshop chemicals down the drain, on the

ground or in the pay-per-bags. These materials which include the following substances: batteries, paint, solvents and cleaning fluids, any kind of pesticides, are handled only by trained personnel. The materials are shipped out under strict State guidelines.

The solid waste portion of the transfer station is currently operating under “registration status” with the NYSDEC, rather than under a standard Part 360 permit. This situation is being allowed by the NYSDEC because the amount of refuse shipped from the station for disposal is less than 12,500 tons per year. “Registration status” allows for a less burdensome application and approval process. While the registration status applies to the station as it currently exists, the Town does plan to make certain modifications to the station to improve the cleanliness, the vehicular traffic flow and the overall operational efficiency of the waste transfer operation.

The portion of the transfer station used for recycling also is operating under state guidelines. It is scheduled to undergo major changes in design and manner of use during 2001 with an eye towards improving site conditions and user-friendliness, as well as operational efficiency.

(Sources for entire section: James Bunchuck. November 2000 correspondence and Dvirka and Bartilucci, *Solid Waste Management Plan, August 1995.*)

As mentioned in the prior section on wastewater treatment, until July of 1986, scavenger waste was discharged into open lagoons at the landfill. This waste is now treated at the Southold Scavenger Waste Pretreatment Plant which is located within the Village of Greenport. Sludge from the Southold Scavenger Waste Facility and the Village of Greenport’s Sewer Treatment Plant is shipped out of state. Plans are underway for the formal closing and capping of the landfill pursuant to NYSDEC’s Part 360 regulations, as agreed to by the Town and the DEC in a stipulated agreement in October of 1994. As of February 1998, closure investigation work is complete and engineering design activity for the cap is about to get underway. Construction of the cap should begin by the end of 1998 and should be completed sometime in 1999. (Source: James Bunchuck, February 1998.)

The DEC has identified evidence of a sinking leachate plume emanating from the general area of the landfill, which is located just north of the central groundwater divide. In 1997 the DEC advised the Town that it had conducted a review to determine if there is “hydrogeologic evidence to either support or reject the landfill as the origin of the groundwater contamination.” It concluded that the plume appears to be originating from the landfill. (Source: *Correspondence of Ray E. Cowen, P.E., Regional Director, NYSDEC. January 28, 1997.*) For further details, see *Section II.E.6. Natural Resources* which also discusses the hydrogeological components of the Town of Southold’s groundwater resources and the nature and extent of groundwater contamination of those resources.

Since 1992, all Fishers Island’s garbage and recycling is taken to Connecticut for disposal. These facilities handle the waste generated by the estimated 300 permanent year-round residents, as well as approximately 4,000 seasonal residents and visitors who populate the island during the peak summer period. In the past there was a series of solid waste processing/disposal operations on Fishers Island. They were located in the extreme western portion of Fishers Island and included the brush collection area, metals collection area, cars/tires collection area, household MSW landfill, and the recycling drop-off center (Dvirka and Bartilucci, September 1990).

The brush area was located on land owned by the Fishers Island Solid Waste Disposal District. Brush is no longer burned on Fishers Island. The metals area is located on a small portion of an approximate 100-acre parcel of Town land. This area received discarded appliances, metal materials such as doors and window frames, and some mixed metal/plastic furniture and scrap. The metal dump was closed in 1991 and it is currently being excavated pursuant to an agreement with NYSDEC. The Town is in the process of removing all the material contingent on DEC approval. The car and tire stockpile area is also on Town land but it is managed by the Fishers Island Ferry District.

The Fishers Island Landfill is approximately 6 to 8 acres in size. It is no longer active as all solid waste is now removed from the Island to disposal areas in Connecticut. Negotiations are ongoing between the Fishers Island Garbage District and the NYSDEC with regard to final capping and closing of the landfill.

It is estimated that a total of approximately 94 tons of municipal solid waste was generated per day in the entire Town in 1994. This amount represents a reduction in solid waste generation of nearly 40 tons per day from 1989, primarily due to the establishment of a volume-based pricing system for household garbage on the mainland (Fishers Island does not use a volume-based system). This volume is based on 1994 scale house data from the mainland solid waste complex indicating an average of 90 tons per day, and using an estimated average generation rate of 4 tons per day for Fishers Island. Future waste stream projections (including Fishers Island), based on the 1994 data and weighted population estimates, show an average generation rate of 103 tons per day in 2000, 113 tons per day in 2005 and 126 tons per day on 2010.

(iv) Electric supply

Electricity is supplied to mainland Southold primarily by the Long Island Power Authority. The power is delivered from the western part of Long Island via overhead high-tension power lines which run across the landscape from the Riverhead Town line north of Laurel Lake and CR 48 to a point just east of Hashomomack Pond. The power lines are attached to stanchions positioned in the center of an easement which runs over private and public properties. LIPA does not own any of the property on which its high tension lines are placed. However, LIPA does own about 48 acres of land throughout Southold, including a waterfront parcel in Mattituck.

There is no underground service within the Town except within new subdivisions when new roads are constructed. For the last fifteen years, the Planning Board has required all utility lines on new roads to be placed underground, even if the roads are to remain in private ownership. This requirement arises out of the fact that the high winds experienced during typical fall/winter weather of northeasters, gales and hurricanes frequently cause power lines to be snapped or downed, thus disrupting essential electrical services. LIPA has no program of placing existing street-side power lines underground within Southold Town.

Although the service has improved, the electricity provided by LILCO is not uniformly reliable. Frequent power surges or outages in certain parts of the Town are not uncommon. Many residents use surge protectors in order to minimize damage to household appliances.

On May 29, 1998, LILCO was reformulated into the Long Island Power Authority (LIPA). LIPA issued requests for proposals to construct three electric generating plants on Long Island. One of the proposed sites is located in Southold Town. LIPA also is proposing to upgrade its overland

high-tension power lines in Southold, purportedly in order to improve its capacity in Southampton and East Hampton.

In 2001, LIPA announced a demonstration program to use wind turbines for power generation. The program is being conducted in partnership with the Long Island Farm Bureau. One farm in Southold is being considered as a demonstration site. (Source: *Long Island Power Authority. Wind Turbine Demonstration Program 2001*)

Although the Town is supplied by LIPA, the Village of Greenport enjoys access to a cheaper source of electric power. In 1887, the privately owned Greenport Light & Power Company was formed for the purpose of furnishing electricity to Greenport and vicinity. It was purchased by the Village of Greenport in 1899. In 1922, the Village began supplying power to Shelter Island via underground cable. It continued this service until 1964, when Shelter Island opted for direct service from upstate power sources.

By 1979 the Village had supplanted its oil-fired generation capability with hydroelectric power from the New York Power Authority. Electric rates in the Village are approximately one-third that of the rest of the Town. The Village is able to obtain cheaper hydroelectrically-generated power from upstate or Canadian suppliers because of an obscure legislative provision which allows municipalities which had generated their own power to continue to operate independently of the regional electric utility company.

Fishers Island receives power from Groton, Connecticut, through an undersea cable. In the event of an emergency, Fishers Island possesses auxiliary, oil-fired generators, which can provide power to all of the year-round residents.

Electric rates on Long Island are the highest in the United States (excepting Hawaii), primarily because of lack of competition and the long-term result of certain management decisions by the Long Island Lighting Company. LILCO, now known as LIPA, is a public utility providing electricity and natural gas to much of Long Island excepting two of the boroughs of New York City (Brooklyn and Queens) which are served by Consolidated Edison. There have been several attempts by consumer advocates and state and county governments over the last decade to reduce electric rates by forming municipal companies, none of which were successful.

(v) Natural gas supply

LIPA provides natural gas via underground pipelines to the Town of Southold, but on a limited basis through its KEYSpan company. Gas service is available to homes along the main road (State Route 25) from the Riverhead Town Line through to the Cross Sound Ferry terminal at Orient. Due to the limited capacity of its single pipeline, LIPA has had a moratorium on providing new service or expanding existing service for several years. A natural gas compression station was constructed on SR 25 in Mattituck to maintain steadier pressure towards the end of the pipeline. The station went into operation in 1998. Demand for gas service caused KEYSpan to abandon the Mattituck station in 2001 when a second, larger compression station was constructed on SR 25 in Southold.

During 1997, LILCO and the Brooklyn Union Gas Company announced plans to merge, a move which the companies claimed would result in improved natural gas service. This merger was contingent on a satisfactory resolution of the problem of how to finance the closure of LILCO's

Shoreham Nuclear Power Plant: a situation that has continued to prove to be a political quagmire since the plant was decommissioned in 1994.

Because of the prohibitive expense of electricity, and the limited availability of natural gas service, most residents must opt for furnaces fired by either oil or liquid propane (LPG) from tanks on their property. Many people use LPG for their clothes dryers, water heaters and stoves. There is one major LPG supplier within Southold: Van Duzer Gas Company. It brings in LPG overland and delivers it by truck as needed to its residential or commercial customers. There are other small suppliers of propane for portable tanks.

As will be discussed in more detail in *Section II.K.2.(xi) Protection of Water Quality*, the large numbers of in-ground oil and other fuel storage tanks on residential and commercial sites is of concern because of their potential to contaminate the groundwater and nearby surface waters.

(vi) Fuel oil

Due to the limited availability of natural gas via pipeline and the high cost of electricity, many property owners use oil-fired furnaces to heat their homes. Fuel oil typically is stored in tanks. Although regulations require that fuel storage tanks be placed within containment structures, there are many older tanks that remain buried below ground. There is sufficient concern about the potential for groundwater contamination from leaking fuel oil tanks, particularly given the preponderance of private wells throughout the Town. An oil spill, however, small, has the potential to affect the drinking water of many property owners.

D. PUBLIC ACCESS AND RECREATION

1. Introduction

Since prehistoric times, humans have settled near coastal waters for reasons having to do more with survival than anything else. While we have achieved a level of civilization and technology that enables us to live comfortably in more hostile environments, people nevertheless are drawn to the coast. It is no coincidence that a high percentage of the nation's population lives within 100 miles of coastal waters. For many people the waterfront is a refuge from the pressures of modern life, an outlet and a place to relax or exercise.

Unfortunately, as this country grew, many of its coastal environments were negatively impacted: through pollution, over-development of the shoreline, and large-scale filling in of wetlands and marshes. Since the adoption of the *Coastal Zone Management Act of 1972* by the U. S. Congress, there has been a slow, but steady stream of efforts to rehabilitate damaged wetland systems, renovate abandoned industrial waterfronts, and clean up polluted waters and beaches. This Local Waterfront Revitalization Program is Southold Town's strategy for protecting and improving access to its coastal waters.

In rural areas, recreation in the wide, open spaces that surround human communities is taken for granted. However, as population pressures increase and impinge on these areas, the value of recreational areas begins to assume a significant importance of its own: often becoming a major component of a region's economy. For example, the *Statewide Comprehensive Outdoor Recreation Plan* (NYSOPRHP, 1994, p2.28) identifies the importance of outdoor recreation as a valued activity for much of the state's population. It also noted that there will be a general growth in recreational activity and an increased demand for recreational facilities throughout the State. This growth and increased demand is likely to be greatest in regions close to the State's major concentrations of population. Yet, these regions currently have a shortage of recreation opportunities and facilities relative to their population size and activity level. This unfortunate situation is likely to continue, especially since the provision of recreational opportunities and facilities often is a low priority for finance-minded municipalities with other pressing problems on their agendas.

Long Island is included within the New York City metropolitan area, which is projected to experience a "very intense" usage of recreational facilities by the year 2010. It is one of the areas where improved provision of recreational facilities is needed. In Suffolk County, the *Statewide Comprehensive Outdoor Recreation Plan* (NYSOPRHP, 1994, p2.25) identified a heavy demand for parks, biking, hiking and jogging trails, court and field games facilities, camping grounds, that was likely to remain above average for the State into the year 2010.

It is generally agreed that public access to, and recreational use of, the shoreline are significant factors in the quality of life and desirability of living in and visiting the state's coastal regions. However, this significance and value are not easily quantified. One attempt to do so calculated the economic value of water-dependent activities related to public access and recreation for Long Island Sound (*The Economic Importance of Long Island Sound's Water Quality Dependent Activities*, U.S. EPA, 1992). In New York, adding together the user values, direct expenditures, and multiplier effects for beach swimming, fishing, and boating on Long Island Sound alone resulted in a total value of approximately \$2.238 billion annually.

As discussed earlier, in *Section II.A.5. Economy* and *Section II.C.1.(iv) Water-dependent and water-enhanced uses*, recreational use of Southhold's shoreline and waters plays an important role in the local economy. Activities contributing to the local tourism industry are motor-boating, sailing, water-skiing, recreational fishing and shellfishing, diving and swimming. The Town offers a number of recreational facilities, many of which are water-dependent. Parks and recreational areas within the Town range in size from small neighborhood parks less than one acre in size to the 357-acre Orient Beach State Park (Reach 5). There also are many marinas and boat launch sites, both public and private. Since tourism and recreation are key components of Southhold's local economy, the Town must ensure that recreational opportunities and access to its shoreline are maintained and improved.

2. Existing waterfront public access and recreation sites

Residents and visitors to the Town of Southhold have long enjoyed its coastal location. The waters and beaches of the Long Island Sound and the Peconic Estuary provide many opportunities to swim, launch a boat, hunt, fish, gather shellfish, watch the natural world and enjoy the scenic vistas. Southhold Town contains a variety of waterfront recreational uses that provide additional opportunities for public access to coastal resources. Park lands in the Town fall under the jurisdiction of the State, County, Town and four individual Town Park Districts. In addition, there are a number of beach facilities that are maintained by private homeowner's associations and a large number of public road-ends that provide an informal means for access to the shoreline, particularly along the Peconic Bay shoreline. The location of these access and recreation sites are indicated on [Map II-11](#) and the facilities that they provide are summarized below and discussed in more detail in the Reach Analysis.

(i) New York State

The State owns one waterfront park, one boat launching ramp and two protected wetland areas within the Town of Southhold. These are:

- Reach 1**
 - Mattituck Inlet Wetlands
 - Laurel Lake Fishing Access Site
- Reach 4**
 - Trumans Beach Fishing Access Site
- Reach 5**
 - Orient Beach State Park
 - Long Beach Bay State Tidal Wetlands

(ii) Suffolk County

Suffolk County has five waterfront parkland areas within the Town of Southhold. These are:

- Reach 2**
 - Goldsmiths Inlet County Park
 - Great Pond/Peconic Dunes County Park
- Reach 3**
 - Inlet Point Pond County Park
- Reach 4**
 - Orient Point County Park

Reach 7 • Cedar Beach County Park

These facilities are generally underutilized and undeveloped as formal park facilities. However, they are available and are used as informal open spaces. These facilities should be considered as underutilized waterfront properties because they have the potential to be used more fully.

(iii) Town of Southold

The Town of Southold provides several of recreational facilities for use by all Town residents.

Town of Southold Parks and Beaches

Reach 6	Arshamonaque Pond Preserve, Southold	26.7 acres
Reach 3	Clarks Beach, Greenport	1.1 acres
Reach 7	Custer Institute Park (Zazecki), Southold	6.0 acres
Reach 4	Dam Pond Preserve, East Marion	21.0 acres
Reach 4	Dam Pond Preserve, Sec. II, East Marion	14.3 acres
Reach 9	Down Farm Preserve, Cutchogue	51.0 acres
Reach 9	Downs Creek Preserve (Zahler), Cutchogue	5.2 acres
Reach 10	Dock Beach (Fitzgerald), Fishers Island	1.5 acres
Reach 2	Goldsmith Inlet, Peconic	1.4 acres
Reach 7	Goose Creek Beach, Southold	2.7 acres
Reach 2/3	Horton Point Landing, Southold	
Reach 2	Hummel Pond, Southold	7.9 acres
Reach 2	Kenneys Beach, Southold	5.0 acres
Reach 9	Laurel Lake Park, Laurel	11.4 acres
Reach 9	Marratooka Lake Park-North, Mattituck	10.7 acres
Reach 9	Marratooka Lake Park-South, Mattituck	1.9 acres
Reach 7	Mattituck Creek Boat Ramp, Mattituck	1.4 acres
Reach 9	Mattituck Inlet Park, Mattituck	2.3 acres
Reach 2	McCabes Beach, Southold	2.2 acres
Reach 8	New Suffolk Beach, New Suffolk	1.3 acres
Reach 5	Norman Klipp Beach, Greenport	4.1 acres
Reach 8	Jean W. Cochran Park, Peconic	14.0 acres
Reach 6	Silversmith Corner, Southold	1.0 acres
Reach 6	Skipper Horton Park, Greenport	5.4 acres
Reach 3/4	Rocky Point Road Landing, East Marion	
Reach 3	67 Steps, Greenport	1.0 acres
Reach 7	Southold Town Recreation Center, Peconic	2.3 acres
Reach 7	Tasker Park, Peconic	10.5 acres
Reach 3	Town Beach, Southold	5.9 acres
Reach 7	Wells Road Preserve (Wells), Peconic	1.4 acres
Reach 6	Levin Preserve, Greenport	53.1 acres
Reach 2	Damianos Woodlands, Southold	21.0 acres

Non-residents must pay a fee to use some of these recreational facilities. A parking permit is also required at six beach facilities pursuant to Chapter 65 of the Southold Town Code. The Town provides lifeguard services at six of eight beaches. *Section II.J. Reach Inventory and Analysis,*

provides an in-depth listing and description of the location and facilities available at Town recreational properties, and whether they are located on the waterfront or not.

Public access to the Town's shoreline also can be gained by utilizing the right-of-way at the end of Town roads. This is another effective means of gaining access to the public trust lands along the foreshore. While there are no restrictions on pedestrian access, the Town has limited vehicular access at these road ends by controlling the amount of parking and by requiring Town permits to park within a specified distance of the water. Several road ends are used for the informal launching of boats, while others provide vehicular access for beach driving. Extensive use of these road ends indicates a desire by Town residents for informal recreation opportunities within the Town and the importance of local beach access for Town residents. Road end access can be a concern, however, to neighboring residents who have objected to the number of cars parked at road ends, the perceived threats caused by the presence of people from outside the neighborhood and the noise and litter. Encouraging use of the road ends clearly has to be balanced against other factors.

(iv) Park Districts

Park Districts have played an important role in the Town of Southold in the development and provision of public access and recreation facilities. There are four Park Districts in the Town of Southold: Mattituck; Cutchogue - New Suffolk; Southold; and East Marion - Orient. These Park Districts are supported through tax levies, and the use of their respective facilities is restricted to the residents of each particular District. The Park Districts have developed to serve the recreational needs of local area communities and have generally been oriented toward providing beach areas and waterfront activities. Of the four districts, the Mattituck Park District has the largest number of facilities available for use by its residents. Although the other districts are supported by large numbers of residents, they lack a sufficient number of facilities to satisfy their recreational needs. There are no reciprocal access arrangements between Park Districts. Some areas of the Town, such as Peconic, Bayview and the unincorporated areas of Greenport are not within a Park District. Nonresidents of Southold are able to gain access to the individual Park District facilities as guests of residents.

(a) Mattituck Park District

- Reach 1**
- Bailie's Beach Park, Bailie's Beach Road, Mattituck
 - Breakwater Beach Park, Breakwater Road, Mattituck
 - Mattituck Creek Launching Ramp, North Road, Mattituck
 - Wolf Pit Lake, Mattituck
- Reach 9**
- Bay Avenue Park, Bay Avenue, Mattituck
 - Marratooka Lake Park, Main Road, Mattituck
 - Veterans Memorial Park, Bay Avenue, Mattituck
 - Mattituck Park District Beach, Peconic Bay Boulevard, Mattituck

(b) Cutchogue - New Suffolk Park District

- Reach 8**
- Nassau Point Community Beach, Nassau Point Road, Cutchogue
 - Pequash Avenue Park, Pequash Avenue, New Suffolk

(c) Southold Park District

- Reach 2**
- Horton Point Lighthouse, Lighthouse Road, Southold
- Reach 6**
- Youngs Avenue Park, Youngs Avenue
- Reach 7**
- Emerson Beach, South Harbor Road, Southold
 - Founders Landing Beach, Terry Lane, Southold

(d) Orient - East Marion Park District

- Reach 4**
- Truman Beach, Main Road, East Marion

(v) Recreational boating

Recreational boating is an important use of the waters of the Town of Southold. Concentrations of recreational boating activity are at Mattituck Inlet (Reach 1); Gull Pond (Reach 5); Mill Creek (Reach 6); Jockey Creek/Goose Creek (Reach 7); Broadwater Cove/East Creek, Cutchogue Harbor and Schoolhouse Creek/New Suffolk (Reach 8); James Creek (reach 9); and West Harbor (Reach 10). *Section II.C.1.(iv)* summarized the distribution of recreational boating facilities in Southold.

Research for the *Town of Southold Harbor Management Plan* by Allee, King, Rosen and Fleming, Inc. (1995) found that recreational boating is a significant economic activity within the Town of Southold. There are docking facilities for an estimated 3,370 to 3,530 craft in the Town of Southold. This is composed of public marinas, private marinas, clubs, associations, and individually owned docks and bulkheads. There are a total of about 600 moorings. 510 of these are adjacent to the mainland, with 51 percent bay moorings and 49 percent creek moorings. The remaining 90 moorings are located in West Harbor on Fishers Island.

Marinas within Southold offer a range of full-service facilities typical of the northeast, such as private yacht clubs, family-operated marinas, boatyards, boat sales stores with dockage, and marina chains. The survey identified the 2,368 slips in the Town of Southold. Of these, 2,115 slips are within the public marinas and 253 are in the private marinas. There are 31 fee-pay public marinas that range in size from 30 to 180 slips. These marinas are concentrated at Mattituck Inlet (Reach 1), Stirling Basin (Reach 5), and Shelter Island Sound at the Mill Creek Inlet (Reach 6). These facilities generally provide a range of boating services, such as repair, fueling, and pumpout services.

Marinas, whether publicly or privately owned or operated, provide dockside slips or offshore moorings for vessels, allowing people to use and enjoy coastal waters. Marinas respond to the strong demand in the region for recreational boating and services. Marina and boat yard customers include local boaters as well as transient boaters who use marinas, boat yards, and other nearby services during short-term stopovers between locations within and outside the region. Marinas

help support leisure activities associated with and dependent upon coastal resources. In a region where public access opportunities are inadequate, marinas provide a type of access to coastal waters and areas otherwise inaccessible to the public. In addition to public access, marinas often provide other public amenities, such as: boat launching ramps, fishing piers, waterfront walkways, fishing supplies, snack bars and restaurants, picnic areas, transient slips and moorings, restrooms, and marine sanitation pumpout facilities.

(vi) Boat ramps and small boat launches

There are twenty boat launch facilities within the Town of Southold available for use by the public. Of these, eleven boat ramps are provided by the Town of Southold, one by the Mattituck Park District, two by NYSDEC and six by private marinas. Boat ramps provide opportunity for launch by trailer. These ramps provide an important amenity for boaters, offering an opportunity for the small craft owner or the occasional boat user to enjoy the water. They are also important to those who cannot afford to keep their boats at a marina and provide for baymen access to the water.

In addition to the formal boat ramps, there are eight small boat launches in the Town. These are publicly accessible corridors to the water where a small boat could be hand launched in the water. The location of these boat ramps and small boat launches are identified in Table II-17 and illustrated on [Map II-12](#). Their use and condition are discussed in more detail in the *Reach Analysis in Section II.J*.

In 2002 the yearly fees for use of the Town of Southold boat ramps are \$6.00 for residents and \$100.00 for non-residents. The daily fee for non-resident permits (to access beach and boat ramp) is \$12.00 per day. Guest and lessee permits to both car and trailer can be obtained for \$30.00 per vehicle. The parking sticker allows unlimited access to all Town of Southold boat ramps and beaches as well as parking on Town road ends on the water. The two ramps operated by NYSDEC are available for free use by all residents of the state. The Mattituck Park District boat ramp, at the head of Mattituck Inlet, is available only to residents of the Park District. At marinas, the cost is about \$10 per launch and retrieval.

Table II-17: Hard surface boat ramps and small boat launches available to the public

<u>Reach</u>	<u>Facility</u>	<u>Waterbody</u>
Reach 1	Petersons Marina	Mattituck Inlet
	Mattituck Fishing Station	Mattituck Inlet
	Mattituck Park District	Mattituck Inlet
	Town boat ramp	Mattituck Inlet
Reach 2	Town small boat launch (Goldsmiths Inlet)	Long Island Sound
Reach 3	Town small boat launch (Town Beach)	Long Island Sound
Reach 4	NYSDEC boat ramp (Trumans Beach)	Long Island Sound
Reach 5	Orient-by-the-Sea Marina	Gardiners Bay

	Town boat ramp (Narrow River Road) NYSDEC Ramp (Klipp Park) Town boat ramp (Sandy Beach Road)	Narrow River Gull Pond Sterling Harbor
Reach 6	Town boat ramp (Bayview Avenue) Town small boat launch (Founders Landing)	Hashamomuck Pond Town Creek
Reach 7	Town boat ramp (Gagens Landing Road) Town small boat launch (Minnehaha Boulevard) Town boat ramp (Cedar Beach Road) Town boat ramp (Parkers Landing) Town boat ramp (Pine Neck Road)	Goose Creek Corey Creek Hog Neck Bay Richmond Creek Town Creek
Reach 8	Broadwater Cove Marina Town small boat launch (Mason Drive) New Suffolk Ship Yard Marina Capt. Marty's Fishing Station launch Town boat ramp (Jackson Street) Town small boat launch (Grathwohl Road) Town small boat launch (Little Neck Road) Town small boat launch (Wilsons Landing) Cutchogue Harbor Marina	Broadwaters Cove Haywaters Cove Schoolhouse Creek Cutchogue Harbor Cutchogue Harbor West Creek East Creek East Creek Wickham Creek
Reach 9	Strongs Marina	James Creek
Reach 10	Town boat ramp (Peninsula Road)	West Harbor
	Source: Town of Southold, January 1995, 2001	

(vii) Recreational fishing and hunting

Recreational fishing occurs extensively on local waters with access provided by local marinas, boat launch ramps, fishing stations, private docking facilities and from local beaches. No Town permits are required. Recreational fishing is discussed in greater detail in *Section II.C.1.(iv)*.

Waterfowl hunting is permitted within town over open water, but guns cannot be used within 500 feet of residential areas. Duck hunting is popular in the Goldsmith Inlet area (Reach 2), the Orient Harbor and Long Beach areas and along Richmond Creek (Reach 7), and on Wickham, West and Downs creeks (Reach 9) (Town of Southold, 1989). Each of these hunting areas contain extensive wetlands and marsh habitat suitable for ducks. A State permit is required for duck hunting. No Town permits are required, but in order to place a duck blind within the creeks a \$25 Trustee permit is required. Duck blinds have to be at least 500 feet apart.

Hunting may be on the decline as the addition of new residential development along the creeks reduces opportunities. Competition for prime hunting grounds appears to be increasing. Problems have been reported where multiple blinds within a creek are registered in the name of one owner, thus restricting the numbers of people who can gain access to hunting grounds. Other towns such as Southampton will need to address the concerns of hunters at some point in the near future. (Source: J. McMahon, Town of Southold, November 1999).

3. Private waterfront recreation facilities

The most obvious form of private waterfront recreational facilities are marinas. Marinas provide dockside slips or offshore moorings for vessels, allowing people to use and enjoy coastal waters. All the marinas in Southold are privately owned and operated, although the majority is open to the public for the payment of a fee. The distribution of marinas is summarized in Table II-7 and illustrated on [Map II-8](#). Details of these facilities is considered in more detail in *Section II.C.1.(iv)* and in the *Reach Analysis in Section II.J*.

In addition to the public access opportunities, public waterfront recreational facilities and marinas, there are a number of marina/beach facilities that are maintained by private homeowner's associations. These associations own and maintain waterfront properties for use by association members. While these properties are a private rather than public resource, they satisfy neighborhood recreational needs, reducing some burden from nearby public sites. Details of beaches and private marina facilities provided by homeowners associations are included in *Section II.J. Reach Inventory and Analysis*.

4. Inland recreation facilities

The Town contains a number of inland recreational facilities. The most prominent of these are the playing fields and gymnasiums within each School District. These facilities are heavily utilized by the community on a year round-basis. The Town of Southold has recognized the need for recreation facilities and in recent years has purchased and developed land specifically for this purpose. The most recent additions of inland facilities are in Peconic in Reach 7 and 8. The Town Transportation Commission has also worked to develop a trails network, which was described earlier in *Section II.B. Planning Framework*, and is discussed below. These facilities and others are described in *Section II.J. Reach Inventory and Analysis*.

5. Trails and bikeways

The recreational opportunities in Southold are dispersed throughout the Town in a series of unconnected and somewhat isolated facilities located at schools, beaches and parks. These are state, county, town and park district facilities. The Town of Southold Transportation Commission has identified the need to link these individual sites through a network of hiking trails and bikeways. The development of this network is a key element in the Town of Southold's Transportation Core Concept, which calls for a comprehensive approach to transportation planning that utilizes all the available transportation hubs and linkages in an effort to reduce the increasing traffic pressure on the Town's road network.

Currently, there are no formal trail systems within the Town. Some horse owners have been able to negotiate access over private farm roads to form an off-road network of horse trails, but these are not accessible to the public. Similarly, many local residents have informal access to private lands for walking. Recently, NYSDOT has carried out surfacing and drainage improvements to NY Route 25 from Greenport to Orient Point. As part of this improvement work, they included the use of the shoulder as a bike lane.

The Transportation Commission has proposed to broaden recreational opportunities in the Town by developing a network of alternative travel routes and trails for bicyclists, kayakers and pedestrians. The proposed network is illustrated on [Map II-13](#). It will enable a traveler to go safely from Mattituck to Orient by being off-road or off main road wherever possible, utilizing existing paths, dirt tracks, local roads and roads with wide shoulders. These trails will pass through

farmland, vineyards and woodlands and near the Long Island Sound and Peconic Estuary. These trails will connect with the kayak trails and link together public parks, beaches, cultural resources and hamlet centers. Wherever possible, the trail will utilize public lands, and the Town will undertake appropriate coordination with the public landholders during its planning for these trails. Where the use of public lands is not possible, trail links will be developed in close cooperation with local landowners to develop trail easements.

The Town has received a Transportation Enhancement grant under the ISTEA program to fund the development of the trail system. The proposal, entitled "*The Seaview Trails of the North Fork: Southold Town's Alternative Transportation Initiative*" (Town of Southold, August 1995). The three phase plan included the New Suffolk - Oregon Road Loop, the Bayview Loop, the Greenport - Orient Route, the Vineyard View Trail, the Oregon Road Extension Trail, the Moore's Woods Trail, the Soundview Avenue Trail, the Lands End Trail at Orient Point, the Narrow River Trail and the Sea Trail for kayaking. The proposal includes details of supporting facilities and maintenance.

6. Underwater lands, the foreshore and the Public Trust

The legal geography of New York's beaches, tidelands, and lands underwater is defined by the public trust doctrine and the court cases that interpret its application. Under the public trust doctrine, the foreshore and underwater lands are held in trust by the state or local government for the benefit of the public. The public trust doctrine is the basis for the public's right to swim, fish, and walk along the shoreline.

Tidality is the linchpin in establishing the public's right to use and pass over the foreshore of navigable waters. In Tucci v. Salzhauer, a case involving the use of land in Hempstead Harbor, the court defined the public's rights in the foreshore:

When the tide is in, he may use the water covering the foreshore for boating, bathing, fishing, and other lawful purposes and when the tide is out, he may pass and repass over the foreshore as a means of access to reach the water for the same purposes and to lounge and recline thereon. (336 NYS2d 721)

In the colonial era, the English king exercised sovereign authority, both proprietary and governmentally, over the shoreline. During this period, Long Island towns were created by royal charters and patents, which created not only the corporate bodies with the power of government, but also conveyed title to the land and land under water within the bounds of the town. Following the Revolutionary War, New York State succeeded to the crown's rights over the shoreline, which meant that the People of the State of New York were vested with all beds of navigable water bodies, and courses not previously conveyed by the sovereign (The Crown of Great Britain), along with the public trust. These lands typically were waterward of the high water mark in areas not previously conveyed by the sovereign (such as Long Island Sound). Today these underwater, or formerly underwater lands, are managed pursuant to the Public Lands Law. Except where otherwise transferred to another agency for a specific purpose, the New York State Office of General Services (OGS) manages State-owned underwater lands and formerly underwater (but now filled) lands to the last known location of mean high water.

Although New York State has never relinquished its territorial authority or legislative jurisdiction, the state constitutions (until 1962) have confirmed the various colonial charters vesting interest in upland commons and land underwater in the towns, or the trustees of the freeholders and

commonalty of certain Long Island towns. The colonial charters have also received judicial recognition.

In addition to colonial charters and patents conveying land to the towns, submerged lands have also been conveyed by the state and towns to private owners for commercial purposes and to develop waterfront infrastructure. Thus, with few exceptions, the ownership of most lands underwater, or formerly underwater lands that are vested with a public trust, is in three forms: (1) state ownership; (2) local government ownership; or (3) private ownership, either by grant from the state or town. In most instances where publicly owned underwater lands have been conveyed into private ownership, the public trust interest remains intact.

The Town of Southold lays claim to its lands underwater by virtue of the *Andros Patent* of October 31, 1676. On October 31, 1676, Colonial Governor Andros authorized the *Andros Patent* which established the Town government and the Town boundaries. The Patent affirmed the original property rights of Town inhabitants, and described in detail natural resource, hunting and fishing rights. These rights were transferred to the direct control of the Town of Southold Board of Trustees on behalf of the Freeholders and inhabitants. The Patent conveyed all the land in Southold (which at the time embraced the lands comprising Riverhead) including all uplands, ponds, creeks and wetlands.

The Town of Southold claims title to all lands under its harbors, bays and creeks, to the extent not otherwise conveyed into private or State ownership. In 1893, the State Legislature created the Trustees of the Town of Southold to hold and to manage these lands for the benefit of taxpayers and residents. (*Laws of 1893, Chapter 615, as amended by Laws of 1952, Chapter 404*). Under this legislation, the trustees exercise exclusive jurisdiction over town-owned creeks and harbors. They were empowered with the authority to "manage, lease, convey, or otherwise dispose of all or any part of such common lands, waters, and lands underwater, to the public right of adjoining upland owners". The commonly held resources and rights described in the *Andros Patent* include all "land with necks and islands ... together with rivers, lakes, waters, quarries, timber, woods, woodlands, plains, meadows, broken pieces of meadows, pastures, marshes, fishing, hawking, hunting and fowling..." which were not already the property of any one person.

Currently, the Town has the primary jurisdiction for underwater lands and in-water activities within the Town creeks. The creeks to which the *Andros Patent* applies and for which the Town Trustees are empowered under the 1893 act were identified earlier in Table II-1 in *Section II.A.7*. Their location is illustrated on [Map II-2](#). The total area of this jurisdiction is about 2,000 acres. Some of the creeks and inlets along Southold's shoreline are man-made waterbodies that did not exist at the time of the issuance of the *Andros Patent* and therefore are not covered by the Patent (e.g., Brick Cove, Schoolhouse Creek). By deed dated May 23, 1930, the Town of Southold conveyed Long Beach in the hamlet of Orient as well as certain lands underwater in Little Bay adjacent to Long Beach, to the State Board of Commissioners of the Land Office, which, in turn, transferred jurisdiction and ownership to the Long Island State Park Commission.

The actual waters included were partially clarified by litigation in *Town of Southold v. Parks*, 41 Misc. 456, 84 NYS 2d (Sup. Ct. Suffolk County, 1903) affd. per curiam 97 App. Div. 636 (Second Dept., 1904), affd. mem. 183 NY 513 (1905). This case described the southern boundary of Southold as the high water mark of Gardiners and Peconic Bays. Southold's town ordinances of 1944 and 1949 described town waters as all land underwater in any harbor, bay, or creek, and

including "all waterways and creeks cutting the shoreline of the town to the average high water mark from headland to headland."

Within the Peconic Estuary, underwater lands are owned by the State of New York, Suffolk County, and individuals who have received riparian conveyances from the State. The Peconic and Gardiners Bays did not pass by colonial patent to the Town of Southold or any of the other towns on eastern Long Island. The lands under those waters are in the possession of the State. Town of Southold v. Parks, 41 Misc. Rep. 456, 84 N.Y.S. 1078 (Sup.Ct. Suffolk Co.), aff'd, 97 App. Div. 63, 90 N.Y.S. 1116 (2nd Dept.) aff'd, 183 N.Y. 513 (1905); Claudio v. Village of Greenport, 55 Misc.2d 371, 284 N.Y.S.2d 965 (Sup. Ct. Suff. Co. 1967) and *Laws of 1884, Chapter 385*, as amended by *Laws of 1896, Chapter 916*. The State has authorized Suffolk County to lease lands under those bays for shellfish cultivation, beginning at a point 1000 feet from shore (Laws of 1969, Chapter 990). Robins Island was granted in a separate colonial patent to Charles Williams and Frederick Morris in 1733 and was not part of Southold's *Andros Patent* lands.

As was shown earlier in Table II-2, in *Section II.A.7.*, New York State owns the majority of underwater lands within the bays; this includes all the underwater lands along the immediate shoreline, to a distance of 1,000 feet. The majority of the Suffolk County and privately held underwater lands are in Little Peconic Bay and Shelter Island Sound. Within Long Island Sound, title to the foreshore of and submerged lands under Long Island Sound is vested in the State of New York, unless otherwise conveyed away by the State. Loundes v. Town of Huntington, 153 U.S. 1, 22-23 (1894). Town jurisdiction (but not ownership) of lands beneath Long Island Sound has been extended northerly to the New York - Connecticut State Line by *Act of the State Legislature (Laws of 1881, Chapter 695)*.

Presently, the Town of Southold Trustees regulate boat mooring activities and navigation in Town creeks, residential and marina dock construction and operation, shellfish harvesting and counts, and wetland permits. The Trustees also provide guidance to the Bay Constables for the management of the over 2,000 acres of public underwater land within the Town. Furthermore, the Trustees regulate activities which occur on private lands within the Town under the Town's Wetlands and Coastal Erosion Hazard Area ordinances. This last responsibility was given to the Trustees by the Southold Town Board in recognition of their inseparable relation to the *Andros Patent* and the need to protect the Town's natural resources under home rule. These regulations are discussed in more detail in *Section V. Implementation*.

Public trust lands provide important public access to the coastal resources of the Town of Southold. The communities public trust lands are heavily used for recreation of all types, including fishing, shellfishing, walking, hunting and just relaxing. They are also used by commercial fishermen, who gain access to the important commercial fishing and shellfishing resources from public trust lands. Unfortunately, the continued access to and use of public trust lands are under threat.

As development has spread eastward along Long Island, many informal access points on privately owned undeveloped land, used for many years by commercial and recreational fishermen and others to reach state or town-owned public trust lands, have disappeared or, where still existing at street ends, are prohibited for use by nonresidents. This inability to obtain access to public trust lands, which are open for use by anyone for a variety of recreational and other purposes, has increasingly become a problem as ever larger portions of the state's coastline are devoted to private residential, commercial, and transportation uses.

In highly developed areas, it is almost impossible to reach public trust lands along the waterfront because of industrial and commercial land uses, decaying piers and bulkheads, abandoned buildings, or other impediments to access. Often, it is only when such areas are redeveloped that opportunities arise to improve waterfront access. In less densely developed areas, it is usually just as impossible to reach public trust lands because of the continuous strips of waterfront residences, difficult terrain, such as high bluffs, or lack of road access.

In conjunction with spreading development, many shore hardening structures in the form of bulkheads, sea walls, revetments, and groins have been built, ostensibly to protect developed property from erosion. However, in many cases the result has been a narrowing or even loss of the beach, which reduces or eliminates opportunities to use public trust lands for lateral access along such shores. Similarly, the proliferation of long docks into the water blocks lateral access along public trust lands, and obstructs and encumbers public trust uses of surface waters and underwater lands for such activities as swimming and small craft boating.

Southold's shoreline has the potential to offer a continuous right of access along the shore. Given the increase in shoreline development, the opportunity to walk the shoreline of the Long Island Sound and the Peconic Estuary is a valuable public asset. It remains, however, largely a theoretical asset because the right of continuous access is useless without the ability to get to the shore and, once on the shore, to walk unfettered. Throughout numerous stretches of Southold's shoreline, the public's rights in the foreshore have been constrained, and sometimes precluded, by private development. This is a major public policy concern.

The *Long Island Sound Coastal Management Plan* (DOS, 1994) identified that the use of public trust lands generated billions of dollars for the state economy. The foreshore and underwater lands of the state are used for recreation, boating, fishing, swimming, and visual enjoyment. The tidal areas provide habitat and breeding areas for shellfish and finfish of commercial and recreational importance. Private actions that interfere with these activities diminish the public's use and enjoyment of these commercially and recreationally productive areas.

In 1992, the legislature amended the *Public Lands Law (Laws of 1992, c. 791)* codifying, in part, the public trust in underwater lands. The legislature found that regulation of projects and structures, proposed to be constructed in or over state-owned lands underwater, was necessary to responsibly manage the state's proprietary interests in trust lands. Additionally, the regulation would severely restrict alienation into private ownership of public trust lands owned by the state. The intent of the amendment was also to ensure that waterfront owners' reasonable exercise of riparian rights and access to navigable waters did not adversely affect the public's rights. The legislature stated that use of trust lands is to be consistent with the public interest in reasonable use and responsible management of waterways for the purposes of navigation, commerce, fishing, bathing, recreation, environmental and aesthetic protection, and access to the navigable waters and lands underwater of the state.

Today the State's Office of General Services, OGS, issues licenses, leases and grants for activities affecting or structures occupying State-owned lands, whether they are underwater or were formerly underwater.

OGS is the repository of records pertaining to grants, easements, licenses and other interests in the State's underwater holdings. As a result, local proposals affecting State-owned underwater lands should be reviewed by the OGS for determination of the State's interest under the Public Lands Law.

7. New opportunities for public access and recreation provision

Since the early 1980s, during the update of the *Master Plan*, the need for new opportunities for public access and recreation has been recognized. Within the past five years significant strides have been made towards improving and expanding the recreational facilities and opportunities available with the Town of Southold. Given the present and projected increase in the local population and the national trend towards greater recreational activity, the Town will need to continually evaluate the condition of existing recreational facilities in the coastal zone to determine if they can be more effectively utilized. In some cases additional amenities and services could be offered, such as a more diverse variety of recreational activities. Some sites could be renovated or redesigned to provide more accessibility to disabled person. Opportunities exist for more scenic overlooks, bird-watching posts, walking trails, improved beach access, interpretive centers, and sheltered kayak access points. Where opportunities exist, efforts should be taken to expand and upgrade services. Some areas, in particular, that should be considered are Mattituck Inlet, Inlet Pond, 67 Steps Beach, Broadwaters Cove, New Suffolk and Peconic Dunes Park. These and other opportunities are described in *Section II.J. Reach Inventory and Analysis*.

As described in *Section II.B. Planning Framework*, the Town conducts an ongoing review of its facilities and assesses new opportunities within its Parks, Beaches and Recreation Committee. In recent years it has become evident that the Town would benefit from a more comprehensive approach to assessing present and future needs; and to develop a long-term capital budgeting plan to finance needed projects. Stewardship of the Town's open space and recreational facilities is a growing need. This *LWRP* builds on the goals of the *Master Plan*, the State study, and the work by prior consultants, most notably Ward Associates, by placing emphasis on water-dependent or enhanced recreational activities.

For instance, the north shore of the Town provides limited access to Long Island Sound. In the late 1980's, the State conducted a study to assess marine recreational fishing access, and to make recommendations for necessary improvements. The study revealed a need to improve and increase access on the eastern end of Long Island, particularly along the north shore. Actions of three of these sites have since been completed. These include: Truman Beach (purchased with 1986 Environmental Quality Bond Act (EQBA) monies and rehabilitated into a boat launching site); the construction of a boat launch at the head of Mattituck Inlet; and the renovation of the abandoned tank farm on Mattituck Creek (purchases with 1986 EQBA monies and rehabilitated with monies allocated under the Open Space Preservation Program.)

The enhanced use of road ends is another potential opportunity for enhanced public access to the water provided pedestrian use could be encouraged over vehicular access. The provision of parking at road ends is a problematic one due to limited space, the need to provide drainage to paved areas and the opposition of neighbors to cars parking on their lawns.

The Town of Southold does not own a public marina. The Town may want at some point in the future to explore either acquiring an existing marina or constructing a new one. The Long Island Oyster Farm property in Reach 5 and the Marina Bay Club in Reach 8 are two sites that have the

potential to be redeveloped as public marinas, as long as such facilities are developed in a way that will not generate adverse impacts on existing natural resources or sensitive land uses such as surrounding established residential uses. It may be necessary to acquire adjacent properties in these areas to facilitate adequate access and provide a significant buffer. Due to the limited amount of marine business zoning, Town policy should also encourage the continuance and improvement of existing marinas in an effort to address the growing need for boating access.

8. Harbor management plans

As residential development and the tourist sector of the local economy increase, conflicts within harbors are expected to increase. It will be necessary to develop Harbor Management Plans (HMPs) in order to create some guidelines and limits on competing uses of the water and waterfront. This issue is discussed in greater detail later, in *Section II.J. Reach Inventory and Analysis*.

One of the issues that is applicable throughout most of the Town, in particular, on the Peconic Estuary, is that of moorings. Moorings offer an affordable and convenient alternative to renting dockage space in a marina. However, poor placement of moorings has a price: sewage and gray water may result in closed shellfish beds; navigational conflicts when mooring are located too close to channels; and damages to either boats or docks and bulkheads when inadequate mooring tackle is used and the boats break loose. The Bay Constable's office indicates that calls for them to retrieve boats that have broken loose from moorings are becoming more common. (Conversations with Bay Constables in 1998, 1999).

The Town can work with the State and the U.S. Coast Guard to set up special anchorage areas in protected areas and could charge a fee to cover the administrative costs of managing and supervising such mooring fields. There are many issues involved with this topic and they are discussed later in this plan.

9. Creative thinking

The Town can also explore innovative approaches to achieve the goal of greater or improved access. Where land acquisition is not an economically-feasible option, other techniques such as development incentives, land grants, gifts, and joint acquisitions could be attempted. Clustered development, which preserves open space, is currently utilized, in part, for the provision of recreational resources, although there often is a great resistance on the part of developers to setting aside waterfront land for this purpose. The demand for private waterfront lots is very high and nearby public beach access is viewed, unfortunately, as a drawback to the desirability of a lot. Recreational impact fees are imposed on developers and these funds are used to improve existing facilities or help to acquire new ones. As mentioned earlier, the development of strategic five-year plan may focus energy and money in optimizing recreational opportunities on the water. Certainly the *Community Preservation Project Plan* is a first step in that it has identified key waterfront parcels that should be purchased.

E. NATURAL RESOURCES

1. Introduction

With more than 160 miles of shoreline, of which nearly 140 abut the Peconic Estuary alone, the Town of Southold is rich in habitats that support diverse and often large wildlife populations, many of which are of commercial or recreational value. Surface waters and wetlands support a diversity of fish, crustacean and molluscan species. The wetlands and nearshore waters are biologically and hydrodynamically coupled to the offshore waters and larger surface waterbodies of the Peconic Estuary, Gardiners Bay, and Long Island and Block Island Sounds. Southold is located on the Atlantic Flyway and its surface waters and adjoining wetlands and islands serve as wintering grounds for many species of birds, breeding grounds for others, resting stops for migrating species and permanent homes for resident species.

2. Ecological complexes and Significant Coastal Fish and Wildlife Habitats

The East End of Long Island is a complex ecosystem consisting of physical (non-living) and biological (living) components and their interactions. The physical components include the open waters and embayments of Long Island Sound, the Peconic Estuary, Shelter Island Sound, Gardiners Bay, Fishers Island Sound and Block Island Sound, as well as coastal lowlands, headlands, bluffs, beaches, adjacent upland areas, small offshore islands, and the composition of soils. These features continue to develop and change through the action of tides and offshore currents, and through weathering by precipitation and surface runoff. The biological components include the plants and animals that make up a wide range of ecological communities in and around the East End.

To appreciate the complexity of Southold's living components, it is useful to recognize the region's many ecological communities, and then to understand how these communities interact as ecological systems and complexes. An *ecological community* can be defined as “a variable assemblage of interacting plant and animal populations that share a common environment” (Ecological Communities of New York State, Reschke, Carol, New York Natural Heritage Program, 1990, pviii). The categorization of specific ecological communities within Southold can be achieved using the comprehensive classification system developed by the New York Natural Heritage Program (Reschke, 1990 and the revised, expanded draft second edition of the Reschke text, edited by Edinger, Evans, Gebauer, Howard, Hunt and Olivero, January 2002).

The classification is organized by *systems* and each system is composed of *subsystems* which are in turn composed of many *ecological community types*. A wide variety of different systems, subsystems and ecological communities can be found in Southold. While the classification system is designed to be used by biologists to identify communities in the field, it can be used in combination with the Heritage's ranking system to gauge the relative rarity of community types and to help make natural resource management decisions.

Ecologically significant natural communities have been identified and documented through field work within the Peconic Bay Estuary by the New York Natural Heritage Program. Portions of these communities are located within Southold.

Although ecological communities are identified as units, they are not discrete. Individual ecological communities are linked through geophysical, chemical, and biological characteristics with other ecological communities to form larger ecological systems. These ecological systems can be grouped into geographic areas termed ecological complexes. Understanding these ecological systems, and not solely their component communities, is crucial to effectively managing a region's living resources.

- ***Peconic Estuary Program – Critical Natural Resource Areas***

The Peconic Estuary and its watershed contain a larger percentage of undisturbed habitats and a greater diversity of natural communities, on a per unit basis, than anywhere else in the coastal zone of New York State. The PEP, while recognizing the ecological importance of the entire estuary, has identified extensive Critical Natural Resource Areas which cover large areas of open water in the Peconic Bays. These are specific geographic areas within the Peconic watershed with concentrations of high quality habitat for spawning, breeding, feeding, and wintering habitat for shellfish, finfish, waterfowl, shorebirds, anadromous fish, and rare plant, animal and natural communities.

The *PEP Comprehensive Conservation and Management Plan* (November 2001) examined the importance of the natural resources in the Estuary and defined the Critical Natural Resource Areas. In particular, it highlighted the important habitat values of the deep water, shallow water areas and intertidal areas of the Peconic Estuary. The shallow water areas, including nearshore areas of the main bays, embayments and tidal creeks are particularly important, contributing the majority of the commercial shellfish harvest.

In Southold, the *Peconic Estuary Program* highlighted the open waters from Orient Harbor to Plum Island, Hashamomuck Pond and the Arshamomuck wetland complex, the open waters off Cedar Beach, Robins Island and its surrounding open waters and the numerous creeks as *Critical Natural Resource Areas*. The locations of these Critical Natural Resource Areas are illustrated on [Map II-14](#). These areas tie in closely with the existing designated Significant Coastal Fish and Wildlife Habitats. The *Peconic Estuary Program* proposes to further define the delineation of these Critical Natural Resource Areas and to develop and implement management strategies to manage and protect these areas. This work will be carried out within the context of existing programs.

- ***Regionally Significant Ecological Complexes***

In some areas of Southold, there are assemblages of ecological communities that are rare ecological systems or that provide particularly significant benefits to populations of fish and wildlife. These assemblages are recognized as Significant Coastal Fish and Wildlife Habitats (SCFWH). They are designated under the *Waterfront Revitalization of Coastal Areas and Inland Waterways Act*. And, they can, in turn, be grouped as a series of broader regional ecological complexes.

To be more precise, SCFWHs are defined as geographic areas that have been determined to be of statewide significance, based on a quantitative evaluation of a combination of ecological factors. These factors include whether the area serves one or more of the following functions:

- is essential to the survival of a large portion of a particular fish or wildlife population
- supports populations of species which are endangered, threatened, or of special concern
- supports populations having significant commercial, recreational, or educational value

- exemplifies a habitat type which is not commonly found in the state or in a coastal region

The US Fish and Wildlife Service identified two regionally significant ecological complexes within Southold (US Fish and Wildlife Service, 1991). The delineation of these ecological complexes in Southold is based on the information on ecological communities and habitat requirements of various species presented in the Department of State's *Coastal Fish and Wildlife Habitat Rating Forms* (DOS, 1987) and the *Northeast Coastal Areas Study* (US Fish and Wildlife Service, 1991).

- North Fork Beach Complex
- Orient Point - Islands Complex

The location of these complexes is shown on [Map II-14](#) and their characteristics are discussed below. These areas consist of groupings of SCFWH, surrounding waters and upland areas.

- ***North Fork Beach Complex***

The North Fork Beach Complex extends along the Peconic Bay shoreline from Jamesport (in the Town of Riverhead) to the Village of Greenport in the Town of Southold. It includes a narrow, linear complex of beaches, salt marshes, tidal creeks and nearshore baywaters. In most instances the space occupied by the habitats is quite narrow, rarely more than a few hundred feet wide, except for several tidal creeks and marshlands. Included in this complex are at least 22 individual areas of regional fish or wildlife significance that are in need of protection, management or enhancement. The important features of these areas and the related species are discussed in detail in the habitat narratives in *Section II.J.* within each Reach Analysis.

The significance of this complex is in its value, both actual and potential, as nesting, feeding, migration and recovery habitat for colonial beach nesting birds, principally the roseate tern, least tern, common tern and piping plover. The wetland habitat is important to Northern diamondback terrapins both as feeding and nesting areas. They are also valuable feeding areas for ospreys, and herons, while the creeks and baywaters are productive for finfish, shellfish and crustaceans. Although many of the individual habitat sites are small and separated from one another as a result of both natural and human-caused habitat fragmentation, the distances between these individual sites are not very great, and they can collectively be viewed as part of a single, functioning ecologically interrelated, linear shoreline system. It is essential to attempt maintain the full geographic and ecological continuum of these habitats in order to provide for the long term survival of these beach dependent species.

- ***Orient Points – Islands Complex***

The Orient Point Islands Complex is a diverse complex of land and turbulent passages of water and islands extending from Orient Harbor to the western end of Fishers Island, a distance of approximately 18.5 miles. The major habitat types of regional significance in the Orient area are barrier beaches, salt marshes, shallow water embayments and maritime forest communities. This area is listed as containing 13 rare plant populations. (Lamont and Stoutenburgh, 1995) The stretch of sand beach along the peninsula of Long Beach and Orient Beach is considered to be one of the best sites on Long Island for piping plover and also is of regional significance as a colonial bird-nesting site. Gull Pond Beach also contains nesting piping plovers. The shallow waters of Orient Harbor provide important habitat for a

variety of fish and wildlife species of special emphasis in the region, and are especially significant as wintering waterfowl concentration areas. Osprey are known to nest and feed in the marshes around the Orient area as well as on Plum Island. Northern diamondback terrapin are found in the area and may breed here. Orient Harbor is considered to be one of the top bay scallop producing areas in the region, supporting a significant commercial fishery.

The small rocky islet of Great Gull Island is of national, and even perhaps international, significance as a nesting site for common and roseate terns. Plum Gut and the Race (off Fishers Island) are deepwater channels bordered by relatively shallow water shoals. The deep turbulent waters and shallow shoals provide significant and diverse habitat for marine fishes of special emphasis in the region. The Gut and Race are regionally important recreational fishing areas. These passages are the two primary migration corridors for striped bass as they move into Long Island Sound during the spring to their breeding grounds and during the winter when they return south.

- **Ecological Complexes of Statewide Significance**

Twenty-one areas within the Town of Southold have been designated as SCFWHs by the NYS Department of State (DOS, 2005):

Reach 1	Mattituck Inlet Wetlands and Beaches
Reach 2	Goldsmith Inlet and Beach
Reach 5	Orient Harbor Long Beach Bay Plum Gut Great Gull Island
Reach 6	Hashamomuck Pond Conkling Point Port of Egypt Island Pipes Cove Creek and Moores Drain
Reach 7	Jockey Creek Spoil Area Cedar Beach Point Corey Creek Richmond Creek and Beach
Reach 8	Little Creek and Beach Cutchogue Harbor Wetlands Robins Island
Reach 9	Downs Creek
Reach 10	The Race Fishers Island Beaches, Pine Islands and Shallows Dumpling Islands and Flat Hammock

The location of these designated SCFWHs is illustrated on [Map II-14](#). While all of the designated SCFWHs are located within a regionally significant ecological complex, they nevertheless are significant within their respective Reaches. Accordingly, the Reach Analysis considers the main

features of the SCFWHs and the activities likely to impair them. These details were extracted from the *Northeast Coastal Areas Study* (US Fish and Wildlife Service, 1991) and information contained in the Department of State's *Coastal Fish and Wildlife Habitat Rating Forms* (DOS, 2005).

- **Threats to Ecologically Significant Habitats**

Although the ecological complexes and individual habitats of Southold continue to support large and healthy assemblages of plants and animals, human activity has destroyed, fragmented, or otherwise impaired many of the original natural communities. Development has modified the physical characteristics of shoreline and upland areas, removed food sources and cover, introduced non-indigenous species, degraded the waters of the Town and otherwise altered the natural environment.

Impairments to the ecological complexes and individual habitats of Southold can be categorized as follows:

- Physical loss: Immediate physical loss of elements within ecological complexes is the most obvious impact and also may be referred to as a primary impact.
- Degradation: Degradation of elements within ecological complexes does not refer to the outright physical loss of these elements, but rather to a negative change in the quality of these elements, caused by factors within or adjacent to a complex. This degradation usually occurs over a more extended period of time than with a physical loss and also may be referred to as a secondary impact.
- Functional loss: Functional loss results not from major physical changes or even from changes in the basic quality of elements within a complex, but rather from inappropriate adjacent or internal uses (homes, marinas, various recreational uses) that are disruptive to certain species of animals and cause a change or shift in their activities.

As will be seen in the detailed examination of the individual SCFWHs, all three types of impairments have had, and continue to have, negative impacts on the Town's natural coast. The threats to the two regionally significant ecological complexes and habitats within the Town of Southold include the following: Colonial nesting birds and Northern diamondback terrapins are highly vulnerable to human disturbances during the nesting season, whether from beach walkers, boat landings, off-road vehicle use, deliberate vandalism, or unregulated dredged material disposal. Such disturbances can lead to destruction of eggs and individuals as well as the seasonal or permanent abandonment of the site. Additionally there is an ever-increasing problem of predation by dogs and cats and other human-associated species. Vegetation succession, resulting in the loss of bare sand for nesting, also is a factor in reducing the suitability of nesting beaches for terns and piping plovers. Competition with expanding populations of gulls is becoming an increasing problem. Elimination or adverse modification of habitat through marina, housing and other developments in the area directly threaten these habitats. These types of habitat modifications also pose a threat to water quality and the sustainability of these waters for prey and predators alike.

The long term survival of beach-nesting bird species, particularly piping plovers and roseate terns, will require full protection of current and recent historical nesting beaches. The identification, definition and protection of main feeding and nesting areas should be given high priority. Protection measures may include closing off beaches during the breeding and nesting season, fenced enclosures around specific areas, posting of signs against trespassing, predator and pet trapping, beach warden patrol and public education. Identification, delineation and protection of main feeding and nesting areas should be a high priority. Several sites may require restoration (through careful placement of dredged material and control of vegetation) to enhance their suitability as nesting sites. Ongoing and long-term protection of specific beach sites can be accomplished by a variety of management mechanisms, including reducing human intrusion, cooperative management and conservation agreements, conservation easements, land use regulation and acquisition.

Finally, as will be discussed again later in *Sections II.J. and II.K.*, both the Race and Plum Gut are under heavy fishing pressure by commercial fisherman, charter boats and recreational fishermen, thereby raising concern about the sustainability of those resources. Commercial and recreational harvesting of crustaceans (lobsters) and fish, particularly at the Race and Plum Gut, need close monitoring to ensure optimum sustainable populations of these species. Of particular concern are lobsters and Atlantic Salmon and striped bass populations as they migrate through these areas during the spring and fall.

3. Protected flora and fauna

Table II-18 contains a list of plant and animal species which appear on the New York State Department of Environmental Conservation's file maps of *endangered*, *threatened* and *special concern* species. Many of these species are found within the designated SCFWH. Of those native species considered *endangered* (in danger of extirpation or extinction in New York), the tiger salamander, eastern mud turtle and the least tern can be found within the Town's freshwater and tidal wetland areas. Of those native species considered *threatened*, (likely to become an endangered species within the foreseeable future in New York), osprey, northern harrier, piping plover and common tern may be found in tidal wetland areas.

NYSDEC lists a third category of species of *special concern* which includes species that are not yet considered endangered or threatened, but for which documented concern exists. The species of *special concern* that inhabit the Town's wetland areas include the spotted salamander, spotted turtle, diamondback terrapin, upland sandpiper, and the short-eared owl.

A number of unusual marine mammals are found in the Town's waters in greater numbers than are not readily found in other New York State marine waters, such as whales, dolphins, porpoises, and seals. As reported by the Okeanos Ocean Research Center in Hampton Bays, there have been increased sightings of Harbor seals, even in the creeks, as well as Arctic, harp, gray, and hooded seals. The deep oceanic waters off Orient Point and Fishers Island are critical passageways for these species. Because of their isolation, Fishers Island rocks are also important Harbor seal haul-out areas.

Table II-18A Endangered, Threatened, Special Concern and Rare species of plants and wildlife found within Southold Town from 1980 to present

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	STATE LEGAL STATUS	FED. STATUS
** AMPHIBIANS					
Ambystoma tigrinum	Tiger salamander	G5	S2S3	ENDANGERED	
** REPTILES					
Kinosternon subrubrum	Eastern mud turtle	G5	S1	ENDANGERED	
** BIRDS					
Ardea alba	Great egret	G5	S2	PROTECTED	
Charadrius melodus	Piping plover	G3	S3B	ENDANGERED	LE
Sterna antillarum	Least tern	G4	S3B	THREATENED	
Sterna dougallii	Roseate tern	G4	S1B	ENDANGERED	LE
Sterna hirundo	Common tern	G5	S3B	THREATENED	
** VASCULAR PLANTS					
Angelica lucida	Angelica	G5	S1	ENDANGERED	
Aster subulatus	Saltmarsh aster	G5	S2	THREATENED	
Atriplex glabriuscula	Seaside orach	G4	S1	ENDANGERED	
Bartonia paniculata	Screw-stem	G5	S1	ENDANGERED	
Carex hormathodes	Marsh straw sedge	G4G5	S2S3	THREATENED	
Carex mitchelliana	Mitchell's sedge	G3G4	S2	THREATENED	
Carex straminea	Straw sedge	G5	S1	ENDANGERED	
Carex typhina	Cat-tail sedge	G5	S2	THREATENED	
Chenopodium berlandieri var macrocalycium	Large calyx goosefoot	G4	S1S2	ENDANGERED	
Chenopodium rubrum	Red pigweed	G5	S2	THREATENED	
Coreopsis rosea	Rose coreopsis	G3	S3	RARE	
Cyperus polystachyos var texensis	Coast flatsedge	G5T5	S1S2	ENDANGERED	
Digitaria filiformis	Slender crabgrass	G5	S2	THREATENED	
Diplachne maritima	Salt-meadow grass	G5T3T4Q	S1	ENDANGERED	
Eleocharis engelmannii	Engelmann's spikerush	G4?	S1	ENDANGERED	
Eleocharis fallax	Creeping spikerush	G4G5	S1	ENDANGERED	
Eleocharis halophila	Salt-marsh spikerush	G4	S2	THREATENED	
Erechtites hieraciifolia var megalocarpa	Fireweed	G5T?	S1	ENDANGERED	
Gnaphalium purpureum	Purple everlasting	G5	S1	ENDANGERED	
Helianthemum dumosum	Bushy rockrose	G3	S2	THREATENED	

Iris prismatica	Slender blue flag	G4G5	S2	THREATENED
Lemna perpusilla	Minute duckweed	G5	S1	ENDANGERED
Ligusticum scoticum	Scotch lovage	G5	S1	ENDANGERED
Myriophyllum pinnatum	Green parrot's-feather	G5	S1	ENDANGERED
Paspalum laeve	Field beadgrass	G4G5	S1	ENDANGERED
Plantago maritima ssp juncoides	Seaside plantain	G5T5	S2S3	THREATENED
Polygonum glaucum	Seabeach knotweed	G3	S3	RARE
Polygonum hydropiperoides var opelousanum	Opelousa smartweed	G5T?Q	S2S3	THREATENED
Polygonum setaceum var interjectum	Swamp smartweed	G5T4	S1S2	ENDANGERED
Populus heterophylla	Swamp cottonwood	G5	S2	THREATENED
Potamogeton pulcher	Spotted pondweed	G5	S2	THREATENED
Potentilla anserina ssp egedii	Silverweed	G5T?	S2	THREATENED
Rotala ramosior	Tooth-cup	G5	S2	THREATENED
Rumex maritimus var fueginus	Golden dock	G5T5	S1	ENDANGERED
Salicornia bigelovii	Dwarf glasswort	G5Q	S2S3	THREATENED
Scirpus maritimus	Seaside bulrush	G5	S1	ENDANGERED
Solidago elliotii	Coastal goldenrod	G5	S1	ENDANGERED
Tipularia discolor	Cranefly orchid	G4G5	S1	ENDANGERED
Tripsacum dactyloides	Northern gamma grass	G5	S2	THREATENED

** COMMUNITIES

Coastal salt pond	Coastal salt pond	G4	S1S2	UNPROTECTED
High salt marsh	High salt marsh	G4	S3S4	UNPROTECTED
Marine rocky intertidal	Marine rocky intertidal	G5	S1S2	UNPROTECTED
Maritime beach	Maritime beach	G5	S5	UNPROTECTED
Maritime dunes	Maritime dunes	G4	S3	UNPROTECTED
Maritime post oak forest	Maritime post oak forest	G3G4	S2S3	UNPROTECTED
Maritime red cedar forest	Maritime red cedar forest	G3G4	S1	UNPROTECTED
Red maple-sweetgum swamp	Red maple-sweetgum swamp	G4G5	S1S2	UNPROTECTED

Table II-18B Endangered, Threatened, Special Concern and Rare species of plants and wildlife found within Southold Town pre-1980

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	STATE LEGAL STATUS	FED. STATUS
** BEETLES					
Cicindela patruela consentanea	A tiger beetle	G3T2T3	SH	UNPROTECTED	
Nicrophorus americanus	American burying beetle	G2G3	SH	ENDANGERED	LE
** AMPHIBIANS					
Acris crepitans	Northern cricket frog	G5	S1	ENDANGERED	
** VASCULAR PLANTS					
Agrimonia rostellata	Woodland agrimony	G5	S2	THREATENED	
Asclepias rubra	Red milkweed	G4G5	SX	UNPROTECTED	
Aster concolor	Silvery aster	G4?	S1	ENDANGERED	
Bouteloua curtipendula	Side-oats grama	G5	S1	ENDANGERED	
Callitriche terrestris	Terrestrial starwort	G5	S2S3	THREATENED	
Cardamine longii	Long's bittercress	G3	S2	THREATENED	
Carex lupuliformis	False hop sedge	G4	S2S3	RARE	
Cyperus flavescens	Yellow flatsedge	G5	S1	ENDANGERED	
Cystopteris protrusa	Lowland fragile fern	G5	S1	ENDANGERED	
Desmodium ciliare	Little-leaf tick-trefoil	G5	S2S3	THREATENED	
Desmodium laevigatum	Smooth tick-clover	G5	SH	ENDANGERED	
Desmodium nuttallii	Nuttall's tick-clover	G5	SH	ENDANGERED	
Draba reptans	Carolina whitlow-grass	G5	S2	THREATENED	
Festuca saximontana	Sheep fescue	G5	S1	ENDANGERED	
Fimbristylis castanea	Marsh fimbry	G5	S2	THREATENED	
Helianthus angustifolius	Swamp sunflower	G5	S2	THREATENED	
Hypericum adpressum	Creeping st. john's-wort	G2G3	S1	ENDANGERED	
Juncus brachycarpus	Short-fruit rush	G4G5	S1	ENDANGERED	
Juncus marginatus var biflorus	Large grass-leaved rush	G5T5	S1	ENDANGERED	
Lespedeza stuevei	Velvety lespedeza	G4?	S2	THREATENED	
Oenothera laciniata	Cut-leaved evening-primrose	G5	S1	ENDANGERED	
Onosmodium virginianum	Virginia false gromwell	G4	S1	ENDANGERED	
Panicum scoparium	Velvet panic grass	G5	S1	ENDANGERED	
Paspalum setaceum var psammophilum	Slender beadgrass	G5T4?	S1	ENDANGERED	
Platanthera ciliaris	Orange fringed orchis	G5	S1	ENDANGERED	

Polygala lutea	Yellow milkwort	G5	S1	ENDANGERED
Polygala mariana	Pink milkwort	G5	SX	UNPROTECTED
Ranunculus micranthus	Small-flowered crowfoot	G5	S2	THREATENED
Rhynchospora inundata	Drowned horned rush	G3G4	S2	THREATENED
Sabatia stellaris	Sea-pink	G5?	S2	THREATENED
Sagina decumbens	Small-flowered pearlwort	G5	S1	ENDANGERED
Scleria pauciflora var caroliniana	Few-flowered nutrush	G5T4T5	S1	ENDANGERED
Sesuvium maritimum	Sea purslane	G5	S1	ENDANGERED
Strophostyles umbellata	Pink wild bean	G5	SH	ENDANGERED
Viburnum dentatum var venosum	Southern arrowwood	G5T4T5	S2	THREATENED
Vitis vulpina	Winter grape	G5	S1	ENDANGERED

Source: NYSDEC and The Nature Conservancy: *New York Natural Heritage Program Report for Town of Southold*

4. Upland ecology

Southold's diverse upland ecology reflects its close proximity to and inter-relationship with the marine and estuarine waters that surround it. The narrowness of the Town's main peninsula and Fishers Island; the small size of the offshore islands; the glacial history underlying the kettle holes; the numerous shallow, but broad drainage swales and the extreme indentation of the shoreline means that no ecological community lies more than a mile or two of either fresh or marine surface waters. The entire watershed of the Town's lands drain into its wetlands, ponds, creeks, estuary and sound waters thereby affecting the location and quality of the ecological communities that inhabit the transitional zone between land and sea.

The marine waters are sufficiently extant to exert a significant moderating influence on the regional and local weather. Marine waters retain heat longer than land masses, resulting in milder temperatures than is typically experienced to the west and north of the Sound. Additionally, because the more enclosed waters of the Peconic estuary are warmer than that of the ocean, the North Fork does not experience the same degree of air turbulence resulting from the mixing of cold ocean waters with warm offshore breezes. This meteorological influence on the Town's upland ecological communities should not be underestimated. For example, the specific micro-climate of the Southold mainland is the principle reason that most of Long Island's vineyards are located within the hamlets of Mattituck, Cutchogue, Peconic and Southold. The North Fork enjoys more days of sunlight than does the foggier South Fork: enough to make a crucial difference in the growing of premium wine grapes.

While the topography and geography of the Town have played a shaping role in the size and diversity of its upland ecological communities, its cultural history played an equally determinative role. The woodland, wetlands and marshes that probably dominated the landscape gave way to extensive cleared areas where colonists found productive soils. Even today the forested areas are usually indicative of less than productive soils for farming. The oldest settlements and residential enclaves within the Township typically can be found on the poorer, more clayey soils fringing the water's edge or behind the soundfront bluffs. Almost all of the farmland in Southold is ranked as having prime agricultural soils by the US Department of Agriculture. Large wooded areas can be found only on Fishers and Robins islands and Nassau Point, the latter of which is almost completely developed with residential dwellings.

The Town's agricultural lands comprise the bulk of the vacant upland open space areas within the Town. Interspersed with active fields are fallow fields and old field/meadows. Narrow woodland strips and hedgerows mark the edges of farmed fields, meadows, marshes and cultivated open spaces such as golf courses, parks and residential properties. Woodlands typically occupy soils of lesser agricultural productivity: a fact that is quite evident when looking at a soil map superimposed over an aerial photograph. Some small pockets of woodlands, typically called maritime forests, are ecologically unique due to the particular confluence of soils and marine waters at that particular site.

Forested areas are limited in size and extent within Southold, but they serve important functions: as groundwater recharge areas, as windbreaks against northerly winter winds, as wildlife habitat, as erosion continues and as aesthetic breaks in the largely flat terrain that characterizes a goodly portion of the Town.

As discussed in more detail in *Section II.C.1.i. (Existing Land Use and Development)*, the agricultural industry within the Town is very diverse. Because agricultural plots tend to be small, (compared to the thousands of acres typical of the average American corporate farm), the varied groundcover and associated agricultural management practices provides a patchwork of habitat types for various flora and fauna.

While a truly adequate description of the upland communities is not possible given their diversity and the lack of adequate documented field work, they can be broadly and briefly described as follows:

- Woodlands (Mixed hardwood, Pine, Maritime)
- Agricultural Fields
- Old Field/Meadow
- Wetlands (Fresh, Tidal, Salt Marsh)
- Maritime Habitats (Grasslands, Heaths, Beaches, Dunes)

Because agricultural fields, old fields and meadows undergo periodic and continuing human intervention, there is a constant state of flux characterizing these habitats.

Table II-19 lists typical vegetation of upland woodlands and abandoned fields in Southold. This listing does not include rare ecological communities such as maritime cedar forests, which are known to exist but have not been adequately documented and surveyed.

Table II-19: Typical vegetation of upland woodlands and abandoned fields in Southold

Mixed Hardwood Woodlands

Perhaps the richest forest vegetation on Long Island, featuring:

American Beech	<i>Fagus grandifolia</i>
White Oak	<i>Quercus alba</i>
Mature American Elm	<i>Ulmus americana</i>
Black Walnut	<i>Juglans nigra</i>
Sweet Birch	<i>Betula lenta</i>
Flowering Dogwood	<i>Cornus florida</i>
Red Maple	<i>Acer rubrum</i>
Sweetgum	<i>Liquidambar styrociplua</i>
Tupelo	<i>Nyssa sylvatica</i>
Yellow Poplar	<i>Liriodendron tulipifera</i>
White Ash	<i>Fraxinus americana</i>
White Pine	<i>Pinus strobus</i>
Northern Red Oak	<i>Quercus rubra</i>
Mockernut Hickory	<i>Carya tomentosa</i>
Pignut Hickory	<i>Carya glabra</i>

and many others.

Pine Lands

A rather uniform association in both physical appearance and species composition, with:

Pitch Pine	<i>Pinus rigida</i>
Scrub forms of Bear Oak	<i>Quercus ilicifolia</i>
Big Tooth Aspen	<i>Populus grandidentata</i>
Eastern Redcedar	<i>Juniperus virginiana</i> , mostly in old fields
Black Locust	<i>Robinia pseudoacacia</i> , mostly in old fields)

and originally some White Pine (*Pinus strobus*); now quite rare here.

Abandoned Fields

Abandoned fields contain weeds and wildflowers of many varieties and become good systems for tree seedlings to grow, but this depends greatly on the density of the surrounding vegetation. Vegetation common in these fields include:

Common Evening Primrose	<i>Oenothera biennis</i>
Barnyard Grass	<i>Echinochloa crusgalli</i>
Sandbur	<i>Cenchrus tribuloides</i>
Bristlegrasses	<i>Setaria spp.</i>
Panicgrasses	<i>Panicum spp.</i>
Carpetweed	<i>Mollugo verticillata</i>
Boneset	<i>Eupatorium perfoliatum</i>
Catbrier	<i>Smilax rotundifolia</i>
Broomsedge	<i>Andropogon virginicus</i>
Common Milkweed	<i>Asclepias syriaca</i>
Round-Headed Bush Clover	<i>Lespedeza capitata</i>
Winged Sumac	<i>Rhus copallina</i>
Goldenrods	<i>Solidago spp.</i>
Dandelion	<i>Taraxacum officianale</i>
Eastern Redcedar	<i>Juniperus virginiana</i>
Black Locust	<i>Robinia pseudoacacia</i>
Black Cherry	<i>Prunus serotina</i>

Source: Adapted from Szepatowski Associates, Inc., April 1987.

5. Tidal and freshwater wetlands

(i) Introduction

There are many wetlands associated with the shoreline fringes of the surface water areas of the Town of Southold. Wetlands have been classified by NYSDEC as either *tidal* or *freshwater*, based on the vegetation they support. The type of vegetation is largely determined by the salinity of the surface water and the degree of inundation. The depth of water and the predominance of certain vegetative species serve as indicators to help distinguish between different types of wetlands.

Wetlands are part of a complex hydrological/ecological system that is comprised of marine surface waters, fresh surface waters, groundwater, wetlands, and adjacent uplands. Both tidal and freshwater wetlands serve many ecological and environmental functions including: food production; wildlife habitat; flood, storm and hurricane protection; sedimentation control and filtration; nutrient and contaminant uptake; education and research; open space; recreation; and aesthetic appreciation.

There are a number of interactions between and among the components in the ecological network which must be considered. In many instances, inland freshwater wetlands serve the vital function of recharging groundwater reservoirs while filtering out potentially harmful substances from stormwater. The alteration of any one component can result in changes to other components. For example, the reduction of shoreline wetlands decreases the natural filtration or buffering capacity of a water body to assimilate sediment and nutrient loads. In the past, many wetlands were filled or dredged for agricultural purposes or development. In addition, in many places along the shoreline, wetland fringes have been replaced by bulkheading. Development within adjacent upland areas may also impact wetland systems via alterations of natural drainage patterns or the introduction of contaminants from stormwater runoff.

(ii) Tidal wetlands

Tidal wetlands are found along many creeks and inlets in the Town of Southold. The detailed study *The Marine Wetlands of Nassau and Suffolk Counties, New York*, (Marine Sciences Research Center, 1972) identified a total of 1,091 acres of tidal wetland within the Town. The survey identified 34 individual tidal wetland areas, the majority of which were dominated by smooth cordgrass (*Spartina alterniflora*). Most of these wetlands also support varying amounts of Common Reed (*Phragmites communis*). Common Reed is an invasive, exotic plant which typically dominates and out-competes native salt marsh vegetation under the proper hydrologic conditions and salinity levels. It is usually associated with disturbed areas that have been built up above the mean high water mark, or in areas with limited sources of salt water.

The largest contiguous tidal wetland areas in the Town are located in the Long Beach Bay/Hallocks Bay area in Reach 5. Another extensive tidal wetland complex is located around Cutchogue Harbor in Reach 8. This complex encompasses Wickham Creek, East Creek, Mud Creek, Broadwater and Haywater Coves. Other extensive tidal wetland complexes exist in Mattituck Inlet and Creek (Reach 1), in Dam Pond (Reach 4), along the Orient Causeway (Reach 5), in West and Downs Creek (Reach 8), and Brushes Creek in Reach 9. There are many smaller tidal wetlands scattered throughout Southold along the tidal inlets and creeks and although these are not part of a large complex and may only be a few acres in size, they still have important ecological values.

Tidal wetlands have been defined in the New York State Environmental Conservation Law as "*those areas which border on or lie beneath tidal waters, such as, but not limited to, banks, bogs, salt marsh, swamps, meadows, flats or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters..*" (ECL Sect 25-0103). Specific zones within tidal wetlands are further defined and delineated by the types of vegetation they support. NYSDEC has inventoried all the tidal wetlands in Southold and classified them according to the type of vegetation that they support.

These wetland classifications are as follows:

- **High Marsh or Salt Meadow** - the uppermost tidal wetland zone usually dominated by salt meadow cordgrass (*Spartina patens*), and saltgrass (*Distichlis spicata*); designated as HM on NYSDEC inventory maps.
- **Intertidal Marsh** - the vegetated zone generally lying between the average high and low tidal elevation, usually dominated by smooth cordgrass designated as IM on NYSDEC inventory maps.
- **Coastal Shoals, Bars and Mudflats** - the zone which is not vegetated and is covered by water at high tide, and is either exposed or covered by a maximum of one foot of water at low tide; designated as SM on NYSDEC inventory maps.
- **Littoral Zone** - the zone of open water with a maximum depth of six feet measured from mean low water elevation; designated as LZ on NYSDEC inventory maps.
- **Coastal Fresh** - these areas are uncommon in New York, and are found primarily where freshwater runoff is backed up by daily tides. They are usually bordered by rushes (*Juncus spp.*), cattails (*Typah spp.*), and brackish water cordgrass, as well as by pickerel weed (*Pontederia spp.*) and marsh roses (*Sabatia spp.*). This type of wetland is highly productive and has extremely high value for wildlife; designated as FM on NYSDEC inventory maps.
- **Formerly connected tidal wetlands** - includes wetlands which have been partially blocked from receiving normal tidal flows, or are in the process of being shut out. The original vegetative community still dominates, although the zone may also support a stand of common reed; designated as FC on NYSDEC inventory maps.

The locations of State designated tidal wetlands are indicated on [Map II-15](#). The Town Trustees require that the exact boundaries of tidal wetlands, as mapped by a wetland specialist, be shown on individual property surveys submitted for site plan review. The location and quality of the tidal wetlands are discussed in more detail in the Reach analysis in *Section II.J*.

(iii) Freshwater wetlands

Freshwater wetlands are scattered throughout the Town of Southold. The largest concentration of freshwater wetlands is located between Hashamomuck Pond and Chapel Lane in Reach 6. Known as Arshamomaque Preserve, this entire wetland complex is slated for preservation. Other significant freshwater complexes can be found in Moores' Woods, also in Reach 6 (owned by the Village of Greenport, but within the Town's jurisdiction), the area around Goldsmith's inlet, Peconic Dunes County Park and Great Pond in Reach 2, near Marion Lake in Reach 5, and around Laurel Lake, Horton Creek and Marratooka Lake in Reach 9.

Freshwater wetlands that encompass at least 12.4 acres in area, and smaller wetlands determined to be of unusual local importance, are regulated by the *New York State Freshwater Wetlands Act* (1975). The State definition of a freshwater wetland is contained in ECL Article 24 and is based on vegetation that are considered wetland indicators such as wetland trees and shrubs, emergent vegetation, rooted and free floating vegetation, wet meadow vegetation, bog mat vegetation, and submergent vegetation. Although NYSDEC does not map freshwater wetlands into distinct subclasses based on physical features and vegetative cover types as done for tidal wetlands, it does delineate freshwater wetlands over 12.4 acres on the freshwater wetlands maps.

Many freshwater wetland indicator species can be found in the Town of Southold, including:

- Wetland trees such as Red Maple (*Acer rubrum*), Willows (*Salix spp.*), Swamp White Oak (*Quercus bicolor*), Silver Maple (*Acer saccharinum*) and Black Gum or Tupelo (*Nyssa sylvatica*);
- Wetland shrubs including Alders (*Alnus spp.*), Buttonbush (*Cephalanthus occidentalis*), Sweet Pepperbush (*Clethra alnifolia*), Spicebush (*Lindera benzoin*), Leatherleaf (*Chamaedaphne calyculata*), and Highbush Blueberry (*Vaccinium corymbosum*);
- Wet meadow species such as Rushes (*Juncus spp.*), Sedges (*Carex spp.*); and
- Emergent and submerged plants including Cattails (*Typha spp.*), Arrowheads (*Sagittaria spp.*), Loosestrife (*Lythrum spp.*) and Waterlilies (*Nymphaea spp.*).

A number of freshwater wetlands have been identified by the Town of Southold, but have not yet been incorporated into the NYSDEC freshwater wetland inventory maps. During 1989, the Town conducted an inventory of freshwater wetlands utilizing 1988 aerial photographs, topographic information and limited field inspection. All fresh surface waters were included in this survey, regardless of size and characteristic vegetation. The relative location of each wetland was marked on a tax map. The Town has not yet evaluated the relative importance of each wetland area through field investigations, nor has it developed criteria for their best use and/or protection (McMahon, Town of Southold, February 14, 1991). A more detailed inventory still needs to be done, mapped and entered into the Geographic Information System.

The most recent State designation of freshwater wetlands on maps was completed in May 1993. See [Map II-15](#) for the general location of these wetlands. The Town Trustees require the flagging of the exact field boundaries of freshwater wetlands by either NYSDEC personnel, or by a recognized wetland specialist, and the flag locations must be verified by NYSDEC on a site-by-site basis. The location and quality of the designated freshwater within Southold are discussed in more detail in the *Section II. J. Reach Analysis*.

As can be seen on [Map II-15](#), there are a few areas where State designated tidal wetlands overlap with State designated freshwater wetlands. These occur principally on Fishers Island in the area of Island Pond, as well as in three smaller wetland areas; and on the Town's mainland near the Hashamomuck wetland system in Reach 6 and in several smaller wetland areas surrounding the Village of Greenport. Any proposed development activities near these wetland systems require approvals and permits from both the NYSDEC Bureau of Marine Habitat Protection (for tidal wetlands) and the NYSDEC Bureau

of Environmental Protection (for freshwater wetlands) until the State officially adjusts the boundaries by mid 1992 (Fishman, NYSDEC, March 8, 1991).

In addition to State regulations, some of Southold's wetlands are protected under the *Federal Clean Water Act, Riverhead Harbors Act of 1899*, the US Army Corps of Engineers *Title 33, US Environmental Protection Agency, Section 404 permit program*. These wetlands have been identified in the *National Wetlands Inventory* and can include wetlands as small as one acre. The federal wetlands are defined by three criteria: type of vegetation, period of inundation, and presence of hydric soils, whereas the state designated wetlands are defined by vegetation only. The federally identified and regulated wetlands within the Town of Southold are illustrated on [Map II-15](#).

All of the wetlands in the Town of Southold have experienced and continue to experience human disturbance. This includes bulkheading; filling and dredging; removal of vegetation; impacts from adjacent land uses; and impacts resulting from recreational activities, such as fishing, hunting and boating. The degree of impact depends on the nature and scale of human interactions within or adjacent to the wetlands.

Many of these impacts can be avoided or mitigated by avoiding incompatible use of the wetlands and adjacent land in the first place. Correspondingly one of the most effective ways to protect wetlands is to maintain an undisturbed, upland, natural vegetation buffer around the shoreline edge. Other management measures include established "Best Management Practices" for construction sites and farmland, stream corridor management, removal of trash and control of exotic species.

6. Shellfish and finfish resources

The marine waters in and around the Town of Southold support a variety of finfish, shellfish, and crustaceans. These marine organisms are important not only for their role as natural resources, but also because of the degree to which they support the Town's commercial and recreational fishing industry.

• Shellfish

Edible shellfish found in the Southold area include hard-shelled clams or quahogs (*Mercenaria mercenaria*), soft-shelled clams or steamers (*Mya arenaria*), surf clams, (*Spisula solidissima*), oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), blue mussels (*Mytilus edulis*), channeled whelk (*Busycon canaliculatum*) and knobbed whelk (*Busycon caricum*).

Soft-shelled clams are commonly found buried in the nearshore areas of bays and tidal creeks, while beds of surf clams are found in off-shore shoals in Long Island Sound. The hard-shelled clam is found generally near the top of sandy or muddy sand substrates in creeks, bays and along ocean beaches (Gosner, 1978). Quahogs are currently the most important commercial shellfish in Southold Town.

Bay scallops are typically found on coarse bay bottoms in the nearshore areas to depths of about 50 feet (Gosner, 1978). Bay scallops typically have a short life span of 18 to 22 months and adults generally have one spawning season, which occurs from late spring through summer. Bay scallops typically experience a mass mortality during the mid-winter of their second year. Although eelgrass beds

probably offer the ideal setting habitats, scallops have set throughout the Town's coastal waters even in areas devoid of vegetation.

The continued health of the bay scallop population is inextricably linked to water quality and the absence of the Brown Tide. Recent Brown Tide events nearly eradicated the bay scallops in the Peconic Estuary. Landing estimates are difficult to document thus are not discussed here in detail.

American oysters, commonly associated with riverine systems, can also be found in estuarine environments where the necessary conditions exist: a hard substrate for attachment and the proper salinity range. Oysters cannot tolerate the extremes of either freshwater (less than 5 parts per thousand) or marine water (upwards of 25 parts per thousand salinity) which is why they tend to flourish in Southold's tidal creeks. The mixing of freshwater from runoff and upland groundwater flows, and the saline bay waters results in a salinity level that can be tolerated by the oyster. As with scallops, it is uncertain as to the extent to which these are harvested either recreationally or commercially.

Blue Mussels are fairly widespread, especially in the Long Island Sound and Gardiners Bay. Blue mussels attach themselves to intertidal rocks, pilings, scattered shells and other mussels using tenacious byssal threads, often forming large shoals even on muddy tidal flats (Gosner, 1978). Whelks are commonly found throughout the Peconic Estuary and the Long Island Sound. Whelks are carnivorous sea snails which prey upon bivalves, such as oysters and clams. Chowder clams and surf clams also are harvested.

It is difficult to estimate the extent of the shellfish resource and its value. Landings data, based principally on commercial sales to dealers, do not give a complete picture because recreational landings and commercial catch sold directly to restaurants are not represented. Table II-20 notes estimated Landings for various shellfish species from 1973 to 1999.

Table II-20 Landings Data 1973-1999 - Southold

	Bushels Clam Hard	Bushels *Transplant Hard	Bushels Clam Soft	Bushels Oyster	Pounds Scallop
1999	36734	27504	144	256	5478
1998	32820	23953	430	364	757
1997	19297	24269	856	1627	4710
1996	28677	19863	176	1014	0
1995	19153	11042	463	1233	10803
1994	9809	18696	349	64	100149
1993	4066	13073	148	2386	6563
1992	4370	10605	234	2263	13954
1991	7303	5885	205	81	3784
1990	17798	20785	113	65	8803
1989	18031	175999	90	92	0
1988	3358	0	1059	161	0
1987	4593	0	76	111	0
1986	3167	813	79	296	2168
1985	2910	850	20	6768	58656
1984	1883	0	146	41827	140536
1983	1706	0	115	101604	96647
1982	1674	0	144	88934	232248
1981	1789	504	168	117252	131415
1980	1869	500	193	121621	168322
1979	1279	429	654	116029	138737
1978	2679	500	63	92850	65867
1977	2201	0	136	102006	97611
1976	3138	0	416	204172	217264
1975	2755	0	692	216112	96418
1974	2894	0	886	74297	191766
1973	1911	0	47	30450	51926

* This column denotes bushels of hard clams that were transplanted from uncertified waters elsewhere into certified waters within Southold Town.

Source: E-Correspondence, Daniel E. Lewis Shellfish Management Section, Bureau of Marine Resources, Division of Fish, Wildlife & Marine Resources, June 11, 2001

The Town Trustees attempt to manage the Town’s shellfish resources within Andros Patent lands. The shellfish and oyster resources outside of Patent lands, but within the Peconic Estuary, historically have been regulated and managed by the County pursuant to specific grants under New York State law. The County’s role in the management of this resource is detailed in a June 2002 report of the County’s Aquaculture Committee: *Policy Guidance for Suffolk County on Shellfish Cultivation in Peconic and*

Gardiners Bays. “Suffolk County has the sole authority under New York State law to issue shellfish cultivation leases in Peconic and Gardiners Bays where underwater lands are owned by New York State... To date, the County has not exercised this authority. However, Suffolk County was once very active in managing the ...area for oyster culture... (Policy, p. 13.)

The Executive Summary of this report made the following recommendations:

The Suffolk County Aquaculture Committee recommends that Suffolk County should endorse the following policy determinations pertaining to private shellfish culture in Peconic and Gardiners Bays:

- *Private shellfish aquaculture in Peconic and Gardiners Bays offers advantages to the people and economy of Suffolk County, if conducted in a manner and scale that does not cause undue conflict with other users of marine resources and space, or harm to the marine environment.*
- *Private shellfish aquaculture is a legitimate water-dependent activity that requires the provision of secure and equitable access to publicly owned marine space for private use.*
- *Equitable access for the prospective aquaculturist is achievable through a program that is buttressed by judicious site selection; that allows culture activity to be conducted at appropriate scale; that regulates the use of technology so as to protect marine resources and the environment; and that is rigorously monitored and enforced. (p.3)*

The report also recommended the development of a shellfish cultivation leasing plan in concert with the Peconic Estuary Program, the State of New York and local municipalities. In reference to this, the report notes:

In and of itself, the act of leasing lands for shellfish cultivation by Suffolk County would not be subject to coastal consistency provisions. However, shellfish cultivation activities involving town, state or federal approvals would be subject to coastal consistency, e.g., off-bottom culture/grow-out of shellfish in racks or cages. It is conceivable that a town could develop and adopt an LWRP with policies pertaining to aquaculture that would not be compatible with a County leasing program. In this case, a lease could be issued to an aspiring culturist, but the required state permits (e.g., off-bottom culture permit from NYS DEC) would be withheld, thus preventing use of the leased land for shellfish cultivation....The balkanization of the Peconic and Gardiners Bays at the town level with the respect to the future of private shellfish cultivation is something that should be avoided. LWRPs should make specific reference to the authority of Suffolk County to issue shellfish cultivation leases in Peconic and Gardiners Bays, i.e., Laws of 1969 Chapter 990. They should also discuss the interface between this authority and any town policies and recommendations pertaining to private shellfish cultivation in these offshore waters. This points to the need to develop and apply consistent guidelines and standards for the management of shellfish culture in the Peconic and Gardiners Bays region as a whole. (p.32)

Further details on County policy in this area is available in the following texts, both of which are available on line at <http://www.co.suffolk.ny.us/planning>: *Policy Guidance for Suffolk County on*

Shellfish Cultivation in Peconic and Gardiners Bays (June 2002); and Survey Plan for Shellfish Cultivation Leasing in Peconic and Gardiners Bays (April 2003)

- **Finfish**

There is considerable evidence that the Peconic Estuary is very important as a nursery and spawning ground for coastal fish. After conducting a survey of young fish and eggs in all Long Island coastal waters, Perlmutter (1939) concluded, "the general area extending from Great Peconic Bay eastward to Montauk Point and vicinity is relatively more important as a spawning and nursery area for most of the so-called summer fishes than any other region of the island".

Nearly 80 species of marine fishes are taken for home consumption from Long Island coastal waters, while dozens of others are taken for bait or commercial use. Marine finfish generally fall into four main categories as follows:

- **Anadromous fish**, such as shad (*Alosa sapidissima*), white perch (*Morone americana*), and striped bass (*Morone saxatilis*), spawn in Atlantic coast rivers, including the Hudson River. Young fish spend some time in spawning estuaries for growth and protection, and later engage in annual feeding migrations to coastal waters, returning as adults to spawn at their estuaries of origin every spring.
- **Estuarine fish**, such as winter flounder (*Pseudopleuronectes americanus*) and blackfish or tautog (*Tautoga onitis*) generally remain within an estuary throughout their lives. Seasonal changes in distribution may occur for these species, but most of the stock remains within local waters throughout its life cycle. This category also includes many of the principal bait fish including Atlantic silversides (*Menidia*), striped killifish (*Fundulus majalis*), and sand lance (*Ammodytes americanus*).
- **Coastal migratory fish** include some of our most popular food and sport fish such as bluefish (*Pomatomus saltatrix*), fluke or summer flounder (*Paralichthys dentatus*), weakfish (*Cynoscion regalis*), porgies or scup (*Stenotomus chrysops*), and sea bass (*Centropristis striata*). This category also includes the schooling baitfish, Atlantic menhaden or bunker (*Brevoortia tyrannus*). These species range from New England to the Carolinas and generally migrate inshore and north in the spring and summer, and offshore and south in the fall and winter. Most of these species spawn while the fish are away from New York, and young fish and adults move into our shallow coastal waters and estuaries in the spring. Others, such as weakfish, spawn as they move into our waters in the spring.
- **Offshore fish** such as Atlantic cod (*Gadus morhua*), whiting or silver hake (*Merluccius bilinearis*), tuna (*Thunnus spp.*), haddock (*Melanogrammus aeglefinus*), and several species of shark may or may not be migratory, but generally do not enter New York State waters in large numbers. Although some of these species may be taken in state waters, the greatest majority are taken from Federal waters within the 200 mile limit and are subsequently landed in New York and other neighboring states.

7. Shellfish closure areas

Nearly all of the coastal waters, embayments and tidal creeks surrounding the Town of Southold support shellfish. The location of these areas were summarized earlier in Table II-12 in *Section II.C.1.(iv) (b)* and illustrated on *Map II-9*. These areas are actively used for commercial and recreational shellfish harvesting. This water-dependent activity is examined in *Section II.C.1.(iv)*. In the recent past, the majority of these areas were open to shellfish harvesting. Over the past twenty years however, many have been closed due to an overall degradation of coastal water quality and rigorous enforcement of shellfish harvesting regulations. Table II-21 indicates this trend. Table II-22 reflects revised reporting standards on shellfish closure areas. The tidal creeks and nearshore areas are particularly subject to contamination from non-point sources associated with commercial and residential land-uses, boat docking or mooring areas, agricultural land uses and waterfowl concentrations.

NYSDEC, in cooperation with local conservation groups, routinely monitor the water quality in Southold's coastal waters as part of the Food and Drug Administration's (FDA) *National Shellfish Sanitation Program*. This monitoring is undertaken to determine if shellfish taken from these waters would be safe for human consumption. NYSDEC uses a systematic random sampling plan to monitor potential shellfish harvesting waters. These samples are typically taken six times a year independent of rainfall or storm events. Sampling takes place at ebbing tide or within one hour after low tide. (Daniel E. Lewis, Shellfish Management Section, Bureau of Marine Resources, Division of Fish, Wildlife and Marine Resources, NYSDEC, June 11, 2001)

Table II-21: Trends in Shellfish Closure Areas

Water body	Total Acres	Uncertified Area (acres) as of:				
		1/1/70	1/1/75	1/1/80	1/1/86	1/1/90
Eastern Long Island Sound	121,000	300	300	300	300	300
Goldsmith Inlet	20	0	0	0	20	20
Gardiners Bay	48,950	0	0	0	4	216
Orient Harbor	3,3560	0	0	0	0	8
Shelter Island Sound	9,450	90	180	180	209	326
Stirling Basin	135	135	135	52	55	55
Pipes Cove	370	0	0	0	0	0
Southold Bay	1,340	0	0	0	0	6
Hashamomuck Pond	170	0	5	5	170	170
Little Peconic Bay	13,725	0	0	0	0	0
Cutchogue Harbor	585	2	2	2	2	6
Great Peconic Bay	19,060	0	0	0	19	55
Fishers Island Sound	7,990	910	910	910	910	956
Block Island Sound	125,700	0	0	0	0	0

Source: NYSDEC, April 1990

Table II-22 Shellfish Closure Areas: 2000

SGA Number	Name	SG Area	Total Acres	Permanently Closed Acres Seasonally Closed Acres Conditionally Closed Acres
16	Plum Island Shore Line S. Plum Island STP Orient by the Sea	Gardiners Bay	847	Permanently – 845 Seasonally - 2
18	Shelter Island Heights STP Sage Pond Mill Creek Inn Boat Basin Budds Pond Mill Creek Green Port Harbor Gull Pond Goldsmiths Boat Basin	Shelter Island Sound North	268	Permanently – 203 Seasonally - 65
22	Paradise Point Basin Town & Jockey Creeks Inner Goose Creek Pettys Pond Inner Jockey Creek Harborlights Boat Basin Reydon Shores Boat Basin	Southold Bay	132	Permanently – 13 Seasonally - 119
23	Shiloh Baptist Church Hashamomuck Pond Outer Long Creek Inner Long Creek	Hashamomuck Pond	170	Permanently – 18 Seasonally – 134 Conditionally – 34
24	Inner Little Bay Orient Yacht Club Lathems Drain Narrow River	Hallock Bay Orient Harbor Hallock Bay Hallock Bay	77	Permanently – 40 Seasonally - 37
26	Richmond Creek	Little Peconic Bay	83	Seasonally -83
27	“Wickham Creek Marina” Schoolhouse Creek Outer East Creek “BroadwaterCove Marina” Inner East Creek	Cutchogue Harbor	80	Permanently – 27 Seasonally - 53
28	Halls Creek Brushes Creek James Creek Deep Hole Creek	Great Peconic Bay	104	Permanently – 20 Seasonally - 84
30	Outer Mattituck Creek Inner Mattituck Creek	Mattituck Creek	163	Permanently - 51 Conditionally - 112
36	Plum Island Shoreline North Greenport STP	Eastern Long Island Sound	1010	Permanently - 1010
51	Pirates Cove-Fishers Island West Island-Fishers Island Island Pond-Fishers Island	Fishers Island Sound	210	Permanently – 78 Seasonally – 132
52	Sterling Basin	Sterling Basin	51	Permanently - 51
67	Goldsmiths Inlet	Goldsmiths Inlet	23	Permanently - 23

Source: Daniel E. Lewis, Shellfish Management Section, Bureau of Marine Resources, Division of Fish, Wildlife and Marine Resources, NYSDEC, June 11, 2001

In addition, NYSDEC collects information on potential pollution sources including such items as storm drainage outfalls; discharges from sanitary sewers, septic systems or wastewater treatment plants; and pollutants associated with adjacent land uses. These are used to annually update their Shoreline and Pollution Source Surveys for each receiving water body. All this information is used to classify shellfish harvesting waters. The four classifications used by NYSDEC are as follows:

- ***Certified*** Approved for the taking of shellfish year-round.
- ***Uncertified*** Closed for the taking of shellfish at any time.
- ***Conditionally certified*** When rainfall exceeds the limit, the area is closed for seven days. If there is no rainfall event that exceeds the limit during the seven day period, the area will be open on the eighth day. *Conditionally certified* areas have elevated bacteria levels following the rainfall events. The source of the bacteria generally is from stormwater running off the land surfaces and into storm drains. During prolonged periods of dry weather *conditionally certified* areas generally meet NYSDEC water quality standards. Conditional shellfish openings are run by NYSDEC during the winter months. Based on water quality surveys, NYSDEC establishes a rainfall limit for individual areas.
- ***Seasonally certified*** Closed during summer months and reopened during the winter. The designation covers areas with seasonal pollution sources; e.g. marinas and mooring areas.

Except for certain coastal waters located off Plum Island, the NYSDEC has collected and analyzed sufficient data to classify the shellfish harvesting waters. The status of regulated shellfish waters in the Town of Southold during 2000 are indicated in Table II-23. *Map II-16* shows the location of impacted shellfish beds. A cautionary note: since the classification of shellfish areas can (and does) change, the status of shellfish areas must be checked each year by reviewing the latest map. Information on shellfish closures can be obtained from the NYS Department of Environmental Conservation at 631-444-0475. A map can be obtained at the Town Clerk's office when obtaining a shellfish permit or by accessing the following website:

<http://www.dec.state.ny.us/website/dfwmr/marine/shellfish/sfwtsh/southold.html>

The status of individual shellfish harvesting waters and the causes of their pollution problems are discussed in the Reach Analysis (Section II.J.). The certified and uncertified classification of waters reflects general trends for the water bodies listed, and may be subject to change if bacterial levels exceed the State standards. As noted above, the NYSDEC's Bureau of Shellfisheries should be

contacted prior to harvesting in conditional or seasonally certified waters to determine the exact closure boundaries.

Table II-23: Regulated status of town shellfish waters: 2000

	<u>Waterbody</u>	<u>Regulation</u>
Reach 1	Mattituck Creek: Mouth to Howards Creek	Conditional (varies year to year)
	South of Howards Creek to Head	Closed year-round
Reach 2	Goldsmiths Inlet	Closed year-round
Reach 3	Village of Greenport sewer outfall/ Clark's Beach	Closed year round
	Reach 4	Dam Pond
Reach 5	Long Beach Bay (Hallocks)	Open year-round
	Little Bay (part)	Closed 5/1 to 10/31
	Narrow River	Closed year-round
	Orient Harbor at Orient Yacht Club	Closed 5/15 to 10/31
	Gull Pond	Closed 4/1 to 12/14
Reach 6	Stirling Harbor	Closed year-round
	Sage Pond	Closed 5/15 to 10/31
	Pipes Creek	Open year-round
	Hashamomuck Pond/Mill Creek	Conditional (varies year to year)
	Budd's Pond	Closed 5/15 to 10/31
Reach 7	Beixedon Creek	Closed 4/15 to 12/31
	Town /Jockey / Creek	Closed 4/15 to 12/31
	Cedar Beach Creek	Open year-round
	Goose Creek: eastern portion	Open year round
	western portion	Closed 4/15 to 12/31
Reach 8	Corey Creek	Open year-round except for area south of Corey Condominiums
	Richmond Creek	Closed 4/1 to 10/31
	Little Hog Neck	Open year-round
	Little Creek	Open year-round
	Mudd Creek	Open year-round
	Haywaters Cove	Open year-round
	Broadwaters Cove	Closed 5/1/ to 11/30
	East Creek : upper half	Closed 4/15 to 12/31
	lower half	Open seasonally
	Wickham Creek: Head	Open year-round
	Mouth (near Cutchogue Harbor Marina)	Closed 5/15 to 10/31
	Schoolhouse Creek	Closed year-round
	West Creek	Open year-round
Downs Creek	Open year-round	

Table II-23: Regulated status of town shellfish waters: 2000

Reach 9	Halls Creek	Closed 5/1 to 11/30
	James Creek	Closed 5/1 to 11/30
	Brushes Creek	Closed year-round
	Deep Hole Creek	Closed 5/1 to 11/30
Reach 10	Silver Eel Creek	Closed year-round
	West Harbor (inner)	Closed year-round
	West Harbor (outer)	Closed 5/15 to 9/30
	Island Pond	Closed year-round
	East Harbor	Open year-round

Sources: NYSDEC, Suffolk County Office of Ecology, April 1994. Updated NYSDEC October 1996*, August 2000, October 2000**

*Maureen Davidson's letter of Oct 28, 1996 indicates Goldsmith's Boatshop and Mill Creek Inn and Marina as seasonally uncertified from May 15 through October 31, Hashamomuck Pond - seasonally certified opening December 1 closing April 30, Long Creek uncertified.

**Kenneth Koetzner, Chief, Shellfisheries Section, NYSDEC, Division of Fish, Wildlife & Marine Resources, Bureau of Marine Resources.

Finally, the NYSDEC sets a radius of closure around all sewage treatment plant outfalls as a precautionary measure to protect human health as recommended by the *National Shellfish Sanitation Program*. These safety zones typically encompass the waters that could potentially be polluted by sewage effluent in the event of a plant failure plus a buffer zone. In Southold, the areas around the Village of Greenport's sewage treatment plant outfall, off Clark's Beach on Long Island Sound, and the outfall of the Shelter Island Property Owner's Corporation sewage treatment plant, on Shelter Island Sound near Fanning Point, are closed to shellfishing.

The *National Shellfish Sanitation Program* (NSSP) recognizes marinas as possible sources of fresh fecal contamination due to the discharge of untreated or improperly treated sewage from the holding tanks of docked boats. The NSSP recommends classifying of marinas as seasonally or conditionally certified so as to prevent the harvest of potentially contaminated shellfish.

8. Submerged aquatic vegetation

The *Submerged Aquatic Vegetation Study* (Cashin Associates, 1995), prepared for the *Peconic Estuary Program*, highlighted the important habitat values of submerged aquatic vegetation (SAV) in the Peconic Estuary. SAV, within the context of this study, is given a broad definition and "pertains to all types of multicellular plant species found within the Peconic Estuary. This includes not only rooted aquatic vegetation (e.g. eelgrass and widgeon grass), but also attached and unattached macroalgae (i.e. green fleece, rock weed, brushy redweed, lacy redweed, sea lettuce, kelp, etc.)" (Cashin Associates, 1995, p1). Intertidal marsh grasses were not considered to be SAV.

The study recognized SAV beds as “one of the most important habitats in the Peconic Estuary” the status of which “serves as an indicator of the overall health of the Estuary” (Cashin, 1995 p1). It identified the following essential habitat functions played by SAV.

- SAV beds are responsible for a large portion of the primary production that forms the base of the Estuary’s food chain.
- SAV provides nursery areas, and shelter and protection for various species of finfish and invertebrates, many of which are of recreational or commercial importance.
- SAV provides surfaces for the attachment of various epiphytes and epifauna, which increases species diversity and abundance compared to areas that lack vegetation.
- Eelgrass is an especially important habitat for the bay scallop (*Argopectin irradians*), which historically has been an important commercial resource in the Peconic Estuary.

(Cashin Associates, 1995, p1)

The study also identified the strong and generally positive effect that SAV has on certain physical and chemical processes in the Peconic Estuary. These include:

- All SAV is involved in nutrient cycling, since these plants absorb nutrients (e.g., nitrogen and phosphorus) from the surrounding environment, and re-release those nutrients through organic decay.
- Rooted SAV stabilizes bottom sediments, even through the enormous stresses of hurricanes and northeast storms.
- SAV slows current and waves in the near-bottom zone and thereby, promotes sedimentation of particles from the water column, inhibits resuspension of previously settled particle, and moderated water column turbidity.”

(Cashin Associates, 1995, p2)

In the past, the lack of data on the abundance, distribution and density of SAV within the Peconic Estuary had hampered planning and management efforts for those ecological resources associated with SAV. The completion of the study of SAV has helped to remove this obstacle, improving the existing information base and providing a more detailed understanding of the current and historical status of SAV in the Peconic Estuary. The study involved a thorough review of existing information on the distribution and importance of SAV in the Peconic Estuary, an extensive field survey of SAV beds, and analysis of current and historical aerial photography.

Previous studies of SAV in the Peconic Estuary focused on eelgrass (*Zostera marina*) because of its association with the commercially important bay scallop. Historically, eelgrass was drastically effected by a “wasting disease” that led to a catastrophic decline throughout its North American and European range during 1931 and 1932. This disease “led to the destruction of an estimated 90 percent of the eelgrass along the Atlantic coast” Cashin Associates,1995, p12). The effects of the disease included both geomorphic changes to the site of eelgrass beds and changes to biological communities in the vicinity of the eelgrass beds. Recolonization of eelgrass beds occurred over the decades, based on remnant eelgrass populations in areas that had survived the wasting disease in areas of low salinity.

In addition to the impacts of disease, “human activities recently have also exhibited a strong influence on the patterns of eelgrass distribution and abundance” (Cashin Associates, 1995, p14). Nutrient loading to surface water, due primarily to stormwater runoff and sewage effluent, can spur phytoplankton growth. Excessive growth or “blooms” of phytoplankton reduce the water column transparency and so decrease the amount of light penetration to a level that eelgrass beds are unable to survive. Elevated nutrient levels can also lead to macroalgae domination and excessive epiphyte growth, both of which can impair the ability of eelgrass to survive. Eelgrass populations are also known to be effected by short term variations in abundance and distribution caused by climatic and seasonal factors.

Eelgrass studies were also conducted within the Peconic Estuary in association with the *Brown Tide Comprehensive Assessment and Management Program* (SCDHS, 1992). This program focused on the effects of the Brown Tide on the Peconic Estuary. It included an examination of the possible impacts of the Brown Tide on the distribution and abundance of eelgrass within the estuary. Brown Tide is an extensive bloom of the phytoplankton *Aureococcus anophagefferens*. Brown Tide events have affected the Peconic Estuary since 1985. Specifically, the normal depth of light penetration is greatly reduced during a Brown Tide bloom. This shading effect has been a cause of the reported loss of eelgrass in the Peconic Estuary, with a resulting impact on the bay scallop resources.

The *Submerged Aquatic Vegetation Study* (Cashin Associates, 1995) attempted to provide a more current understanding of the distribution and abundance of SAV in the Peconic Estuary. It found that, “in general, SAV in the Peconic Estuary does not comprise large continuous beds. Rather, the beds have a patchy distribution, with areas of relatively or fully barren bottom interspersed with vegetated areas” (Cashin Associates, 1995, p24).

Only two sea grasses were found growing within the Peconic Estuary. These were eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*). Eelgrass was by far the most abundant of these species. No eelgrass was found in the waters west of Shelter Island. Within the Town of Southold, eelgrass was found near Mill Creek (reach 6), throughout Orient Harbor and around the mouth of Hallock Bay (Reach 5), while widgeon grass was found in Broadwater Cove (Reach 8).

Two species of green seaweeds were found in the Peconic Estuary. These were green fleece (*Codium fragile*) and sea lettuce (*Ulva lactuca*). Green fleece is a weed that displaces native vegetation, resulting in a general decrease in the habitat value of an SAV bed. It was found to be distributed throughout the Peconic Estuary, occurring at the transition zones between shallower and deeper waters, although it was not found in shallow today creeks or in exposed locations in open waters. It was often the dominant SAV type in SAV beds and is by far the most dominant SAV type in the Peconic Estuary. Sea lettuce was less abundant and not so greatly distributed as green fleece. It was clustered in the inner and northern central portions of the Estuary, confined to the relatively quieter waters of tidal creeks and shallow embayments. “The occurrence of sea lettuce as a dominant component of the vegetative community is an indication of nutrient enrichment and generally stressed environmental conditions” (Cashin Associates, 1005, p.59). Mixed red algae and mixed brown algae were also dominant SAV types within the Peconic Estuary, although no one species of these types achieved dominance. Both types were distributed throughout the estuary.

The analysis of historic changes in SAV distribution conducted as part of the *Submerged Aquatic Vegetation Study* (Cashin Associates, 1995) identified several locations where eelgrass was expected to be found, yet field surveys showed the locations to be “either entirely devoid of SAV or were dominated by macroalgae, especially green fleece (*Codium fragile*)” (Cashin Associates, 1995, p52). In analyzing the changes in abundance and distributions, the study found that “it does not appear that there has been a single factor affecting the observed trends in the historical distribution of eelgrass within the Peconic Estuary system during the period between 1965 and the present. Rather, it is probably a multitude of factors working in consort on a more localized level which determine the spatial extent of a specific eelgrass bed at any given time, its expansion, recession, density and species composition” (Cashin Associates, 1995, p53).

The historical analysis carried out in the study “could not identify a consistent trend for the 1969 to 1980s and 1980s to 1994 time frames examined. Any overall decline in eelgrass abundance that may have been induced by brown tide episodes in the 1980s could not be detected in the analysis of historical photographs at selected study sites” (Cashin Associates, 1995, p54). Recent anecdotal evidence, field survey work and a review of aerial photographs suggest “that a substantial die-off of eelgrass may be ongoing in the middle and outer Estuary at the present time.... The observed symptoms may be indicative of another wasting disease epidemic; however, this has not been substantiated. This die back does not appear to be attributable to normal seasonal variation because of its apparent severity” (Cashin Associates, 1995, p55).

Several of the sites historically associated with eelgrass were located within the Town of Southold. Anecdotal information suggested these locations once featured extensive eelgrass beds. No eelgrass was found on the northeast corner and eastern shoreline of Robins Island, although various macroalgae was found along the entire shoreline (Reach 8). Similarly, no eelgrass was present in Hog Neck Bay (Reach 7), although thin beds of various macroalgae were present. In Southold Bay (Reach 6/7/), extensive eelgrass beds were expected to be found, however, only narrow, sparsely vegetated eelgrass beds were present, although analysis of aerial photographs suggest the overall coverage of SAV has increased slightly over the last 25 years. These beds had been damaged by shellfish harvesting. Finally no SAV beds were present in Pipes Cove (Reach 6). Eelgrass beds within Orient Harbor (Reach 5) did not appear to change significantly over the 25 year period studied. However, the extent of eelgrass beds located to south of Long Beach (Reach 5) in Gardiners Bay appears to have increased dramatically since 1969.

The overall findings of the *Submerged Aquatic Vegetation Study* (Cashin Associates, 1995) showed that “a significant inventory of eelgrass remains despite the occurrence of successive brown tide events starting in the mid 1980s, historic (and possible on-going) losses due to wasting disease, phytoplankton blooms and enhanced epiphyte growth due to nutrient enrichment, and other adverse impacts” (Cashin Associates, 1995, p64). These somewhat encouraging findings should not suggest that there is no need for careful management of the estuary’s SAV resources. The study identified several trends in the abundance and distribution of SAV, most notably eelgrass, that suggest a need to preserve and restore this important ecological resource. These trends included:

- the absence of eelgrass and the relative abundance of sea lettuce in the western Peconic Estuary. This indicates an elevated level of environmental stress, with nutrient enrichment resulting from development and reduced flushing being the main cause. This demonstrated the need to reduce the human impacts on the inner estuary.
- the somewhat lower than average density and abundance of eelgrass and the presence of some sea lettuce dominated SAV beds in the central portion of the Peconic Estuary indicating a diminished overall health of this portion of the estuary.
- the apparent good overall health of the eastern Peconic Estuary is demonstrated by the dense and widespread eelgrass beds and absence of sea lettuce. However the prevalence of green fleece throughout this portion of the estuary suggests that these waters are also subject to SAV impacts.
- the apparent general decline of eelgrass beds throughout the Peconic Estuary.

The *Submerged Aquatic Vegetation Study* (Cashin Associates, 1995) provided a number of management objectives for restoring SAV in the Peconic Estuary. These included:

- a reduction in discharge of nutrients to the Peconic Estuary in order to minimize the occurrence of phytoplankton blooms; reduce the displacement of eelgrass by macroalgae; and control the growth of epiphytes on the surface of SAV
- the completion of projects to establish eelgrass meadows in selected areas of the Peconic Estuary
- undertaking additional field studies to define short and long-term trends in the distribution, abundance and density of SAV in the Peconic Estuary
- investigations to determine the conditions that favor the spread of green fleece in order to develop a management approach that will halt or reverse the spread of green fleece and lead to the re-establishment of native SAV varieties
- identification of the trigger mechanism that initiates relapses of eelgrass wasting disease

The study recommended a number of areas in Southold that should be used in the implementation of these recommendations. It identified the western shoreline of Hog Neck Bay (Reach 7) and the eastern shoreline of Robins Island (Reach 8) as initial sites suitable for the re-establishment of eelgrass beds. Environmental conditions at these sites are similar to those found at existing beds which have produced vigorous stands of eelgrass, and although neither sites currently exhibit any eelgrass, they are prime candidates for restoration. It identifies the northern portion of Southold Bay (Reach 6/7) and the northern and eastern portion of Orient Harbor, Hallock Bay and Long Beach (Reach 5) as sites that warrant future SAV monitoring. All these sites currently support healthy eelgrass beds or mixed SAV populations with eelgrass significantly represented.

This research was updated in 2003 by researchers with the U.S. Fish and Wildlife Service (Tiner, Bergquist, Siraco and McClain). In their report (*An Inventory of Submerged Aquatic Vegetation and Hardened Shorelines for the Peconic Estuary*), Southold was found to have the greatest length of hardened shoreline (12.6 miles), more than twice that of the next town down the list, Southampton. It had the most docks and the longest total dock length of any town on the Peconic Estuary. Southold also

contains about 775 acres of SAV within its boundaries, second only to East Hampton. The report recommended annual surveys of SAV in order to better understand and manage the resource.

It is important to note here that the management plan for the Peconic Estuary Program recommends a “no net increase” policy with regard to the creation of additional shoreline hardening within the estuary.

9. Submerged aquatic vegetation

The Town of Southold contains expansive coastal waters. The mainland of Southold is bordered to the north by Long Island Sound and to the south by the Peconic Estuary, which consists of Great Peconic Bay, Little Peconic Bay, Orient Harbor, Gardiners Bay and several smaller embayments. There are two tidal inlets located on the Sound shoreline, the Mattituck Inlet and associated Mattituck Creek, and Goldsmith's Inlet, while numerous creeks and tributaries feed into the coastal waters of the Bays.

Great Peconic Bay is bounded on the north by land areas within the Towns of Riverhead and Southold, and to the south by lands within the Town of Southampton. It has a surface area of approximately 30 square miles and an average depth of 15 feet. The deepest portion of Great Peconic Bay occurs in the south-eastern section where depths of 26 to 36 feet are attained, from approximately 0.5 miles northeast of the Shinnecock Canal to 0.5 miles southwest of Robins Island (BBA, Inc. Navigational Charts, 1989). The mean tidal range is 2.5 feet.

According to the *Brown Tide Comprehensive Assessment and Management Program* (SCDHS, 1992), the groundwater and stormwater contributing area for the Great Peconic Bay includes the hamlets of Laurel and Mattituck in the Town of Southold, and Jamesport in the Town of Riverhead, as well as Southport, Squiretown and Shinnecock Hills in the Town of Southampton. The tributary areas are bounded on the north fork by the east-west groundwater divide located midway between NY Route 25 and County Route 48. Seven creeks flow into Great Peconic Bay from the Town of Southold, including from west to east: Brushes Creek, James Creek, Deep Hole Creek (Reach 9), Halls Creek, Downs Creek, West Creek, Wickham Creek, East Creek, Mud Creek and the associated Haywater and Broadwater Coves, all in Reach 8. In addition, Wunneweta Pond outlets at Nassau Point in Reach 8.

Little Peconic Bay is situated immediately east of Little Hog Neck and is bounded on the north by land areas within the Town of Southold to the north and the Town of Southampton to the south. It has a surface area of approximately 22 square miles and an average depth of 21 feet. The deepest portion of Little Peconic Bay occurs in the southeastern section between Cedar Beach Point in Southold and Jessup Neck in Southampton, where depths ranging from 58 to 70 feet are found. (BBA, Inc. Navigational Charts, 1989). The mean tidal range is 2.4 feet.

According to the SCDHS *Brown Tide Study*, the groundwater and stormwater contributing area for the Little Peconic Bay includes parts of East Cutchogue, Peconic, Bayview and Cedar Beach in the Town of Southold, and the hamlets of North Sea, Roses Grove, and a portion of Noyac in the Town of Southampton. The northern boundary of the tributary area lies within the Town of Southold along the groundwater divide, which is located approximately midway between the NY Route 25 and County Route 48. Several creeks feed into Little Peconic Bay from the Town of Southold including: Little Creek in Reach 8; and Richmond Creek, Corey Creek and Cedar Beach Creek in Reach 7.

Shelter Island Sound takes on several different local names along the southern shoreline areas of the Town of Southold. The northwestern portion of Shelter Island Sound between Paradise Point (Reach 7) and Conkling Point (Reach 6) is also referred to as Southold Bay. Immediately northeastward, the water area located between Conkling Point and Fanning Point, in the Village of Greenport, is known as Pipes Cove. Further eastward, the water area located between the Village of Greenport and Shelter Island is referred to as Greenport Harbor.

Shelter Island Sound has an average depth of 48 feet and a mean tidal range of 2.4 feet. The deepest portion of Shelter Island Sound occurs along the north side of Shelter Island, where depths up to 93 feet have been recorded (BBA, Inc., Navigational Charts, 1989). NY Route 25 marks the northern extent of the groundwater and stormwater contributing area into Shelter Island Sound. The Sound is also bounded by land in the Towns of Shelter Island, East Hampton and Southampton. Six creeks discharge into the Shelter Island Sound in the Town of Southold, including: Goose Creek, Jockey Creek, and Town Creek in Reach 7; Hippodrome Creek, Hashamomuck Pond, and Moores Drain in Reach 6; and Sterling Basin in the Village of Greenport.

Gardiners Bay includes the remainder of the bayside water areas off the mainland of Southold (Reach 5), reaching from Cleaves Point in the west to Plum Island in the east. The entire area of Gardiners Bay encompasses 76 square miles. Gardiners Bay has an average depth of approximately 21 feet and a mean tidal range of 2.5 feet. Gardiners Bay reaches approximately 120 feet in depth at its deepest point, midway between Plum and Gardiners Island (BBA, Inc., Navigational Maps, 1989). The hamlets of East Marion and Orient lie within the groundwater and stormwater contributing area for Gardiners Bay, as do several hamlets within the Town of East Hampton. NY Route 25 marks the northernmost extent of tributary area within the Town of Southold.

The oceanic waters of Fishers Island Sound and Block Island Sound surround Fishers Island (Reach 10) to the north and south, respectively. The coastal shoreline of Fishers Island is rugged and irregular, and contains a number of coves and harbors. Located from west to east these include the inlet to Silver Eel Pond, Hay Harbor, West Harbor, Chocomount Cove, and East Harbor on the northern shoreline, and Barley Field Cove on the southern shoreline. In addition, Island Pond has a tidal opening on the southern shoreline.

Development is concentrated at the far western end of Fishers Island, especially around West Harbor, Hay Harbor and Silver Eel Pond. West Harbor encompasses upwards of 165 acres of underwater land and has an average depth of approximately 3 feet near the head of the Harbor and 10 feet at the mouth. Hay Harbor encompasses approximately 60 acres and has an average depth of 7 feet. The tidal range of both harbor areas is about 2.5 feet. Silver Eel Pond is a small tidal inlet of approximately 5.5 acres, with an average depth of 14 feet.

There are four large inland surface fresh water bodies on the mainland of Southold. These include Laurel Lake and Marratooka Lake in Mattituck (Reach 9), Great Pond in Peconic (Reach 2), and Marion Lake (Reach 5). There are also several large ponds on Fishers Island (Reach 10) including Barlow, Brickyard Island, Middle Farms, Treasure and Beach Ponds, and one large pond on Robins Island (Reach 8).

(i) Water quality

Overall, the water quality of the open coastal waters of Long Island Sound and the major bay areas surrounding the Town of Southold is relatively good as compared with the harbors, embayments and sound waters located further west on Long Island. Water quality classifications have been assigned by NYSDEC to all surface waters in the Town of Southold, pursuant to *Title 6, Chapter 10 of the Codes, Rules and Regulations of New York State* (NYCRR). These water quality classifications are summarized in Table II-24. These classifications are based on the potential best usage of a waterbody and set attainment goals and discharge standards for point sources, but do not necessarily indicate existing water quality conditions.

The parameters used to define these standards are coliform bacteria concentrations (both total and fecal), levels of dissolved oxygen (DO), total suspended solids, and turbidity in the water column, with guidance values for toxic wastes and other deleterious substances. Adequate DO concentrations are necessary for sustaining shellfish and finfish populations. The presence of coliform bacteria in surface waters serves as an indicator of potentially pathogenic contamination due to human or animal waste.

The water quality classifications assigned by NYSDEC to the surface water bodies of the Town of Southold summarized below. The major coastal waters surrounding the Town of Southold, including eastern Long Island Sound, Great Peconic Bay, Little Peconic Bay, Shelter Island Sound and Gardiners Bay, are all classified as SA. In general, the open waters of the Peconic Estuary east of Great Peconic Bay benefit from increased flushing rates and mixing with cleaner oceanic waters. This serves to disperse contaminants and minimize water quality impacts due to point and non-point pollution sources.

The main tidal creeks which outlet into the Long Island Sound or the Peconic Estuary are predominately classified as SA. A limited number of smaller embayments and tidal creeks on the Peconic Estuary are classified as SC. These areas are characterized by reduced tidal flushing at the heads of shallow sluggishly circulating inlets and embayments that typically experience surface water quality degradation. Many of these embayments and inshore areas were formerly the most productive shellfish areas. However, recent changes to surface water quality have impacted this resource. These are generally surrounded by residential development or harbor marinas. Inlet Pond and Munns Lake, located on the northern shoreline, are classified as SD. The freshwater tributaries which feed into the tidal creeks and coastal shorelines are predominately classified as C.

Table II-24 NYSDEC Surface Water Quality Classifications

Fresh water classification

	<u>Best usage</u>
AA	Source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.
A	Source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.
B	Primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.
C	Fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
D	Fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Marine water classification

	<u>Best usage</u>
SA	Shellfishing for market purposes, primary and secondary contact recreation, and fishing. These waters shall be suitable for fish propagation and survival.
SB	Primary or secondary contact recreation and any fishing. These waters shall be suitable for fish propagation and survival.
SC	Fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
I	Secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.
SD	Fishing. These waters shall be suitable for fish survival. This classification may be given to those waters that, because of natural or manmade conditions cannot meet the requirements for primary and secondary contact recreation and fish propagation.

NOTE: Table based on information in *6NYCRR Parts 700-705, Water Quality Regulations for Surface Waters and Groundwaters, effective September 1, 1991.*

The above-noted Classes are defined according to best usage. Primary contact recreation examples: swimming, diving, surfing. Secondary contact recreation examples: fishing, boating.

(ii) NYSDEC water quality standards and the PWP/PWL listings

By classifying waters as SA, NYSDEC has set a management goal to achieve a level of water quality which is capable of supporting shellfish harvesting. This does not imply that the waters which are so designated are always considered harvestable. Although much of Southold's coastal waters are classified as SA, many of these same water bodies are not certified for direct market harvesting of shellfish. The current state of shellfish closure areas are discussed in *Section II.E.7*.

The *Priority Water Problem List (PWP)*, produced by NYSDEC, identified the waters of the state "which have one or more of its uses that are not fully supported or are threatened by declining water quality" (NYSDEC, 1993, p1). In 1996, NYSDEC retitled this listing as the *Priority Waterbodies List (PWL)*. This list is used as a base for water program management. This list is issued every two years and over the years the breadth of information, particularly with respect to the problems caused by non-point source pollution has increased. This resulted in a doubling of waterbody problem listings between 1989 and 1991 to 1,429. The 1993 statewide PWP list contained 1,469 segments of waterbodies with an impairment of water quality. The current PWL, produced in 1996, contains 1,426 segments of waterbodies with an impaired water quality. It is important to note that these changes do not necessarily indicate a major decline in water quality, but rather may reflect the development of more accurate and reliable methods of quantifying and assessing water quality problems.

The NYSDEC divides the causes or sources of water quality impairment into two major categories:

Point Source

Municipal, industrial and private sewage or discharges either treated or untreated. Also includes combined sewer overflows (CSOs) which by design discharge a mixture of municipal sewage and stormwater runoff during significant storm events.

Non-point Source

Essentially all other sources of pollutants which are not discharged through either a treatment plant effluent, outfall pipe or sewage collection system. This category includes urban/storm runoff from streets, highways, and parking areas, agricultural runoff, runoff from construction sites, leachate from landfills, and hazardous waste disposal sites, chemical and petroleum spills, contaminated sediments, streambank/roadbank erosion, and groundwater contaminated by on-site septic systems. Although storm sewers are now considered "point sources" with respect to regulation by discharge permit, they are included in this report with non-point sources since the reduction of pollutants from them will rely on non-point source control technology, i.e., best management practices.

(NYSDEC, 1993, p6)

These distinctions are discussed in more detail below.

In 1988, NYSDEC issued a *Priority Water Problem List* which rated the following segments of waterbodies located in the Town of Southold as "high" priority: Mattituck Inlet (Reach 1), Goldsmith

Inlet (Reach 2), and Hashamomuck Pond (Reach 6). In each case, the problem severity was rated "severe" indicating that the designated use was precluded or not supported by the water quality, and the impaired use of these SA classified waters was shellfishing. Urban runoff and on-site septic systems were identified in all cases as the primary cause of the problem, with boat pollution listed as an additional source for Mattituck Inlet.

An important refinement to the development of the PWP List was the re-evaluation in 1989 of waterbodies with deteriorated water quality to determine the degree or severity of water quality problem. This classified the degree of primary use impairment as either precluded, impaired, stressed or threatened. These categories are defined as follows:

- **Precluded:** Water quality and/or associated habitat degradation precludes, eliminates or does not support a classified use; natural ecosystem functions may be significantly disrupted. This category is used for the most severe impacts.
- **Impaired:** Water quality and/or habitat characteristics frequently impair a classified use. Also applied when the designated use is supported, but at a level significantly less than would otherwise be expected. Natural ecosystem functions may be disrupted. These waters have severe impacts.
- **Stressed:** Reduced water quality is occasionally evident and designated uses are intermittently or marginally restricted; natural ecosystem may exhibit adverse changes. These waters have moderate impacts.
- **Threatened:** Water quality presently supporting designated use and ecosystem experiencing no obvious signs of stress; however, existing or changing land use patterns may result in restricted usage or ecosystem disruption. These waters have the least impacts.

(NYSDEC, 1993, p5)

The following waterbodies in the Town of Southold were classified as impaired and placed on the 1991 NYSDEC *PWP List*:

	<u>Water Body</u>	<u>Impaired Usage</u>
Reach 1	Mattituck Inlet	Precluded for Shellfishing
Reach 2	Goldsmith Inlet	Impaired for Shellfishing
Reach 6	Hashamomuck Pond	Precluded for Shellfishing
Reach 7	Southold Harbor	Impaired for Shellfishing
Reach 8	Cutchogue Harbor	Precluded for Shellfishing
Reach 9	Marratooka Pond	Threatened for Finfish Survival
Reach 10	West Harbor	Precluded for Shellfishing

(NYSDEC, 1991)

The primary sources of the water quality problems in these water bodies were inputs of non-point source pollution, including urban and stormwater runoff, and to a lesser extent, waterfowl wastes and boat pollution. Pathogens, and to a lesser extent, nutrients and sediments, were the main type of pollutant. In addition, Stirling Basin, located in the Village of Greenport, is Precluded for Shellfishing.

A further update of the PWP List took place in 1993. Eight new waterbody segments with identified water quality impairments were added in the Town of Southold (NOTE: Southold Bay was double counted in the PWP Listing, appearing as Southold Bay and Southold Harbor).

The following waterbodies in the Town of Southold were classified as impaired and placed on the 1993 NYSDEC PWP List:

	<u>Water Body</u>	<u>Impaired Usage</u>
Reach 1	Mattituck Inlet	Precluded for Shellfishing
Reach 2	Goldsmith Inlet	Impaired for Shellfishing
Reach 3	Long Island Sound (East)	Precluded for Shellfishing
Reach 5	Gardiners Bay	Precluded for Shellfishing
	Orient Harbor	Impaired for Shellfishing
Reach 6	Hashamomuck Pond	Precluded for Shellfishing
	Shelter Island Sound	Precluded for Shellfishing
Reach 7	Little Peconic Bay	Impaired for Shellfishing
	Southold Bay	Impaired for Shellfishing
	Southold Harbor	Impaired for Shellfishing
Reach 8	Cutchogue Harbor	Precluded for Shellfishing
Reach 9	Marratooka Pond	Threatened for Finfish Survival
	Laurel Pond	Threatened for Finfish Survival
	Great Peconic Bay	Impaired for Shellfishing
Reach 10	West Harbor	Precluded for Shellfishing
	Fishers Island Sound	Precluded for Shellfishing

(NYSDEC, 1993)

As before, the primary sources of the water quality problems in these water bodies was identified as non-point source pollution, including urban and stormwater runoff, and to a lesser extent, waterfowl wastes and boat pollution. Pathogens, and to a lesser extent, nutrients and sediments were the main type of pollutant. In addition, Stirling Basin, continued to be Precluded for Shellfishing.

In 1996, NYSDEC published its latest list of surface waters "that either cannot be fully used as a resource, or have problems that can damage their environmental integrity" (NYSDEC, 1996, p1). Formerly known as the *Priority Water Problems List*, this is now referred to as the *Priority Waterbodies List (PWL)*. The information in the PWL has been grouped by the major drainage basins, rather than DEC Regions. The Town of Southold is included in the Atlantic Ocean/Long Island Sound Basin.

The individual segment data has been supplemented by an indication of *resolution potential*.

This has been noted as high, medium or low. *"High resolution potential indicates that the water quality problem has been deemed to be worthy of the expenditure of available resources (time and dollar) because of the level of public interest and expectation that the commitment of these resources will result in measurable improvement in the situation. Medium resolution potential generally indicates that the resources necessary to address the problem are beyond what are currently available. Segments with low potential for resolution indicate water quality problems so persistent that improvements are expected to require an unrealistically high commitment of resources, not likely to become available"* (NYSDEC, 1996, p1)

The 1996 PWL for the Atlantic Ocean/Long Island Sound Basin includes 200 segments. These are the same as the 1993 *PWP Listing* (apart from Southold Harbor/Bay). Further details on the water quality impairments in these waterbody segments are included in Table II-25. As before, the primary sources of the water quality problems in these water bodies was identified as inputs of non-point source pollution, including urban and stormwater runoff, and to a lesser extent, waterfowl wastes and boat pollution. Pathogens, and to a lesser extent, nutrients and sediments were the main type of pollutant. In addition, Stirling Basin continued to be "Precluded for Shellfishing". Water quality issues for specific surface water bodies, are discussed within the Reach Analysis.

Both the PWP and PWL focus on specific segments of water bodies. This approach is useful in highlighting the critical areas of impairment. However, strict adherence to this approach can limit the understanding of water quality problems; the nature of the impairment; and decrease the effectiveness of the management techniques used to improve water quality. The Suffolk County Water Quality Strategy recognizes this limitation in a county where *"surface water systems are extensive, highly interconnected, and crucial to the social, economic and environmental well-being of the County"* (Suffolk County Department of Health Services, 1992, pS-3). The Strategy proposed a watershed-wide approach in the prioritization and management of Suffolk County water systems. *"This approach would broaden the water quality management potential based on opportunities for management as well as impact of segment management on watershed as a whole. Thus, management of non-PWL segments may be warranted based on beneficial impacts on PWL water bodies within the same watershed"* (Suffolk County Department of Health Services, 1992, p S-4). Watershed protection approaches are discussed in more detail in the examination of non-point source pollution.

Table II-25: Town of Southold - Water Body and Use Impairment, 1996.

Reach	Water Body	Area	Use Impairment	Resolution Potential	Severity of Impairment	Type of Pollutant	Primary source of pollutant	Other source of pollutant
1	Mattituck Inlet Entire bay	125 acres	Shellfishing	High	Precluded Year round	Pathogens	Urban runoff	On-site systems Boat pollution
2	Goldsmith Inlet Entire Inlet	20 acres	Shellfishing	Medium	Impaired Seasonal	Pathogens	Urban runoff	On-site systems Waterfowl
3	Long Island Sound (East) Greenport STP outfall Plum Island (Reach 5)	300 of 121,000 acres	Shellfishing	Medium	Precluded Year round	Pathogens	Municipal	
5	Gardiners Bay Plum Island	219 of 48,950 acres	Shellfishing	Medium	Precluded Year round	Pathogens	Urban runoff	Industrial Municipal On-site systems Boat pollution
	Orient Harbor Narrow River/Little Bay/ Orient Harbor YC	73 of 3,560 acres	Shellfishing	Medium	Impaired Seasonal	Pathogens	Urban runoff	Storm sewers Waterfowl
6	Hashamomuck Pond Entire Bay/Mill Creek	170 acres	Shellfishing	High	Precluded Year round, conditional	Pathogens	Urban runoff	
6	Shelter Island Sound Greenport Harbor/Gull Pond(Reach 5)/Budds Pond/Sage Pond	238 of 9,530 acres	Shellfishing	High	Precluded Year round, seasonal	Pathogens	Municipal	Storm sewers On-site systems Boat pollution Waterfowl
7	Little Peconic Bay Richmond Creek	68 of 13,725 acres	Shellfishing	Medium	Impaired Seasonal	Pathogens	Urban runoff	Storm sewers On-site systems Waterfowl
8	Cutchogue Harbor Tributary creeks	70 of 585 acres	Shellfishing	Medium	Precluded Conditional, seasonal	Pathogens	Urban runoff	Storm sewers Boat pollution

9	Laurel Pond Entire pond	26 acres	Finfish survival	High	Threatened	Pathogens Nutrients Silt	Urban runoff	
	Marratooka Pond Entire pond	26 acres	Finfish survival	Medium	Threatened	Pathogens Nutrients Silt	Urban runoff	
	Great Peconic Bay Tributary creeks	87 of 19,060 acres	Shellfishing	High	Impaired Year round, seasonal	Pathogens	Storm sewers	On-site systems Waterfowl Boat pollution
10	West Harbor	150 acres	Shellfishing	Medium	Precluded Year round, seasonal	Pathogens	Urban runoff	Boat pollution
10	Fishers Island Sound Hay Harbor/Island Pond	99 of 7,990 acres	Shellfishing	Medium	Precluded Year round, seasonal	Pathogens	Urban runoff	On-site systems Boat pollution

(NYSDEC 1996)

(iii) Types of pollutants affecting water quality

Impaired water quality may result from several different types of pollutant. These include pathogens, toxic substances, nutrients, oxygen demanding wastes, aesthetic impairments, and sediment. The main type of pollutant affecting waterbodies in the Town of Southold is pathogens.

Table II-26 illustrates the relationships between sources of pollution and the various types of pollutants which can impair water quality. Each of these types of pollutants presents differing water quality problems. Any given source of pollution may result in several different types of pollution. Since each type of pollutant may be derived from several source activities, control of one activity may not achieve the desired water quality benefit. For example, if pathogens are the cause of shellfishing closures, completely eliminating inputs from on-site wastewater treatment systems may not mean that total pathogen levels will decline sufficiently to allow the opening of shellfish beds to harvesting. This implies that a water quality management strategy for the Southold waterfront must address a variety of individual activities.

In the past, attention was largely focused on discrete point sources, such as sewers and industrial discharges. As success in managing those sources grows, non-point sources contribute a greater portion of the remaining pollution. The following discussion summarizes information about the various types of pollutant.

Table II-26: Relationship of type of pollutant to source of pollutant

SOURCE OF POLLUTANT	TYPE OF POLLUTANT					
	Pathogens	Toxics	Nutrients	BOD	Aesthetics	Sediments
CSOs	X	X	X	X	X	X
Dry Period Overflows	X	X	X	X	X	X
Industry and Landfills	X	X	X	X	X	
Street Runoff	X	X	X	X	X	X
Development/Construction		X	X	X	X	X
On-site wastewater systems	X		X	X	X	
Lawn/Garden Chemicals		X	X			
Boats/Marinas	X	X	X	X	X	
Oil/Petroleum Seeps and Spills		X		X	X	
Agriculture/Commercial Horticulture		X	X			X

Source: NYSDOS, 1994

(a) Pathogens

Pathogens are disease-causing organisms. The pathogens most frequently encountered in water quality management include bacteria such as *E. coli* and protozoa such as *Giardia lamblia* and *Cryptosporidium sp.* (the latter two in freshwater only). *E. coli* is an enteric (intestinal) bacteria usually not harmful in and of itself. Its importance stems from the fact that water can easily be tested for its presence, so it can be used to indicate the possible presence of other pathogens that are both more serious and more difficult to detect.

(b) Toxic substances

The category of toxic substances encompasses a broad range of materials that can have adverse impacts on the environment or human health. These include organic and metallic chemical residues from manufacturing washing into the waters of the management area. Pesticide runoff from agricultural and horticultural activities is also included in this category.

(c) Nutrients

The term nutrients refers primarily to phosphorus and nitrogen, two elements which are necessary for plant growth. In freshwater systems, phosphorus is usually the least available element relative to demand, while in marine systems, nitrogen is often the controlling factor. These pollutants are important because of their indirect impacts. They stimulate the growth of plants and algae, which can cause problems ranging from aesthetic impairments, fouling of boat hulls and propellers, and undesirable swimming conditions. When the accumulated plant mass decomposes, it extracts oxygen from the water, reducing the level of dissolved oxygen in the water.

(d) Biochemical Oxygen Demand

Biochemical Oxygen Demand (BOD) refers to pollutants such as sewage, that require oxygen for degradation. By stripping oxygen from the water column, these materials induce hypoxia. In extreme cases, when all oxygen has been removed from an environment, anaerobic conditions prevail. Because the organisms which flourish in such conditions are very different from those in aerobic conditions, much of the chemistry of the system changes.

(e) Aesthetic impairments

Aesthetic impairments to water quality can include a number of factors. Debris such as paper and plastic trash from road runoff or littering can affect the aesthetic appeal of a waterbody. Similarly, even a small amount of oil or other petroleum product can create a sheen on the water surface. The aesthetic impairment can be separate from the other adverse effects of the same pollutant.

(f) Sediment

Sediment can cause water quality problems in several ways. It can affect boating, both commercial and recreational, by blocking channels or reducing the depth of embayments. Less obviously, sediments can alter the composition of bottom substrate. Such shifts affect the ecological communities which will survive in a given area. Simple mechanical covering of organisms which are unable to move can also be a problem. High levels of suspended sediment block sunlight reaching the lower levels of the water, thereby affecting photosynthetic activities by algae. Muddy or cloudy waters restrict recreational activities..

(iv) Sources of pollutants affecting water quality

As discussed above, sources of pollution to waterbodies may be classified as either point or non-point. Point sources are discrete sources of pollution, the classic example being a discharge pipe bearing sewage or industrial effluent. Non-point pollution enters the waterbody from more diffuse sources, such as runoff from lawns, farm fields and highways. While there are many types of pollution sources that have both point and non-point characteristics, (i.e. stormwater runoff from a large area which is channeled into a drain and dumped directly into a creek), the distinction is useful. The primary sources of significant pollutants to the waterbodies of the Town of Southold are non-point.

(a) Point sources

Pollution control has historically focused on point sources, because these sources are easily determined and the effects are often readily apparent. Since the passage of the *1972 Federal Water Pollution Control Act Amendments* (PL 92-500), remarkable progress has been made in controlling pollution from point sources. Despite this progress, more remains to be done.

The Greenport Village sewage treatment plant (STP) outfall and the Shelter Island Property Owners Corporation STP outfall are the only two major point sources of pollution discharging into the Town's coastal waters. The Greenport Village STP discharges into the Long Island Sound approximately 500 feet north of Clarks Beach. (Reach 3). Approximately 300 acres of the eastern Long Island Sound surrounding the outfall of this STP are uncertified. The closed area includes water in the Long Island Sound within a half-mile radius of the outfall. The Shelter Island STP discharges into Shelter Island Sound just east of the North Ferry dock on Shelter Island (located opposite Fanning Point in Southold).

Both facilities have violated their *State Pollution Discharge and Elimination System* (SPDES) permit limits at various times. Monthly Discharge Monitoring Reports are submitted to NYSDEC and any violations of the discharge permit are recorded. Copies of these reports are on file in the NYSDEC Water Unit Office.

As discussed in *Section II.C.2.(ii)*, the Greenport STP dates back to 1938 and has an operating capacity of .65 million gallons per day. The New York State SPDES permit issued for the Greenport STP allows a discharge of 650,000 gallons per day (MGD) of secondary treated waste-water. The volume of water fluctuates from 200,000 gallons per day (gpd) in winter months to 400,000 gpd during summer months. A review of operational data from September 1997 to the present revealed a total of 6 violations (3 for Biological Oxygen Demand, 1 for suspended solids, 1 for fecal coliform, and 1 for total coliform). The latest problem is that the outfall pipe off Clark's Beach has to be repaired. (Source: E-correspondence: Walter Hilbert, P.E. Senior Public Health Engineer, Office of Pollution Control, Suffolk County Department of Health Services. June 8, 2001).

The Shelter Island STP is a state-of-the-art sequencing batch reactor (SBR). Built in 1987 this facility's original SPDES permit was for 28,000 gpd. However, during summer months this cap was exceeded. The plant's capacity appears to be 72,000 gpd. The DEC is considering modifying the SPDES permit to reflect the actual flows which fluctuate from 13,000 to 41,000 gpd. Daily and weekend peaks have been higher. A review of records since 1997 reveals this

plant has been operating well. Only two fecal and three total coliform violations have been noted – all during periods of higher flow. (Source: E-correspondence: Walter Hilbert, P.E. Senior Public Health Engineer, Office of Pollution Control, Suffolk County Department of Health Services. June 8, 2001.)

According to the NYSDEC, flows range from 15,000 gpd in winter to the mid – 50,000 gpd during summer peaks. The SPDES permit has an interim limit of 53,000 gpd. (Source: E-correspondence: Laura Star, Environmental Program Specialist, NYSDEC June 8, 2001).

Both the Greenport Village STP and the Shelter Island STP are secondary treatment facilities. Tertiary treatment facilities are not currently required by the State when treated effluent is discharged to surface waters. The Greenport Village STP recently added a recirculating sludge process. Any efforts to improve effluent quality from this plant would require an upgrade to the plant processing system, including adding an extended aeration process and denitrification (Walter Hilbert, P.E. Senior Public Health Engineer. Office of Pollution Control, SCDHS, January 25, 1993).

(b) Non-point source pollution

The primary causes of the water quality problems in the water bodies of the Town of Southold were identified in the 1993 NYSDEC *PWP List* and the 1996 NYSDEC *PWL List* as non-point sources of pollution; including stormwater runoff, and to a lesser extent on-site wastewater treatment facilities, waterfowl wastes and boat pollution. Pathogens were the main type of pollutant and to a lesser extent, nutrients and sediments.

This is a problem throughout Long Island, not just within Southold Town. As early as 1978, the *Long Island Comprehensive Waste Treatment Management Plan (208 Study)* (LIRPB, 1978) identified stormwater runoff as the major source of bacterial loadings to surface waters. Within Suffolk County, Between 86 and 100% of fecal coliform loading to surface waters were estimated to come from runoff. (208 Study, p.15). Subsequent studies confirmed this finding. For instance, the *Long Island National Urban Runoff Program* (LIRPB 1982, p. 112) found that 96% of the total coliform and 97% of the fecal coliform contributed to the Peconic River/Flanders Bay area came from stormwater runoff, compared to contributions from stream flow and point sources. At that time, point sources consisted of the Riverhead town Sewage Treatment Plant and duck farms that were still in existence. In 1992, the *Suffolk County Water Quality Strategy* (SCDHS, page S-3) noted that “pathogens from stormwater runoff and storm sewers are the predominant problem in marine surface waters...”. In addition to pathogens, nutrients, oxygen-demanding substances, sediment flux, toxics and organic pollution have added impacts to marine surface waters within Southold Town. Finally, the SCDHS’s *Brown Tide Comprehensive Assessment and Management Program* (1992, Sec. 6.2.6.) indicates that on a regional basis, more than 90% of the coliform bacteria found within marine surface waters are contributed by stormwater runoff. This finding is acknowledged in the *Peconic Estuary Management Program’s CCMP*, Pathogens chapter.

The net result of high levels of coliform bacteria within marine waters is the seasonal or year-round closure of creeks and other shellfish habitat. Ongoing monitoring of these habitats is

necessary in order to protect the public health. Meanwhile, research continues as scientists try to find ways to identify the sources of different types of coliform bacteria, and to delineate which sources pose public health risks. Since stormwater also contributes other contaminants to surface waters, it is evident that filtration of the runoff would reduce the total contaminant loading into coastal waters and shellfish habitats.

Non-point source pollution is often associated with man-made development and includes a wide range of contaminants and contaminant sources. For convenience, these sources can be divided into the following categories: stormwater runoff; construction activities; on-site wastewater treatment systems; industry - or activity-specific sources; and lawn and garden chemicals. These categories are examined in more detail below, along with a consideration of management measures that can reduce their pollution impact. The management measures are based on *Guidance Specifying Management Measures for Sources of Non-point Pollution in Coastal Waters* (USEPA, 1993) and guidelines in the NYSDECs *Management Practices Catalogue for Non-point Source Pollution and Water Quality Protection in New York State* (NYSDEC, 1991).

- ***Stormwater runoff***

As noted earlier, stormwater runoff adversely affects water quality and quantity in several ways. Alteration of stormwater drainage characteristics results when permeable natural land surfaces, such as woodlands and meadows are covered with impervious surfaces, such as paved streets, walkways, building roofs, etc. Rainwater falling on streets, parking lots, and many driveways picks up and moves contaminant into surface waters. In areas cleared for development, vegetation is typically replaced with landscape vegetation generally having a lower capacity for absorbing rainwater than the original vegetation; this is especially true with respect to turf areas. The overall consequence of these actions is that development generally increases the amount of runoff generated on a given parcel of land. Therefore, infiltration to groundwater in an area decreases. Runoff to receiving waters is much more rapid than under natural conditions. Relative to pre-development conditions, streets cause both greater total runoff and a greater peak flow of runoff. The impacts of greater and more rapid runoff include scouring of streambeds due to higher flows and alteration of salinity regimes in creeks and estuaries. Each of these effects can be significant to certain plant and animal species.

Stormwater runoff also directly affects water quality. Rainwater flowing from streets carries accumulated debris and detritus from the street surface. These contaminants include aesthetic contaminants, such as floatable materials and other trash, as well as chemical contaminants such as oils and metals. Further, pathogens and sediments can also be caught up in stormwater runoff. Runoff from developed areas results in an increase in coliform bacteria carried from the land surface to receiving waters. Stormwater runoff is a primary source of coliform contamination in the Town of Southold.

In 1986 and 1987, the Town of Southold conducted a detailed investigation of the outfall pipes, street ends and other areas discharging stormwater directly into the Town's tidal creeks, embayments and freshwater impoundments without any pre-settlement or pretreatment. These

were categorized according to their receiving waterbody and separated into their respective State, County and Town jurisdiction. Recommendations for eliminating direct discharges or improving runoff water quality prior to discharge were developed. Information obtained by the Town can be supported by work by NYSDEC as part of a *Shoreline and Pollution Source Survey* in conjunction with their shellfish sanitation program. The NYSDEC has identified the majority of storm drainage outfall pipes which discharge into the creeks and coastal waters along Southold's southern shoreline.

The Town Trustees have selected the following waterbodies as top priority for any proposed drainage improvements:

Reach 1	Mattituck Creek
Reach 3/6	Hashamomuck Pond
Reach 5	Hallocks Bay
Reach 7	Town Creek Jockey Creek Goose Creek Corey Creek
Reach 8	Cutchogue Creeks (including East, Mud, and Haywater Cove)

(Town of Southold, 1987)

These waterbodies represent the primary shellfishing areas in the Town of Southold. The Town has been working with the New York State Department of Transportation and the Suffolk County Department of Public Works in order to initiate State and County drainage improvement programs. In addition, the Town Highway Department has completed drainage improvements on several of these priority waterbodies. These improvements include the installation of catch basins and leaching pools, the closure of existing outfall pipes, the creation of vegetated detention basins and the creation of a freshwater wetland/vegetated pre-settlement basin. To date, all Town projects have been accomplished using Town personnel and equipment under the normal Highway budget. The Town of Southold has also undertaken several demonstration/implementation projects as part of the *Peconic Estuary Program*. These have focused on stormwater management and open marsh water management. Details of these drainage improvements are discussed in more detail in the Reach Analysis in *Section II.J*.

- ***Development and construction activities***

The term "development and construction activities" focuses on the period in which construction takes place. Because construction typically involves disturbing the vegetative cover of the land, it is a period of high erosion potential. Also, if care is not taken, revegetation can be made more difficult once construction is completed, for example, by the removal or burial of topsoil and the exposing of subsoils, as well as soil compaction from heavy equipment. Finally, a variety of hazardous and toxic materials are routinely used in construction, and if mishandled, can enter waterways.

In Southold, commercial construction is reviewed by the Planning Board under its site plan process. This process requires the approval of grading, drainage and landscaping plans prior to the issuance of a building permit. Accordingly, any potentially negative environmental impacts is typically mitigated and prevented for the most part.

However, residential construction has not been subject to the same level of scrutiny. Increasing levels of development, environmental damage and complaints are forcing the Town to take a more proactive stance. Anticipated remedies to this situation are discussed in *Section V. Techniques for Implementation*.

- ***On-site wastewater treatment systems***

On-site wastewater treatment systems, such as septic systems and cesspools, have been noted as contributing to water quality problems, including pathogen loadings in the waterbodies of the Town of Southold. These problems can arise from inappropriate siting, inadequate construction, improper use or inadequate maintenance of on-site wastewater treatment systems.

For example, many individuals do not realize that traditional septic systems, whether relying on a leach field or a cesspool, require occasional pumping of the septic tank to remove solids that settle to the bottom. Without periodic pumping, solids build up to a point that storage capacity in the tank is reduced, thus reducing residence time. After serious build-up, solids begin to flow into the leach field or cesspool, clogging it. The result is a failed septic system, which usually must be replaced. However, even before the system exhibits obvious signs of failure such as surface ponding, its effectiveness as a wastewater treatment system can be markedly reduced and ground and surface water pollution can occur.

Another problem associated with on-site wastewater treatment systems is their improper use as a disposal method for substances such as chemicals and waste oils. Because these systems rely on biological action for waste treatment, chemicals that kill the microorganisms present can drastically reduce the efficiency of the system. Even if they do not harm the microorganisms, such wastes may not be broken down, instead passing through the system and leaching into groundwater supplies or migrating to surface waters.

- ***Boating and marina activities***

Boating and marina activities, because they are located on and adjacent to the water, can have an immediate and direct impact on the water. Therefore, clean boating and marinas are important to maintaining high quality waterbodies. Marinas can impact water bodies with accidental fuel oil spills and leaks, runoff from yards and parking areas, un-contained or improperly disposed trash and litter (e.g., plastics, cans), sewage discharge (chemically and untreated), noise, anti-fouling paints (heavy metals), washdown residuals and dredging (although this can also have positive benefits by improving circulation). Typically, construction of marinas requires bulkheads, docks, pilings, and breakwaters that alter the natural environment and affect wetlands systems, including intertidal, subtidal, and open water habitats.

Pollutants from these activities include biological oxygen demanding (BOD) materials from sewage that reduce oxygen levels and introduce pathogens and pathogen indicators (coliform) to the water (particularly in the summer), metals from anti-fouling paints (which can

accumulate in the tissue of fish), petroleum hydrocarbons, including polynuclear aromatic hydrocarbons (PAHs) introduced by fuel spills and bilge discharge, and increased turbidity from dredging and propeller wash, which affects water clarity and habitats of beneficial organisms. Moreover, if pollution sources are allowed to persist, pollutants can accumulate in the bottom sediments, creating a longer-term problem.

The *Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)* stated the need to reduce pollutant loads from marinas to the coastal waters and the need for boat management practices. Marinas are also regulated under the *National Pollutant Discharge Elimination System (NPDES)* permit program for stormwater runoff discharges, as mandated by the 1987 reauthorization of the *Clean Water Act* and implemented through DEC. If a marina is in the business of renting boat slips, storing, cleaning, or repairing boats, and performs a range of other services, it falls under the permitting program. For these marinas, a permit is required for the point sources of discharge (the stormwater outlet). Under the permit review process, operations that do not involve equipment cleaning or maintenance may be exempt from the regulations.

Another way boating activity can impact the aquatic environment is wastewater discharge. Typically, boats shorter than 25 feet in length do not have a marine sanitary device (MSD) on the craft (these boats do sometimes have a portable toilet). On boats longer than 25 feet, MSDs come in three types: MSD I and II provide some form of limited treatment (chlorination to promote die-off of coliform bacteria) prior to discharge; and MSD III is a holding tank only, no treatment is provided.

The discharge of wastewater from boats introduces microbial pathogens into the environment. These organic-rich wastes can increase biological oxygen demand, resulting in decreased oxygen concentrations in poorly flushed waterbodies. Boats can be a significant source of coliform bacteria, particularly in areas with high boat densities and low hydrologic flushing. Chemical additives, such as chlorine, formaldehyde, and zinc compounds are often used in boat waste disposal units. Zinc has been reported to be lethal to fish and many aquatic plants, and is known to bio-accumulate (*Clean Vessel Act, Section 5605, Technical Guidelines and Information Packet*, U.S. Fish and Wildlife Service, 1993). Boat repair and maintenance and fueling operations also release pollutants. In some cases, public health considerations require closure of shellfishing beds around marinas and mooring areas because of the potential for pollution from vessel wastes.

Holding tanks are designed to keep all human waste aboard until pumped out. Federal law prohibits discharge of any untreated sewage (MSD III) into any coastal waters inside the 3-mile territorial limits. In reality, many boats with holding tanks have Y-valves to allow untreated waste to go directly overboard (legal only at sea). Many boaters forget to close the Y-valve when in coastal waters, and although any resulting discharge is illegal, (punishable by Coast Guard fines up to \$2,000), the limited number of pumpout stations and lack or difficulty of enforcement are two reasons why this may happen.

Many of the creeks and inlets in the Town of Southold have to be dredged to maintain adequate harbor and channel depths and to remove accumulated sediment. Impacts of alterations of hydrology as related to dredging are typically felt in three ways: the intended clearing of a channel, resuspension of contaminants in the water column during dredging, and the effects of dredged material disposal. The importance of resuspension in the water column during dredging varies with such factors as the type of contaminant, local currents and water circulation patterns, and extent and frequency of dredging.

- ***Agricultural use***

Agricultural activities can impact surface water quality in several ways. Poor tilling practices can result in erosion which can lead to sedimentation of waterways and ponds that lie down gradient from farmfields. The nutrients adsorbed to the eroding soil particles can contribute to eutrophication. Excessive or inappropriate use of fertilizers can lead to nutrient loadings of streams, groundwater, and receiving waterbodies. In addition to the nutrient enrichment referred to as eutrophication, a major proposed explanation of Brown Tide incidence in the Peconic Bay involves the loading of nitrogen to the Bay from land based sources, including agricultural operations.

The inappropriate use of pesticides such as herbicides and fungicides can also result in loadings of these toxic substances to the environment. Both fertilizer and pesticide use are highly dependent on factors specific to crop and soil types, not to mention weather conditions. Finally, sustained and extensive irrigation can affect local groundwater flow, with potential impacts on potable water supplies as well as groundwater recharge and underflow to streams, ponds, and embayments. The potential for contamination of surface and groundwater by agricultural chemicals has been a longstanding concern and is discussed further in the subsection on natural resources. This is particularly true throughout the East End of Long Island where groundwater is the sole source of drinking water and agriculture is the dominant land use.

While past agricultural practices may have been at fault for specific incidences of ground and surface water pollution, recent years have seen a heightened awareness on the part of farmers. The industry has attempted to reduce the use of fertilizer and pesticide applications through the use of *Best USDA Management Practices* as advocated by the Cornell University Horticultural Laboratory. Also, as the industry changes in response to market forces, the extensive potato cropping of the past has nearly disappeared. There is considerably greater diversity of crops being planted, and not all of these crops require extensive fertilizers and pesticides. Further, the economics of using fertilizers and pesticides has changed. Excessive applications are generally not economically justifiable.

- ***Lawn and garden chemicals***

Excessive or improper use of fertilizers and chemicals for home or business lawns, golf courses, gardens, and other green spaces can result in what is defined as “urban non-point

pollution.” The direct pollutants that result from homeowner or landscape applications include nutrients, such as nitrogen and phosphorous particles and various pesticides. The use of deicing salts on parking lots and roadways adjacent to the harbor is an aspect of urban non-point pollution which is important in the Town of Southold. Use of fertilizers at a level far exceeding that needed for optimal growth is suspected to be taking place on residential properties.

Fertilizer- and irrigation-intensive landscaping on waterfront residential properties may be a significant source of nutrients such as nitrogen and phosphorous to the waters of our bays and inlet. However, in Southold Town, fertilizer and irrigation intensive waterfront landscaping is not the only culprit. Most of the Town’s land mass drains into either the bay and its contributing inlets and creeks or the sound. The cumulative effect of each property owner’s use or misuse of fertilizers and pesticides on our marine and fresh waters is considerable, thereby contributing to the decline of our shellfish resources and providing fodder for the brown tide algal blooms. Add to this the deleterious effects of pesticides and deicing salts to the surface water habitats, and the importance of proper stewardship on the part of individual property owners within the Town becomes evident.

(v) Watershed protection

The surface marine and fresh water resources of the Town of Southold are among its most valuable and aesthetic assets. Although significant strides have been taken in reducing the impacts of point and non-point sources of pollution, these water resources continue to remain at risk. Today’s challenges focus on resolving the remaining pollution problems, particularly those associated with non-point sources from human land uses and protection and restoring the natural resources of the valuable ecological complexes and aquatic ecosystems of the Peconic Bay Estuary.

Since 1991, the Federal Environmental Protection Agency has been promoting the watershed protection approach as a framework for meeting these challenges. This approach was adopted by the *Peconic Estuary Program*. “*The watershed protection approach is an integrated, holistic strategy for more effectively restoring and protecting aquatic resources. This approach focuses on hydrologically defined drainage basins, watersheds, rather than on areas defined by political boundaries.*”) PEP, 1996. This approach recognizes the need to address not only the individual water resources of any given watershed, but all the land from which the storm and ground waters drain to these resources.

“To protect water resources, it is increasingly important to address the condition of land areas within the watershed because as water drains off the land or leaches into groundwater, it carries with it the effects of human activities throughout the watershed” (PEP, 1996). This approach is characterized as being action oriented and places emphasis on broad environmental objectives that cover all aspects of water quality.

The Town of Southold has two main surface watersheds, the Long Island Sound and the Peconic estuaries of which the larger is that which drains into the Peconic Estuary. Within this context there are many smaller watersheds associated with the bays and creeks. These smaller areas are well suited to the adoption of a watershed protection approach. A shift in Town Policy towards watershed protection is needed in the direction of sub-watershed management. This shift will be a more effective approach

to protecting the water quality in Southold Town. It would integrate the goals of the long-term health of the Town's natural resources with those of human health and welfare, and economic stability.

10. Groundwater resources

(i) Description of the resource

Most of the potable drinking water available for use in the Town of Southold is contained within the Pleistocene deposit of the Upper Glacial Aquifer. Unlike the rest of Long Island the deeper Magothy and Lloyd aquifers are predominantly saturated with salt water. The fresh groundwater occurs in a series of irregularly shaped lenses that are bounded laterally and at varying depths by glacial deposits containing salty groundwater.

Because the specific gravity of freshwater is less than that of saltwater, the freshwater tends to "float" above the saline waters in the aquifer. These fresh groundwater lenses are virtually separated from each other by major tidal creeks and embayments, thus creating distinct "islands" of fresh groundwater.

According to the U.S. Geological Survey, there are six such islands or lenses below the mainland of Southold occupying the following areas (Crandell, USGS, 1963):

- areas west of Mattituck Creek;
- areas between Mattituck Creek and Hashamomuck Pond;
- areas between Hashamomuck Pond and Dam Pond;
- areas east of Dam Pond;
- Great Hog Neck; and
- Little Hog Neck.

These fresh groundwater lenses are relatively thicker towards the middle of the mainland and thinner near the Sound and Peconics with the latter generally corresponding to areas of limited fresh groundwater supplies. The depth of fresh groundwater in the Town may be roughly estimated by applying the *Ghyben-Herzberg formula* which states that for every foot of water table elevation above sea level, fresh groundwater will extend approximately 40 feet below sea level (Crandell, USGS, 1963).

Precipitation, which averages approximately 44 inches per year at the Greenport weather station, provides the only natural source of replenishment to the fresh groundwater reservoir below mainland Southold. Part of this precipitation flows overland to the surrounding coastal waters, part is returned to the atmosphere via evapo-transpiration, and part percolates into the ground surface. A portion of the water which infiltrates the soil eventually reaches the fresh groundwater reservoir. USGS estimated the yearly groundwater recharge to be approximately 9,400 million gallons, or an average of 26 million gallons per day (Crandell, USGS, 1963). Fresh groundwater withdrawals must be kept well below this rate to prevent saltwater encroachment into deposits which currently contain fresh water.

The importance of Southold's groundwater resources was recognized by the designation of two *Core Watershed Protection Areas* (CWPA) within the mainland by the Town of Southold in 1987. One area

includes portions of the hamlets of Mattituck and Laurel and extends westerly to Riverhead. The second area includes portions of the hamlets of East Mattituck, Cutchogue and Peconic. At the request of the Town of Southold, the Special Groundwater Protection Area Advisory Council of Long Island added these two areas to the list of designated *special groundwater protection areas* (SGPAs). *Article 55 of New York State Environmental Law* defines a SGPA as a "recharge watershed area within a designated sole source area contained within counties having a population of one million or more which is particularly important for the maintenance of large volumes of high quality groundwater for long periods of time" (ECL §55-0107).

The NYSDEC approved and designated the addition of the Southold CWPAs as SGPAs in 1990. The designation of these parts of Southold as SGPAs was based on two considerations "namely, that this area represents a major portion of the locally significant deep recharge and that designation could facilitate the improvement and ultimate restoration of groundwater quality" (*The Long Island Comprehensive Special Groundwater Protection Area Plan, 1992*, Chapter 3, page 117). The western area was incorporated into the Central Suffolk SGPA which encompasses major portions of the Towns of Riverhead, Brookhaven and Southampton. The eastern area was designated as the Southold SGPA. The location of these two SGPAs is illustrated on [Map II-4](#).

As required by *Article 55 of the Environmental Conservation Law*, the SGPA Plan includes a detailed examination of environmental and physical conditions in each SGPA, an analysis of the problems and concerns in these areas and offers a detailed strategy for groundwater and environmental protection for each SGPA. In addition, the Plan offers a comprehensive set of recommendations designed to reduce current and future groundwater contamination, avoid creating new sources of contamination and provide the maximum protection of the groundwater in the SGPAs.

The Plan's detailed analysis of the two Southold SGPAs covered soils and topography, vegetation associations, rare and endangered species and significant habitats, surface waters and freshwater wetlands, groundwater flow, water supply, water quality, land use and zoning. In the case of the westernmost area, woodlands and farmfields located around Laurel Lake characterize the part of Southold which lies within the Central Suffolk SGPA. The Plan identified a possible preserve for future watershed and public supply purposes that would contain over 200 contiguous acres in the deep recharge area in the vicinity of Laurel Lake.

The future of the Southold SGPA also is crucial to the future of the Town of Southold. This SGPA comprises more than 2900 acres in a corridor that extends from Mattituck Inlet to the hamlet of Southold. The Southold SGPA is predominantly agricultural in land cover and use, with some areas of residential development, woodland and wetlands. In fact "nearly 72% of the total acreage is devoted to vineyards, nursery/greenhouse operations, sod farms and crops" (LIRPB, 1992, Chapter 3, Page 120).

(It should be noted that the hydrology of Fishers Island differs substantially from other portions of the Town of Southold. Due to its hilly topography, most of the precipitation that falls on Fishers Island flows to one of the numerous freshwater ponds or directly to the coastal shoreline. According to the *Hydrogeologic Report Conducted on Fishers Island, New York* (Groundwater, Inc., April 1990), the numerous ponds on Fishers Island serve as the primary catchment and recharge areas for the island. Groundwater recharge on Fishers Island was estimated to be approximately 709 million gallons per

year. The current situation concerning water supply and groundwater protection on Fishers Island is discussed in the Reach 10 Analysis.)

Throughout the Town, pumping of groundwater can affect local groundwater tables and thus the flow (quantity and direction) of groundwater in the area. Also stormwater runoff and excess irrigation water can transport pollutants such as nutrients and pesticides either to surface or groundwaters. These impacts can be minimized through careful management of irrigation so as to minimize pollutant pumping and loadings. On farmland, irrigation typically is undertaken in response to specific conditions, not simply as a routine which is more typical of residential and commercial properties.

(ii) Threats to groundwater resources

Given that the groundwaters of mainland Southold are the sole source of drinking water, protection of that resource is crucial for the public health, safety and welfare of the residents and visitors of the Town. There are specific threats to the groundwaters that have been identified. The nature and extent of these threats are described in the following paragraphs.

In 1987, the *Suffolk County Comprehensive Water Resources Management Plan* (Suffolk County Department of Health Services (SCDHS), 1987) addressed groundwater conditions and analyzed future water supply problems in Suffolk County. Based on an analysis of expected growth rates, water demands, consumptive use rates, and recharge rates through the year 2020, the SCDHS determined that future development would not have a substantial impact in terms of the quantity of groundwater that will be available for the Town of Southold, except in the hamlet of Orient and Orient Point. SCDHS suggested tight land use controls over future development in these two areas to ensure an adequate future water supply. The relatively low density of development in Orient means that it is unlikely to be feasible to develop public water supplies, and therefore other groundwater protection measures are needed. The SCDHS report did not anticipate significant future town-wide water quantity problems but noted that localized water *supply* problems may arise during periods of prolonged drought. Further localized water *quality* problems may occur due to the potential for salt water intrusion in private wells located near the shoreline areas and the presence of groundwater contamination.

(a) Organics

Further, the SCDHS determined that synthetic organic chemicals pose the greatest threat to groundwater quality and public health in Suffolk County, followed closely by pesticide contamination. Synthetic organic chemicals are found in such items as: solvents and degreasers for paint stripping and the cleaning of equipment; gasoline and other petroleum products; and commercial and domestic cleaners, disinfectants and preservatives. Although SCDHS did not cite any organic chemical contamination problems specific to Southold, the use of cesspool cleaning products which contain toxic organic compounds and leaking petroleum storage tanks are two common County-wide concerns. More recent data indicate that MTBE (methyltertiary butylether), a fuel oil and gasoline additive, is a significant groundwater contaminant in many areas in Southold. *Suffolk County Local Law 12-1980* was enacted to prohibit the local sale of cesspool cleaning products that contain certain toxic organic chemicals. This law does not, however, preclude the purchase of these products in areas outside the county (SCDHS, January 1987).

(b) Nitrates

According to the SCDHS, nitrate contamination is widespread in Suffolk County. The Town of Southold is no exception, with a Town-wide average nitrate concentration above 6 parts per million (ppm) and nitrate concentrations in agricultural areas in excess of the 10 ppm drinking water standard. The Village of Greenport's public water supply (now owned and operated by the Suffolk County Water Authority), with wells located in and adjacent to the Southold SGPA, exhibit nitrate concentrations just below the drinking water standard. The SCDHS expected nitrate contamination to persist due to the continued use of turf and agricultural fertilizers, and the disposal of septic wastes through on-site subsurface disposal systems (SCDHS, January 1987). Chloride contamination is another concern. It primarily results from over pumping wells in areas with a limited depth to the freshwater/saltwater interface in groundwater. To a lesser extent, chloride loadings to groundwater can result from wastewater disposal, road salt storage and use and applications of agricultural fertilizers containing potassium.

A more recent SCDHS report on nitrate and pesticide impacts of agriculture on groundwater quality examined 20 years of groundwater data at monitoring wells throughout Suffolk County. It found that groundwater nitrate concentrations do not appear to be much better in 1995 than in 1975 and that "long-term monitoring data indicate that recent agricultural practices have not reduced the amount of nitrogen leaching to the aquifer" (SCDHS, 1996, p9). A monitoring well in Southold "contained the highest average nitrate concentration over the 20 year period (15.3 mg/l) and also the highest individual sample concentration detected (33.0 mg/l in 1990). The Southold well contained 23.0 mg/l nitrate in the May 1996 sampling" (SCDHS, 1996, p3). New SCDHS data from monitoring sites in agricultural areas during 1999-2000 showed no reduction in nitrate concentrations. (Source: Martin Trent, SCDHS. June 11, 2001).

(c) Pesticides

According to SCDHS, pesticide contamination will most likely continue as a long-term problem through eastern Suffolk County. Although the major pesticides presently found in groundwater are no longer approved for use, natural groundwater flow will continue to carry contaminants into the deeper portions of the aquifers towards the center of the mainland and to shallow aquifers along the coast.

A pesticide of particular concern in the Town of Southold is the toxic oxime-carbamate pesticide better known as *aldicarb*. This was produced by Union Carbide Corp. under the trade name TEMIK and was used to control the Colorado Potato Beetle and Golden Nematode in potato fields during the years 1975 through 1979. At the time it was used, the risk of aldicarb contaminating groundwater was considered unlikely. However, extensive groundwater sampling undertaken between 1979 and 1980 revealed extensive aldicarb contamination throughout the Town of Southold. SCDHS has identified that concentrations of aldicarb and other carbamate pesticides "have steadily decreased since their ban from Suffolk County in 1979 and 1982. However, aldicarb still persists in the groundwater and in private wells in concentrations exceeding the drinking water guideline" (SCDHS, 1996, p9)

The New York State Department of Health (NYSDOH) set a maximum concentration of aldicarb in drinking water at 7 micrograms per liter ($\mu\text{g/L}$) or parts per billion. Samplings in the 1979-80 sampling survey showed aldicarb concentrations as high as 515 $\mu\text{g/L}$. As a result, the U.S. Environmental Protection Agency revoked its approval of the use of aldicarb on Long Island in February of 1980 at the request of the manufacturer. To mitigate the effects of aldicarb contamination, the manufacturer installed activated charcoal filters on drinking water supplies containing more than 7 $\mu\text{g/L}$ of aldicarb to bring concentrations below 7 $\mu\text{g/L}$.

By 1982, aldicarb had penetrated the upper glacial aquifer to a depth of about 40 feet below the water table in most places where contamination was discovered. High-capacity irrigation wells, which cause large water table drawdown, have caused deeper penetration locally. Although aldicarb concentrations are diminishing with time through degradation and lateral movement to the discharge areas, the pesticide will continue to move along groundwater flow paths and deeper into the Upper Glacial Aquifer. The USGS estimates that aldicarb will remain in the aquifer at concentrations above 7 $\mu\text{g/L}$ until sometime between the years 1990 and 2030. As long as aldicarb is in the groundwater system, it will travel deeper into the upper glacial aquifer near the groundwater divide at a rate of 5 to 6 feet per year and will move from there, laterally along the groundwater flow paths toward shoreline discharge areas. The travel time of groundwater through the aquifer from the groundwater divide to the shorelines (the greatest distance) ranges from decades to centuries. Most of the aldicarb now in the system will probably degrade to negligible concentrations of less toxic compounds before it reaches the shorelines. Only the small amounts of aldicarb that are now near the shorelines will reach the coastal waters before decomposing (Soren and Stelz, USGS, 1984).

The SCDHS'S annual pesticide monitoring report (December 2000) states that 44 pesticides and their degradate compounds have been found in groundwater. Metabolites of the following herbicides; alachlor, dacthal, metolachlor and simazine, and the fungicide, metakyl, are frequently detected in Southold's wells, creek and streams. More than 50% of the private wells tested in agricultural areas contained detectable pesticide concentrations. (Source: Martin Trent, SCDHS. June 11, 2001).

(d) Landfill

As noted earlier, according to the Suffolk County Department of Health Services, the Southold Sanitary Landfill may pose a potential threat to groundwater resources to the north and north east of the site. The landfill is located north of County Route 48, between Depot Lane and Cox Lane in Cutchogue, and occupies approximately 45 acres. According to NYSDEC officials, the landfill has been used since the 1920s for disposal of mixed wastes including municipal, construction and demolition debris and other rubbish.

In 1993, the NYSDEC determined that a leachate plume was flowing from the landfill. (Pappachan and Griskstas, NYSDEC, September 7, 1993). In January of 1997, the Suffolk County Department of Health Services issued a bulletin indicating a zone of potential groundwater contamination adjacent to the landfill and running north/northwest to Long Island Sound. Subsequently, the SCDHS has mandated the provision of public water to properties

within this area, which lies roughly between Depot Lane to the west, Long Island Sound to the north, Cox's Road to the east and CR 48 to the south.

The landfill was ordered closed and capped by NYSDEC. Since 1993, all garbage, rubbish and construction/demolition debris has been shipped out of state for either recycling or legal disposal. The capping is scheduled to be completed by 2001-2. The Town operates a municipal solid waste disposal facility on the property. Details were provided earlier in *Section II.C.2.(iii) Solid waste management*.

(e) Saltwater intrusion

Many private wells in Southold Town are susceptible to saltwater intrusion. This typically occurs where wells that are located or screened close to the boundary between fresh and salt water are pumped heavily and cause an upward or landward migration of the salt water. Where the elevation of the land surface is low and relatively unprotected, as along the shoreline of the Estuary, salt water from high tides or storm waves also may inundate the vicinity of wells and contaminate the fresh groundwater by direct downward seepage. According to USGS, fresh water can be drawn from wells or ponds almost everywhere on the mainland, provided that:

- the withdrawals are generally not too close to the shoreline
- the screens of wells are not set too deeply below the water table
- heavy withdrawals are not concentrated in small areas

Where these conditions are not observed by the well owners, salt water encroachment is likely to occur. USGS recommends that new wells should not be located within 1,000 feet of saline waters or within 300 feet of each other. Large diameter production wells may require greater spacing. In addition, USGS suggests that measures should be taken to conserve the supply and to control withdrawal, especially during periods of below normal precipitation (Crandall, USGS, 1963). The potential for chloride contamination can be reduced by installing well screens at least ten feet above the fresh/saltwater interface. SCDHS also recommends other measures to avoid saltwater intrusion, including:

- alternate periods of pumping and resting wells (i.e., pumping every other day) for the purposes of prolonged water use, such as filling swimming pools or irrigating.
- encourage voluntary water conservation measures and enhance educational programs which set forth such a message.

(iii) Groundwater protection

The importance of groundwater protection has been recognized by the Town of Southold for many years. The Town initiated a comprehensive planning process for the CWPAs and pursued their designation as SGPAs by the Long Island RPB and the NYSDEC during the 1980s. Water supply recommendations were developed by the Town of Southold Water Advisory Committee as part of a "*Proposal for a Water Management Program for the Town of Southold*". The program addressed the future water supply and treatment needs, established management goals and criteria, and presented recommendations for the protection of groundwater resources from potential contamination and

excessive withdrawals. The goals of the study were to protect the quantity and quality of the Town's groundwater resources and ensure the protection of future supplies through a combination of environmentally sensitive land policies and practices. The study presented a mix of recommendations including taking preventive measures to minimize or eliminate additional groundwater contamination, the establishment of a Town of Southold Water Management Program, public water systems in areas of existing development where groundwater is contaminated, protection of present and potential well sites, and the use of clustering, large lot zoning, transfer of development rights and land acquisition to protect the areas with the deepest groundwater levels. This proposal was accepted by the Southold Town Board on June 2, 1987. However, the recommendations were not integrated into local ordinances.

"The Long Island Comprehensive Special Groundwater Protection Area Plan" (LIRPB, 1992) identified the problem in Southold of balancing *"two somewhat conflicting goals, namely, the preservation of a viable agriculture and agricultural way of life and the maintenance or improvement of the groundwater resource"* (LIRPB, 1992, Chapter 3, Page 121). The Plan suggested that agricultural use should continue in the Southold SGPA, with new residential development limited to infilling around the hamlets. The Plan proposed that public acquisition of farmland development rights continue and that the few remaining wooded areas be added to the open space system through public acquisition, thereby insuring the future availability of suitable well sites. The Plan also recommended other programs to protect agricultural use, such as Agricultural Districts, upzoning of farmland to require a five acre minimum lot size and a provision for the transfer of development rights to sites outside the SGPA at the currently prevailing two acre density. In order to reduce the impacts of agricultural use on the groundwater quality the Plan proposed efforts to introduce and adopt best management practices for agriculture. (LIRPB, 1992, Chapter 3, Page 121).

In addition to these specific recommendations for the Southold SGPA, the Plan considered a number of general watershed management issues and provided a comprehensive set of recommendations aimed at providing maximum protection of groundwater. The Plan grouped the recommendations into three headings:

- “reducing current and future contamination associated with existing sources
- avoiding the establishment of new sources
- providing the necessary management tools, manpower and money” to implement the Plan

(LIRPB, 1992, Chapter 4-1).

Many of these recommendations referred to actions taken at the State and County level, particularly by the Health Departments. The recommendations also stressed the need to improve water quality monitoring, the importance of appropriate local zoning ordinances, the opportunities to use innovative land use techniques and the importance of the adoption and use of Best Management Practices by municipalities and private landowners. The Plan stressed the importance of raising public understanding of both the groundwater issues on Long Island and the actions that can be undertaken to preserve the quantity and quality of the resource.

As explained earlier in *Section II.B. Planning Framework*, the Town has since developed a framework for its groundwater management policies. To recap briefly here, in 1998 the Town retained the Suffolk County Department of Planning to help develop a strategic plan for the protection of its water supply and the management of its public water system. The County's report *Ground Watershed Protection and Water Supply Management Strategy* was issued in 1999. It presented a series of technical recommendations for the Town to explore.

The Town subsequently hired Nelson, Pope & Voorhis to draft a *Water Supply Management & Watershed Protection Strategy* which attempted to refine the County's recommendations into an implementable blueprint for action. This Strategy was adopted by the Town Board in June of 2000 as "...a guiding policy document to be used in the preparation of legislation or operating procedures (as may be needed) for the Town Board consideration and possible adoption..." The Town Board also voted to begin implementation of the policy "by setting clear limits as to the future distribution of public water supplies into agricultural lands targeted to remain in agricultural production, as well as to guide the provision of needed public water supplies to existing residential development..." by adopting a map showing the locations of existing water mains, and of potential future water mains, relative to protected lands within Southold Town.

(Town of Southold Town Board: Resolution No. 31, June 20, 2000).

With this report, incorporated by reference into this LWRP document, the Town began to refine its management plan to achieve tighter control on future development and other activities which might impact groundwater quality in these ecologically sensitive areas.

F. HISTORIC RESOURCES

1. Introduction

As the oldest English speaking colony in the State of New York with roots going back to 1640, the Town has a unique heritage. The historical development of the Town of Southold was outlined briefly earlier in *Section II.A.4. Historical development of the waterfront*. Today, many structures and sites of historic significance remain from the colonial period. The nature of the historic resources include residential and commercial buildings, accessory structures, lighthouses, sites, monuments, cemeteries, road mile markers and other landmarks. Each of these structures or places are described in the *Comprehensive Survey of Historic Resources in the Town of Southold and Fishers Island* (Society for the Preservation of Long Island Antiquities (SPLIA), 1988). Approximately 1500 structures are inventoried in this survey. Of these, eight individual properties and two historic districts are listed on the *State and National Registers of Historic Places*. In addition, the Town maintains its own listing of locally significant historic landmarks.

The Town of Southold recognizes that protecting its historical resources is important. This recognition goes beyond just recognizing the physical structures. Many of the place and road names still in use are variations of or the original aboriginal and colonial place names. These sites and structures provide a distinctive sense of place, providing a link with both the Native Americans and the earliest settlers of the area. The Town's commitment to the conservation of its historic and cultural resources is strong and continuing, but it is almost entirely voluntary on the part of its residents. Typically, the preservation of the Town's historical resources was supported by the government but undertaken largely by its concerned citizens.

In 1983, the Town adopted a *Landmark Preservation Law* (Chapter 56, Town Code, January 18, 1983) which established a *Landmark Preservation Commission*. The Law was adopted because

“there exist in the Town of Southold places, sites, structures and buildings of historic or architectural significance, antiquity, uniqueness of exterior design or construction, which should be conserved, protected and preserved to preserve the architectural character of Southold Town, to contribute to the aesthetic value of the town and to promote the general good, welfare, health and safety of the town and its residents.”

The Law established procedures whereby the Commission could

“conserve, protect and preserve such places, sites, structures and buildings thereby preserving the unique character of Southold Town, which will substantially improve property and commercial values in the town and make its hamlets even better places in which to live.”

The original law did not include a reference to sites. This reference was added in April of 1994. The *Landmark Preservation Commission* consists of seven members, each of which is appointed for a term of two years. In recent years the Commission has been especially active in recommending buildings and sites for designation on the Town's *Register of Designated Landmarks*. The Landmark Preservation law allows the Commission to recommend to the Town Board that a site or structure be designated as a landmark, provided the owner consents to the designation. In the case of a proposed historic district, fifty one percent (51%) of the property owners in the proposed district must agree to the designation.

Applications for building permits to reconstruct, alter or add to a structure recognized under this law shall be referred by the Building Inspector to the Commission for comments and recommendations, which must be filed in writing. “Every application for a building permit for the reconstruction or alteration of or addition to a landmark listed by S.P.L.I.A. (Society for the Preservation of Long Island Antiquities), federal, state or town agencies shall be referred...” (Section 56-7. Landmark Preservation Law of Southold Town). In reviewing these building permits, the Commission is restricted to considering the impact of the permit request only as it may affect the exterior architectural features of the building. It can suggest alternative approaches and materials to the property owner. However, its comments are advisory only: the property owner can refuse to accept them.

In addition to town government, there are six active historical societies within Southold, one of which is based in Greenport Village, which is outside the scope of this document:

Oysterponds Historical Society
Southold Historical Society
Cutchogue – New Suffolk Historical Council
Mattituck Historical Society
The Henry-Fergusen Museum (Fishers Island)
Stirling Historical Society (Greenport)

These societies are independently run, not-for-profit organizations that specialize in historic preservation. Some of them own and manage historical properties from which they run educational programs throughout the year. The societies are actively supported by local residents who give generously of their time and money. Events sponsored by these organizations are usually well attended by residents and tourists alike. Finally, the historical societies along with the Landmark Commission, have a tradition of sharing their expertise with property owners and with organizations such as libraries, park districts and churches, which own landmark (or proposed landmark) properties in an effort to help preserve the local history.

2. State and National Registers of Historic Places

The State and National Registers of Historic Places are the official lists of buildings, structures, districts, objects and sites significant in the history, architecture, archeology and culture of New York and the nation. The Town of Southold contains an impressive number of sites that are listed on the *National Register of Historic Places*:

Reach 2	Horton Point Lighthouse, Southold
Reach 4	Terry-Mulford House, Orient
Reach 5	Orient Historic District, Orient
Reach 7	Southold Historic District, Southold
Reach 8	The Old House, Cutchogue Fort Cutchogue, Cutchogue
Reach 9	Gildersleeve Octagonal Building, Mattituck Richard Cox House, Mattituck

The location of these sites are indicated on [Map II-17](#) and their significance is considered in the respective Reach in *Section II.J. Reach Inventory and Analysis*.

The New York State Office of Parks, Recreation and Historic Preservation keeps a record of all properties submitted for its review. This record contains a listing of *over 600 sites* in the Town of Southold that are of potential historic or archaeological significance and that may be eligible for consideration for listing on the *State and National Register of Historic Places*. Four additional sites presently are eligible for listing on the *National Register of Historic Places*. These include:

Reach 5	Little Gull Island Light Station Plum Island Light Station
Reach 7	Southold Library
Reach 10	Race Rock Light Station Fort Wright, U.S. Army

3. Local Historic Resources

In addition to the *National and State Registers of Historic Places*, the Town of Southold has approved the designation of more than 50 buildings and structures as locally significant historic landmarks under *Chapter 56* of the Town Code, the *Landmark Preservation Law*. As described earlier, this law established an advisory Landmark Preservation Commission which works to assist the owners of historic sites and structures to preserve, protect and maintain the character of their properties. The Landmark Preservation Committee maintains a reference file on historically significant properties within the Township. It also encourages individual owners to apply for local landmark designation; towards that end will assist property owners interested in historically or architecturally consistent renovations and restorations.

A listing of these designations is contained in Table II-27 below. It is interesting to note that not all structures listed on the State and National Register are listed on the Town Register. This situation reflects the strictly voluntary nature of the Town's Register and the limited benefits that accrue from such listing.

Table II-27: Town of Southold – Local Register of Landmark Structures and Sites

Laurel

Cleaves- Kuester House, Franklinville Road (Old SR 25)

Mattituck

Wells-Lyons House, Main Road (SR 25)

Reeve-Pim House, Reeve Avenue

Reeve-Wickham House, New Suffolk Avenue

Cutchogue

"The Old Place", New Suffolk Road

Honeymoon Cottage, Village Green

Wickham Farmhouse, Village Green

David Tuthill Farmstead-Wickham House, New Suffolk Road

Moore-Lizewski House & Barn, Main Road

Early Colonist's House, Main Road

Independent Congregational Church, Main Road

Hamid House, Main Road

Buckingham-Case-Richmond House, Main Road

Richard Hallock House, Skunk Lane

The Cutchogue Diner, Main Road
Hurricane Hall, Skunk Lane
Einstein House, West Cove Road
The Old House, Village Green
The Commoners Preserve, Little Creek and at confluence of Broadwaters, Mud and East creeks

New Suffolk

Old Harbor House, Harbor Lane
Methodist Mission & New Suffolk School, King Street

Peconic

Isaac Overton House, Middle Island Road
The Old Castle, Main Road

Southold

Town Doctor's House, Ackerly Pond Road
Joseph Reeve House, Lower Road
Abijah Corey House, Main Bayview Road
Hayles-Tuthill-Young House, Main Road
Joseph Horton House, Main Road
John Booth House, Oaklawn Avenue
Deacon James Horton House, Main Bayview Road
The First Universal Church of Southold, Main Road
The Prince Building, Main Road
Col. John Youngs House, Youngs Avenue
Thomas Moore House, Main Road
The First Presbyterian Church, Main Road
The Cleveland-Glover/Frank Gagen Blacksmith Shop, Main Road
The Hallock Currie-Bell House, Main Road
The Pine Neck Barn, Main Road
The Downs Carriage House, Main Road
The Bayview School House, Main Road
The Treasure Exchange, Main Road
Horton Point Lighthouse, Lighthouse Road

Greenport

Fanning-Doroski House, Broad Street
The Frank (Sparky) Coyle Residence, Champlin Place
The Frank J. McIntosh Residence, Main Road

Orient

Shaw House/Revolutionary Cottage, Village Lane
Terry-Mulford House, Kings Highway
"Terrywold", Kings Highway
Village House, Village Lane
Webb House, Poquatuck Park
High-Thiel House, Kings Highway
Gideon Youngs House, Village Lane
The Nathan B. Seidman Residence, Main Road
Benjamin Franklin Mile Markers, SR 25 and CR 48

Brief descriptions of some of these local landmarks can be found in the respective Reach analysis. In 1996, the Landmark Preservation Commission published a guide to these landmarks: *Town of Southold Register of Designated Landmarks 1983-1996*.

• ***Historical Maritime Landmarks***

Southold has a long history as a maritime community, dating back to its original settlement in 1640. There exist a number of historically significant navigational aids within the Town. As will be seen from the list below, many were rescued from oblivion. In all cases, the rescues were the direct result of citizen outcry and, sometimes, volunteered money, labor and time.

Reach 2:	<i>Horton Point Lighthouse</i>	Built in 1857. Re-commissioned in 1990.
Reach 5:	<i>Orient Point Lighthouse</i>	Built in 1899. Renovated in 1973 & 1999. Upgraded in 1978.
	<i>Plum Island Lighthouse</i>	Built in 1827. Rebuilt in 1869. Discontinued in 1978
	<i>Little Gull Island Light Station</i>	Built in 1806. Rebuilt in 1868.
	<i>Bug Light at Long Beach Bar</i>	Built in 1870. Discontinued in 1945. Burned in 1963. Re-built and re-lit – 1990.
Reach 10:	<i>Latimer Reef Lighthouse</i>	Built in 1804. Rebuilt in 1837 and 1849 as a lightship. Rebuilt in 1884.
	<i>North Dumpling Light</i>	Built in 1849. Rebuilt in 1871 & 1980.
	<i>Race Rock Light</i>	Built in 1878.

(Sources: Newsday, February 27, 1998, Cliff Benfield, Southold Town Landmark Preservation Committee. March 1998. Long Island Chapter of the United States Lighthouse Society Website 10/8/02).

To save on operating and maintenance costs, the U.S. Coast Guard has been abandoning lighthouses or replacing them with signal towers. A few lighthouses were spared; their lights converted to remote-controlled, mechanical lamps. With the evolution of electronic forms of nautical tracking, lighthouses have become nearly obsolete. In an era of declining public funds, many are not maintained.

In contrast, the preservation of lighthouses within Southold Town has enjoyed strong support from local historical societies, restoration groups and local residents. The *Horton Point Lighthouse* and *Bug Light at Long Beach Bar* are two stellar examples of restored or rebuilt lighthouses which now contain mechanical lights in towers once maintained by dedicated keepers of the flame. The *Orient Point Lighthouse*, affectionately dubbed “the Coffee Pot”, was rescued from demolition during the early 1970s because of local protests to the Coast Guard. It was subsequently restored in 1973, then upgraded in 1978. In 1999, in honor of its 100th birthday, “the Coffee Pot” was given a facelift. The anniversary was saluted with much nautical fanfare and attended by federal, regional and local officials. The Horton Point and Orient Point lights are working lights on the federal government’s official Light List since 1857. By contrast, the Bug Light is operated as a private signal. The restoration of each of these lighthouses is documented in greater detail in their respective Reach in *Section II.J. Reach Inventory and Analysis*.

Within the past decade, the Town’s *Landmark Preservation Commission*, along with some Plum Island employees and other interested individuals, has attempted to negotiate permission from the federal government to restore the *Plum Island Light Station*. This light is eligible for listing on the *National Historic Register*. However, the U.S. Department of Agriculture’s concerns about

compromising the “restricted access” status of its Animal Disease Research Laboratory poses an obstacle to citizen efforts to restore and maintain the lighthouse. It is hoped that the proposed upgrading of this Laboratory from Biohazard Level 3 to 4 will not further stymie local efforts to salvage this historic structure.

Other maritime-related structures of historic interest include the shipping piers at Orient Wharf, Orient: (Reach 5), the Wharf House at the Town docks at Founders Landing, Southold: (Reach 7), and the New Suffolk Shipping Piers (Reach 8). The former life-saving station at Rocky Point, East Marion (Reach 3) is still extant, as is one of the last remaining tidal mills left on Long Island at Mattituck Inlet (Reach 1). The life station has been converted into a residence; the tidal mill into a restaurant. On Fishers Island and Plum Island, both sites of naval defense fortifications in use up until the end of World War II, there are numerous structures that may be worth preserving.

Map II-17 Archaeological and Historical Resources shows the location of these resources.

- ***Documentation and Preservation Efforts: Problems and Opportunities***

Local efforts to identify and document historic resources include the aforementioned Comprehensive Survey of Historic Resources, better known as the *S.P.L.I.A. Survey*. Many individuals and groups participated in the research for this 1988 inventory of the entire Town, including the *Oysterponds Historical Society*, the *Southold Historical Society*, the *Mattituck Historical Society*, the *Cutchogue-New Suffolk Historical Council*, the Fergusen Museum on Fishers Island and the *Society for the Preservation of Long Island Antiquities*.

This survey also attempted to document the location of archeological sites of importance. These are discussed in *Section II.G. Archeological Resources*.

In addition, the Suffolk County Cultural Affairs Office has commissioned cultural resource surveys and archeological reports on County-held park sites within the Town of Southold. Together these surveys have documented approximately 1500 historic sites on the mainland and approximately 70 historic sites on Fishers Island. *Section II.J. Reach Inventory and Analysis* contains a brief summary of the historical resources found within each Reach.

Other documentation efforts include a map of historic sites and structures that were erected prior to 1815. This map was prepared as part of the 1976 national bicentennial celebration and was updated in 1983 in preparation for Suffolk County's three hundredth birthday celebration.

However, over the years some of these historic properties were demolished or altered beyond recognition. Since the SPLIA survey has not been updated since 1988, the Town's records are out of date. Furthermore, the SPLIA survey is not catalogued and cross-referenced for easy location of the sites; one reason for the loss of buildings to demolition permits or incompatible renovation.

Since 1998, when an economic analysis of the Town's economy suggested that the historical character of the Town was a significant factor in the quality of life, the *Landmark Preservation Commission* has been exploring creative ways to foster preservation of the Town's historical heritage. The potential extent of this heritage, as mentioned earlier, is not well catalogued. According to the 2000 U.S. Census, slightly more than 25% of the Town's housing stock predates 1939. Of the approximately 1500 structures identified by the SPLIA inventory, many date back to the 1800s or earlier.

During the summer of 2000, a summer intern was retained to conduct an update of the SPLIA survey. Field inspections were combined with a mail survey in an attempt to determine whether the structure or site was still extant and its condition. The results are still being analyzed. The *Landmark Preservation Commission* is seeking professional assistance to complete this survey. As will be discussed further in *Sections II.J* and *II.K*, the Town's historical heritage is extensive, significant and vulnerable. Individually or in groups, the Town's citizens have done a masterful job of protecting it. However, in the face of escalating development pressures and lack of education, preservation of that historical heritage will need an ongoing focus and commitment at the governmental level lest it be lost.

G. ARCHEOLOGICAL RESOURCES

1. Introduction

The New York State Archaeological Sensitivity Map (OPRHP, March 1992) indicates that *most* of the Town of Southold has *multiple site sensitivity*. This designation means that there is considerable evidence of the earlier Native American occupation of the region. Many of these archaeological resources are described in the *S.P.L.I.A. Survey*, described earlier.

In *Section II.F. Historical Resources*, the role and jurisdictions of the Town's *Landmark Preservation Commission* were described. This Commission has similar oversight over archeological sites, as well. However, it has no enforcement authority or financial resources with which to protect or preserve such sites. Accordingly, since there are no regulations controlling the ultimate disposition of excavated materials, it is estimated that many arrowheads and other items are either scavenged from excavated sites by local collectors or simply lost. The predominant local organization involved with Native American artifacts is the Suffolk Chapter of the *New York State Archeological Association*. It is located in Southold, in Reach 7. Locally known as *The Indian Museum*, the Association is a repository for one of the largest collections of Indian artifacts in the State of New York.

Although there is considerable documentation of the Town's archeological sites in the SPLIA survey and in archeological journals and papers, an exhaustive survey has never been undertaken. Some of the better known and significant sites include a rare Indian fort, encampments, burial grounds and evidence of colonial settlement activity. Additional sites that may be of archeological significance have been identified, particularly along the south or bay shoreline. (Source: New York State Office of Parks, Recreation and Historic Preservation, July 1981).

Fishers Island (Reach 10) features extensive archaeological sites that have yielded a rich variety of subsistence material. However, The Henry Fergusen Museum maintains extensive records on these sites and ensures preservation of all artifacts found on the Island. The Reach Analysis for Fishers Island includes more information about the island and the museum.

2. State and National Registers of Historic Places and Landmarks

Fort Corchaug (Reach 8) is a pre-historic and contact period site located on the west side of Downs Creek. It is thought to be the *only* intact pre-historic fort of its type on Long Island. The national importance of this site is recognized by its listing on the *National Register of Historic Places* since 1974. The fort's preservation was ensured in 1997 when its acquisition was accomplished by a unique public/private partnership involving the original property owner, a contract-vendee, the Peconic Land Trust, Suffolk County, the State Office of Parks, Recreation and Historic Preservation, and the Town. The Town now owns the fort and 22.9 acres around it. In January of 1999, the entire 22.9 acre Fort Corchaug Archaeological Site was designated a National Historic Landmark.

The Town has charged a management committee with developing a long-term strategic plan for the use and preservation of the 51-acre parcel. The details of the plan are being worked out with the cooperation and technical expertise of the Peconic Land Trust.

Map II-17 Archaeological and Historical Resources shows the location of these resources.

3. Documentation and Preservation Efforts: Problems and Opportunities

As will be discussed further in *Section II.K.*, the Town's archeological heritage is extensive, significant and highly vulnerable. As they have done with the historical resources, the Town's citizens have done a masterful job of protecting it. However, in the face of escalating development pressures and lack of education as to its significance, preservation of the archeological resource will require more focus and attention lest it be lost.

H. SCENIC RESOURCES

1. Introduction

The Town of Southold's scenic resources are distinctive, unique and fragile. The different scenic elements of open farm fields, vineyards, open waters, sheltered creeks, wetlands and woodlands juxtaposed between historic hamlets and working waterfronts are characteristic of the Town's landscape. This landscape is key to the attraction of this area for residents, visitors and businesses. The scenic resources of the Town are described below and considered in more detail in *Section II.J. Reach Inventory and Analysis*.

• Nature and Character of Scenic Resources

The Town's scenic resources can be described in terms of its physical and cultural characteristics. Physical character considers landform, vegetation, shoreline configuration, water features and the land use pattern. The cultural character includes the cultural and historical elements of landscape, the design of structures and landscapes, the state of upkeep, the symbolic value and meaning of the landscape and the negative impacts of discordant landscape features.

The scenic quality of Southold Town results from the visual composition that emerges from the interaction of these individual components of the landscape. High scenic quality results from a variety of contrasting components that blend well together in a unified setting. Scenic quality is also reflected through the ability of the public to view the landscape and their recognition of the values of the landscape's essential components.

The physical character of Southold consists of a gently rolling upland terrain and a coastline with a variety of bluffs and beaches, creeks, inlets and ponds, wetlands and marshes, the waters of the Peconic Bays and the Long Island Sound and offshore islands. Most of the vegetation consists of tidal wetlands, freshwater marshes, agricultural lands, undeveloped fields, pine and oak woodlands, and transitional vegetation. The large extent of this natural vegetation helps to obscure incompatible development that is in contrast with the natural landscape. Residential development and agricultural land are the dominant land uses. The balance between these uses is ever changing, as new subdivisions spread out into the traditionally agricultural areas.

Over the last ten years, changes in the agricultural industry have dramatically changed characteristics of this important scenic component. Potato farms have been replaced by an increased diversity of vineyards, other field crops, horse pasture and sod. However, the latest and most controversial trend within the agricultural industry is the shift to products grown in greenhouses. Within the past few years, the increasing numbers of glass or plastic greenhouses throughout the Town has generated such a strong outcry by residents about the ensuing loss of scenic quality that the Town's Code Committee is examining legislative changes to address these concerns. This is a difficult issue to grapple with due to the Town's desire to encourage retention of its agricultural land base and industry, while also maintaining the scenic vistas on which its quality of life and tourist industry are based.

The cultural character of the Town consists of a series of well-defined hamlets and residential neighborhoods set within a predominantly rural and agricultural landscape. These hamlets historically have been the main concentrations of residential and commercial development. Today, they remain clearly identifiable centers of economic activity. The hamlets are linked together along the historic SR 25, formerly known as *The Kings Highway*, while the smaller hamlets of Laurel (formerly Franklinville), New Suffolk, Peconic and Orient are located off arterial roads leading to

SR 25 or CR 48. This highway runs from east to west. A survey of old maps shows the remarkably unchanged route of *The King's Highway*, which dates back to the early 1700s. With few exceptions, the modern road still follows the original dirt-trodden path. Most of the mile markers from 1715 can still be seen on the south side of SR 25. Travelers along the highway pass through historic hamlets and open agricultural landscape, by wooded areas and wetlands and catch glimpses of the Peconic Bays. While the residential landscape and much of the business centers are well-maintained, some of the scenic qualities of the hamlets and the SR 25 corridor are threatened by inappropriate signage, poor or excessive site and sign lighting, lack of street-side landscaping, deteriorated structures and increased traffic congestion.

There are many stunning vistas available along the waterfront, from public parklands and beaches, and from local roads and street ends. Parts of the north shore afford spectacular views of the Long Island Sound that are evocative of the California coast, particularly from key sites along the bluffs. The views stretch along the shoreline to the east, north and west along the Connecticut shoreline. The south shore embayments on the Peconic Estuary offer a variety of views to the east, south and west, including Robins Island, Shelter Island, Plum Island, Gardiners Island, the South Fork, and Block Island. The views further east include Little and Big Gull islands and Fishers Island

Although there are many structures visible throughout the waterfront, most of this development is residential in nature and for the most part is not inordinately obtrusive due to the fairly low profile of most of the buildings (between one and three stories in height). Where woodland surround these residences, the visual impact of development on the shoreline is softened. There remain some stretches of undeveloped shoreline, particularly along Long Island Sound. And, in many waterfront communities, the homes are tucked in amongst the trees, imparting to the viewer little hint of their existence.

However, in some residential communities along the bay or creek waterfront, there has been extensive clearing of the natural wood, meadow and marsh vegetation that was native to the creek or bay shorelines. Their replacement with bulkheading, lawns and formal landscaping species has not only changed the aesthetic character of the affected waterfronts from a natural to a manicured landscape, but contributed to the contamination of surface waters by fertilizers and pesticides. Stretches of shoreline that used to be heavily vegetated enough to hide the residences along the shore thus imparting the illusion of vast stretches of uninhabited shoreline, have in some cases been cleared of anything that might block a view of the water from the residences on the beach. In these cases, the view of the shore from the water and from opposite shorelines has been compromised, because the vista has been changed from woodland to houses and lawns.

- **Maritime Scenic Elements**

From a mariner's perspective, this situation has implications beyond mere aesthetics. Navigation at night near a cleared shoreline can be seriously compromised by the glare of unshielded street lights, spotlights and residential floodlights, which not only compromise a person's night vision, but sometimes compete with nearby navigation lights. This situation is addressed again in *Section II.K. Inventory and Analysis – Summary and Conclusions*.

There are few industrialized waterfront parcels with the two exceptions of the decaying asphalt tanks at the entrance to Mattituck Inlet (Reach 1) and the abandoned seafood processing plant at Cleaves Point (Reach 5). Rehabilitation of these sites should be undertaken with an eye towards improving their aesthetic impacts on the neighborhood.

- **Problems and Opportunities**

Overall, the scenic quality of the Town is very good, but there are key areas of incompatible development, which if not addressed, have the potential to blight adjoining properties. In these areas, commercial development has taken on an obtrusive and incongruous appearance. Typically, the location and design of the structures, the intensity of the site lighting, and type of signage are not in harmony with the dominant land use patterns or the rural and historic character of the Town.

The Town has striven to balance new growth and development with the desire to maintain the integrity of the rural landscape and the architectural character of the Town. It has tried to do this by guiding and regulating new development on a case-by-case basis, through the use of site plan and architectural reviews. These tools have been partially successful in preventing grossly incongruous development. However, they have been unsuccessful in preventing the neglect and destruction of older historic structures that are integral to the character of the Town. There are a number of business people who disagree with the premise that site plan and architectural review have any inherent value or benefits, either to the property owner or the community at large. These reviews are perceived as nothing more than a punitive form of government regulation. Their opposition has been the primary obstacle to the adoption of more stringent architectural or site design guidelines that would protect the Town's unique historical and scenic character.

In recent years, the Town has recognized the need to look at its scenic resources in a more comprehensive way. This recognition follows a broader trend, nationally and state-wide, towards realizing that significant public and private benefits are derived from scenic resources.

- **Scenic Areas of Statewide Significance**

In recognition of the scenic value of the coast, the *New York State Coastal Management Program* provides for protection of *Scenic Areas of Statewide Significance* (SASS). Accordingly, the Department of State (DOS) has embarked on a program to identify, evaluate, and recommend areas for designation as a SASS. The DOS has developed a scenic assessment methodology to determine the scenic quality and aesthetic significance of the coastal area. The methodology evaluates the scenic quality of specific sections of the coastline against criteria for determining aesthetic significance. The scenic assessment methodology is described briefly below. Further details are available from "Technical Memorandum: Identification of Scenic Areas of Statewide Significance in New York State" (Department of State, 1992).

- ***Scenic Assessment Methodology***

The landscape of the coastal area is divided into three categories or components, which are divided further into sub-elements of the landscape, as listed below:

Physical character: landform, vegetation, shoreline configuration, and water features

Cultural character: land use, ephemeral characteristics, historic character, symbolic value/meaning, architectural character, landscape character, state of upkeep, and discordant features

Views: coastal viewshed, length of views, breadth of views, background, composition, and focal points

To determine its aesthetic significance, the composition of the landscape as a whole is evaluated. Each of the landscape components noted above are rated for scenic quality and are evaluated against specific criteria that determine aesthetic significance. These criteria are:

- variety, unity, contrast and uniqueness of scenic components
- lack of discordant features in the landscape
- degree of public accessibility and recognition of a landscape.

The components are then described according to three levels of quality and significance:

- distinctive, *of statewide significance*
- noteworthy, *of regional and local significance*
- common

The scenic assessment methodology described here was first applied in the Hudson River Valley, where six *Scenic Areas of Statewide Significance* have been designated. The *Draft Long Island Sound Coastal Management Program* indicated that this methodology could easily be applied within the Long Island Sound coastal region.

Such a regional scenic assessment would help place the scenic resources of the Town of Southold in a statewide perspective, thereby providing recognition to the landscapes of the Town that are of statewide significance as well as those that are important to the community character and sense of place. (It is worth noting here that the five East End Towns may take on this project in the near future as a region. (Source: *Year End Report: 1997 and Transportation Action Strategy Report of 1998*. East End Transportation Council of the East End Supervisors and Mayors Association, 1998.)

- **Scenic Byways Corridor Management Plan**

The Town of Southold worked in partnership with the NYSDOS and NYSDOT to prepare a *Scenic Byways Corridor Management Plan* for the Town of Southold. The need for a Corridor Management approach came out of a lengthy study of the challenges facing the Town as it tries to maintain its rural character in the face of increasing residential development and tourism. The Town chose to focus its initial efforts on the main east-west transportation corridors: State Route 25 and County Route 48, the Long Island Rail Road track, along with five local roads: Oregon Road, New Suffolk Avenue and Road, Sound View Avenue, North and Main Bayview Roads, and Narrow River Road.

The *Corridor Management Plan* assesses the eligibility of roads within the Town of Southold for designation as Scenic Byways, pursuant to the federal Intermodal Surface Transportation Efficiency Act of 1991. The Plan:

- identified SR 25 and CR 48 for nomination as Scenic Byways and demonstrated how the proposed Scenic Byways meet the basic designation criteria
- describes how the proposed Scenic Byways will be operated and managed and how Scenic Byway corridor preservation and enhancement will be implemented within the Town of Southold.

An early part of the study involved an identification of the intrinsic resources related to the transportation corridor, a characterization of the nature and extent of the resources, and an analysis of their context within, and significance to, the corridor. The intrinsic resources that were identified included *scenic, historic, natural, cultural, recreational and archaeological features* considered representative of the transportation corridor or unique or irreplaceable. The Plan proposes a strategy for maintaining and enhancing those intrinsic resources. The Plan was adopted by the Town in July of 2001. [Map II-18](#) shows the location of the designated roads. Additional information about the *Scenic Byway Corridor Management Plan* is available in *Section II.B. Planning Framework. 9. Transportation Planning:1992-2002* and *Section IV.*

One of the findings of the *Corridor Management Plan* was the degree to which the local economy is dependent on the high scenic qualities found within the Town. It seems clear that the preservation of the aesthetic, historic, and scenic characteristics of Southold will be key to the continuance of its attraction as a quaint, agricultural and waterfront community.

I. DEVELOPMENT CONSTRAINTS

1. Flooding

(i) Introduction

The potential for flooding along certain portions of the shoreline areas of the Town of Southold is high. Most of the Southold's flood-prone areas are located along the Peconic Estuary shoreline and its numerous creeks and inlets, although there are several areas of the Town's Long Island Sound shoreline that are susceptible to flooding. The flood-prone areas are discussed in general below and examined in more detail in the Reach Analysis.

These major flooding problems are associated with the rising and elevated water levels and wave action that accompanies hurricanes and coastal storms. These effects can result in flood damage far inland from the shoreline. The maximum water level expected in the Long Island Sound shore of Southold is about 14 feet above mean sea level, and the 100-year flood level is about 10.7 feet. These levels are lower on the Peconic Estuary shoreline. Flooding as a result of overland runoff from unusually heavy rainfall is of a minor magnitude, but can be significant if prolonged winds and storm-driven tides push tidal waters upland.

Table II-30 in *Section II.1.2.(ii).g.* lists specific storms that caused flood and erosion damages to homes, docks, bulkheads and shoreline property in Southold. Damage to the exposed shorefront areas is more often associated with the effect of prolonged wave action and water-borne rocks and trees. In the more protected creeks and bays, the damage is primarily caused by high water levels.

In Southold, other than the seawall on the south side of State Route 25 on the Orient causeway, there are no major seawalls such as found in Galveston, Texas or in portions of Massachusetts. However, there are extensive areas where shoreline protection devices such as bulkheads, groins and jetties have been constructed, particularly along the Peconic Estuary shoreline. The only sound-front area with a number of shoreline protection devices is Reach 2. In principal, these structures act to stabilize the immediate shorefront, and they can reduce the impact of storms on individual properties. However, poor design or placement can lead to unintended negative results. The distribution and effects (pro and con) of hard structures on Southold's shoreline-is considered in more detail in *Section II.1.2. Erosion.*

(ii) Long Island Sound shoreline

The Long Island Sound shoreline of the Town of Southold features a mix of rocky and sandy beaches backed by steep bluffs. Because of these bluffs, coastal flooding along this shoreline occurs only where the bluffs have eroded or were removed through human activity. Very high tides may rise to the bluff toe, and scour the immediate beach, but not flood the houses perched atop or behind the bluff face. However, prolonged northeasters have caused some bluff faces to be undermined, thereby imperiling houses placed too close to the edge. There are five low-lying areas located along the Sound shorefront:

Mattituck Creek (Reach 1),
Duck Pond Point, Goldsmith Inlet and Great Pond and Kenney's Beach (Reach 2),
Town Beach (Reach 3),
Truman Beach, Dam Pond and Orient-East Marion Park District marshlands (Reaches 4/5).

At Mattituck Creek, rising Sound waters entering the Inlet can raise water levels in the Creek and extending flooding some two miles inland from the shoreline into low-lying areas around the Creek. At Town Beach, there is a stretch of shoreline that is not backed by bluffs. Here, storm-waters from the Sound can wash over the beach, the adjoining County Route 48, and the low-lying residential lots to the south right into floodwaters from the Peconic Estuary in Hashamomuck Pond. Similarly, at Truman Beach there is a stretch of shoreline where Sound waters can overtop NY Route 25 and the adjacent low sand dunes and wetlands and merge with Peconic Estuary waters in Gardiners Bay. There is also an area in Pettys Bight where waters from the Sound can contribute to inland flooding.

(iii) Peconic Estuary shoreline

Much of the shoreline of the Peconic estuary in the Town of Southold is subject to flooding. In fact, there are fewer areas above flood elevations than areas that are subject to flooding. With the exception of portions of Peconic along Indian Neck Road (Reach 7) and Little Hog Neck (Nassau Point) (Reach 8), almost all of the shoreline is just about or slightly more than 10 feet above mean sea level. Although the storm water elevations can be higher on the Long Island Sound shoreline than on the Peconic Estuary, more flood damage usually results on the Peconic Estuary shoreline, due to the low elevation of the land. While most houses do not flood regularly, some areas such as Fishermans Beach (Reach 9) and Marratooka Point (Reach 8) flood several times a year. Specific areas subject to flooding are described within *Section II.J. Reach Inventory and Analysis*.

(iv) The National Flood Insurance Program

The Federal Government enacted the *National Flood Insurance Act of 1968* to provide flood insurance protection to property owners in flood-prone areas. This legislation was amended by the *Flood Disaster Protection Act of 1973* to require the purchase of flood insurance as a condition of receiving any form of Federal or federally related assistance for acquisition or construction purposes. This applies to permanent and movable structures located within identified special flood and erosion hazard areas.

The *Federal Emergency Management Agency* developed a series of *flood insurance rate maps* (FIRM) for all coastal communities, which indicate the boundaries of flood plains and identify flood elevations. The FIRM maps delineate zones of special flood hazard and coastal high-hazard areas. Flood elevations are determined by changes in ground elevation, vegetation and natural features. This information is used to subdivide these flood zones into specific flood potential or hazard areas. As defined by the FEMA, areas of special flood hazard (also known as A-zones or the 100-year floodplain) are areas within a community that are subject to a one-percent or greater chance of flooding in any given year, or to a flood that would be exceeded in severity only once every one-hundred years on average. Coastal High-Hazard Areas (V-zones) are defined as areas with special flood hazards associated with high-velocity waters generated by tidal surges and hurricane wave wash. V-zones are located seaward of the A-zones and both zones are contained within the 100-year floodplain.

The A-zones and V-zones for the Town of Southold, as indicated on the FIRM maps, are shown on [Map II-19](#). The V-zone area in the Town of Southold generally extends along the entire coastline with the exception of a seven-mile stretch located between Cedar Beach Point (Reach 7) and the eastern shores of Pipes Cove (Reach 6) and Cutchogue Harbor (Reach 8). This is due to the proximity of Shelter Island and the Nassau Point land mass, which provides protection in this area from storm surges and hurricane wave wash. Orient Point State Park and the lands bordering Long Beach Bay (Reach 5) have been identified as high exposure areas and they are assigned a higher

flood elevation under the V-zone designation. Within the Town, the A-zone generally includes all creeks, ponds and wetlands, extending between 200 and 1,000 feet inland from the edge of these areas. Hashamomuck Pond (Reach 6), Truman Beach/Dam Pond (Reach 4), and Long Beach Bay (Reach 5) are surrounded by extensive low-lying areas which commonly flood, justifying a higher flood elevation under the A-zone designation for these areas. These areas also lie within the x500 zone – the 500 year floodplain. The floodplains in the Town contain substantial development which is primarily residential in nature. Because of the high desirability of property on or near the waterfront for seasonal and year-round homes, it is likely that residential development will continue in these flood-prone areas. However, due to flood insurance regulations, it is anticipated that new and extensively renovated homes will conform to the minimum required first floor elevation of 10 feet. Over time, most residences in the designated flood zones are going to be brought into conformance with FEMA regulations.

The *National Flood Insurance Act of 1968* was enacted to provide previously unavailable flood insurance protection to property owners in flood-prone areas. This Act was amended in 1973 to include flood-related erosion protection. The *Flood Disaster Protection Act of 1973* required the purchase of flood insurance as a condition of receiving any form of Federal or federally-related financial assistance for acquisition or construction purposes with respect to insurable buildings and mobile homes situated within an identified special flood, mudslide, or flood-related erosion hazard areas. The Act further required that to qualify for the sale of federally subsidized flood insurance a community must participate in the flood insurance program (FEMA, October 1989). Communities not participating in the program would face restrictions on the aforementioned Federal financial assistance. For the community to enter the program, detailed FIRMs must be completed, and the local officials must enact regulations that require all new or substantially improved structures located in flood hazard areas to be built in accordance with the Federal floodplain management criteria (LIRPB, October 1984).

The Town of Southold participates in the *National Flood Insurance Program*. In accordance with the basic FEMA requirements, the Town adopted *Chapter 46* of the Town Code -- *The Flood Damage Prevention* law. This law contains standards for the regulation of all development or redevelopment in A-zones and V-zones. Any such development must conform to these standards. Flood Mitigation Assistance is available through the NYS Emergency Management Office. The Town could use the money to develop a flood mitigation plan, which would enable it to apply for additional funds to construct specific flood mitigation projects that may be identified in the plan.

2. Erosion

(i) Introduction

The coastline of the Town of Southold includes the Long Island Sound shoreline from the western Town boundary at Mattituck Hills to Orient Point; areas fronting Gardiners Bay, Orient Harbor, Shelter Island Sound, Hog Neck Bay, Little Peconic Bay and Great Peconic Bay; and Fishers Island in Block Island Sound. Southold's coastal landforms include beaches, bluffs, dunes, wetlands, and barrier features. Topographic character and sediment composition of the area determine the manner in which these landforms interact with the marine environment, thus affecting coastal erosion and flooding.

Coastal erosion is defined as the loss or displacement of land area along the shoreline due to the natural action of waves, currents, tides, wind-driven water, waterborne ice, or other impacts of storms. Erosion also includes the impacts to natural and developed coastal areas caused by the

action of wind, runoff of surface waters, or groundwater seepage. Within Southold, development has often been sited in areas that are subject to damage or loss due to erosion. As a result, man-made erosion and flood protection structures have been installed throughout the coastal area in the Town of Southold to prevent or mitigate these problems, as well as in some cases, strictly for aesthetic purposes. However, due to improper design, construction, and maintenance, these structures often disrupt natural processes, and exacerbate erosion. The primary concerns within Southold include long-term and storm-induced beach/dune and bluff erosion, and the flooding and erosion of low-lying areas associated with storm events.

Section II.A.3 summarized the development of Long Island and its shoreline, highlighting the importance of glacial deposition in the formation of the current landscape. Before examining the nature and condition of the shoreline of the Town of Southold, it is necessary to consider the specific coastal landforms that are present in Southold and the coastal processes that continue to shape these landforms.

(ii) Coastal landforms

Specific landforms common along the Southold shoreline include beaches, dunes, bluffs, barriers, inlets, and wetlands. These features act as natural protective features that buffer and protect inland areas from the erosive action of wind, water, and storm-induced high water. The coastal landforms located within the Town of Southold are described below. A complete inventory of the coastal landforms in the Town of Southold is contained in the Reach Analysis.

(a) Beaches

Beaches are zones of unconsolidated material extending landward from the mean low water line to the place where there is a change in material or physiographic form such as a zone of permanent vegetation, or a zone of dunes, or a bluff (MSRC, June 1973). Beaches are shaped by a complex system of waves, tides and currents. These actions combine to create littoral drift. Littoral drift is a dynamic process that promotes the transport of sand and sediment along the shoreline. The direction and rate of littoral transport depends mainly on the angle of wave approach and the wave energy at the shore. Shoreline wave energy is dependent upon the wind characteristics of the area. Other factors influencing littoral drift include the availability of sediment and grain size distribution (Saville and Watts, 1969).

Long-term changes in the formation and configuration of beaches are affected by regional geomorphology and the type of available beach material. Short-term periodic changes (daily and seasonal) are the result of the quantity of beach material available and the characteristics of waves, tides, and currents supplying energy to the shoreline. Beaches generally remain stable only in areas where the supply of material brought into the littoral zone is equal to that which is removed.

Beaches protect inland areas from erosion by absorbing wave and wind energy that otherwise would be expended on the toes of the bluffs or the dunes themselves. Beaches that are high and wide protect interior shore-lands from erosion more effectively than beaches that are low and narrow. Beaches also act as a reservoir of sand for dune and sandbar formation.

Beaches rim almost the entire coastline of Southold with the exception of some tidal wetland areas. The largest stretch of coastline without a beach is the north shore of Long Beach Bay (Reach 5), which consists primarily of tidal wetlands. Southold's beaches vary

greatly in size, shape and composition. In general, the beaches along the Long Island Sound are composed of coarse sand, gravel, cobble and large boulders, while the beaches along the Peconic Estuary are generally composed of finer sands. A few beaches have high accumulations of shell fragments.

Generally beaches are composed of loosely compacted sediments, usually sand or gravel. The beach profile shape depends on the incident wave energy and sediment size. Beaches are dynamic; most change annually due to varying wave climates. During the summer months, relatively long-period waves of low height persist, causing the subaerial (above-water) beach to be at its maximum width. As winter approaches, waves become steeper and tend to move material to an offshore bar that reduces wave energy on the beach face. This offshore movement reduces the subaerial beach width, yet represents equilibrium with the winter storm climate. The cycle is repetitive, as summer approaches with the onshore movement of beach material from the offshore bar. A noteworthy feature of this cycle is the change in beach composition from season to season as the finer beach material is more readily transported, which causes a sandy summertime beach to be primarily cobble during winter months.

During storm events, especially on open coasts, this cycle is amplified as larger waves erode the beach face and carry more sediment to an offshore bar. With the attendant increased water levels, waves attack and erode dunes and bluffs, and deposit material offshore. The growing bar in turn reduces the magnitude of wave attack on the beach face, dunes, and bluffs, thus providing a natural defense system. After the storm, the normal wave climate moves material onshore to the beach and re-establishes the normal seasonal profile. Problems occur when eroded bluff and dune materials are not returned to their pre-storm locations, but only reach elevations of maximum wave uprush on the subaerial beach. During severe storms, beach material is moved beyond the point of sediment motion under normal conditions, which effectively removes the material from the nearshore coastal environment. Dune and bluff erosion occur through these processes, requiring human intervention to mitigate the losses.

(b) Bluffs

Bluffs are promontory features located along the shoreline or projecting into a surface water body. These steeply sloped headlands are composed of sediments such as clay, sand, gravel or erodible rock formations. Unlike cliffs, which are composed of relatively stable rock material, bluffs are easily susceptible to the erosive action of adjacent surface waters. Stable bluffs are characterized by gradually sloping faces, heavy vegetative cover, and wide protective beaches.

Bluffs protect interior shorelands by absorbing the often destructive energy of open waters. Bluffs are of their greatest value during times of storm-induced high water. Bluffs are also a source of dispositional material for beaches, consequently allowing them to widen through the production of the sand and sediment by-products of erosion, which are carried by littoral transport and wind. The most prevalent causes of bluff erosion are toe scour by wave action, surface runoff, and drainage and infiltration problems that lead to slope failure (USACOE, 1981).

Bluffs line much of Southold's Long Island Sound shore, stretching east from Mattituck Hills (Reach 1) to Orient Point (Reach 4). The highest bluff elevations are found at the

western end of the Town, with a peak elevation of 160 feet above mean sea level at Mattituck Hills (Reach 1). These elevations gradually diminish to the east, toward Orient Point, where low bluffs and scattered hills are found. Bluffs are also found on the Peconic Estuary, located on the east side of Nassau Point (Reach 9), the eastern and western shores of Robins Island (Reach 8), and along the southern and eastern shores of Fishers Island (Reach 10).

Deposited during glacial movement, these coastal landforms are highly susceptible to erosion and collapse because of their steep seaward slope and narrow beaches, and although they tend to be well vegetated, the prominent plant species only act to retard the rate of erosion. Many of the bluffs have slopes in excess of 50 percent, which are subject to erosion at an average rate of 1.5 feet per year (McClimans, USDA-SCS, 1970). A severe storm, however, can rapidly increase rates of erosion (2 feet or more in a matter of hours), as was evidenced at Horton Point in 1985, after the Hurricane Gloria storm event.

Understanding the processes that cause bluff recession is critical. These bluffs, which can approach 100 feet in height, are composed of unconsolidated sediment -- principally cobbles, sand, clay, and, on the top of the bluff, loam. In certain areas, primarily Pettys Bight, the bluff is composed of clay alone. Roughly 75 percent of these bluffs are vegetated (stable), while the remainder are uncovered and actively eroding (Tanski, 1980). Some bluff areas are estimated to erode at rates as high as 6 feet per year. Erosional sections are mostly storm related and are caused by undercutting of the bluff by waves or tidal currents. Groundwater seepage, overland runoff, vegetation density, and bluff geometry and composition are other factors that affect bluff erosion. Once bluff erosion is initiated, the bluff steepens beyond a stable value, which is subsequently followed by slope failure and marked recession. Although bluff erosion is complex and difficult to predict, it is easily monitored and readily stabilized through engineered means. These stabilization efforts, however, often fail to recognize the importance of maintaining the bluffs as a component in the littoral environment. In addition, they are expensive to construct and maintain.

Bluff erosion is particularly noteworthy along the Southold shorelines, where a high percentage of the sound coast is fronted by glacial bluffs. Erosion processes are different from beach and dune erosion because bluffs serve as the major reservoir of sediment along the shoreline. As beaches are inundated and move landward, bluff material is introduced to the littoral environment. This material is then transported alongshore or offshore, resulting in further erosion of the bluff. The continuous process is a natural equilibrium in which the bluff sacrifices a volume of material to the beach to prevent further beach erosion. Unfortunately, bluff erosion (unlike dunes) is permanent, which is a primary motivation in efforts to stabilize bluff faces against further erosion.

(c) Dunes

A dune is a hill or ridge composed of loose, unconsolidated material, primarily sand of the same or similar grain size. Like bluffs and beaches, dunes act to buffer inland areas from wind and wave action. Dunes provide the greatest protective value during conditions of storm-induced high water. The protective value of dunes is especially great because they generally protect some of the most biologically sensitive areas, as well as developed coastal areas. Although sand dunes offer substantial protection during severe storms, they are not effective protection from gradual long-term erosion. A large dune may initially offer

substantial storm protection on a site, but if located in an area of high erosion, it may lose its protective ability as it is slowly washed or blown away.

The two primary protective functions of dunes are the prevention of wave overtopping and the storage of sand for the rejuvenation of beaches and other natural protective features (NCPI, December 1988). Healthy, effective dune systems require well-established vegetation. High-vegetated dunes provide far greater protection than low, unvegetated features.

The most extensive formation of sand dunes in the Town of Southold is the Peconic Dunes (Reach 2). This area extends eastward from Goldsmith Inlet County Park to the Peconic Dunes County Park for approximately 1.5 miles. They are over 1,000 feet wide in some places. This dune system is composed of both primary and secondary dune formations, and represents a unique scenic and natural resource. Dunes are also found adjacent to Mattituck Inlet (Reach 1), but this formation system is not as extensive as the Peconic Dunes system.

Another area containing dunes is within the Orient Beach State Park (Reach 5). This area features a number of small, scattered dune formations. A large extent of this park has been designated as a National Natural Landmark under the auspices of the U.S. Department of Interior.

(d) Coastal barriers

Coastal barriers are defined as depositional geologic features which consist of unconsolidated sedimentary materials subject to wave, tidal, and wind energies (LIRPB, October 1984). The main type of barrier feature occurring within Southold is barrier spits. These are formed when the dominant waves and currents carry sediment into an elongated subaerial depositional feature, extending away from a headland. Sediments are transported along the trunk of the spit to its end in deeper water, thus permitting the spit to grow longer. Spits grow in a variety of shapes depending on local bathymetry, sediment supply, tidal conditions, and wave climate. Spit growth often forms shoreline features, such as cusped bars and baymouth barriers. These landforms protect the mainland from direct wave attack by dissipating a large amount of the wind, wave, and tidal energies received off the open waters.

Barrier spits are commonly found on the Peconic Estuary shoreline of Southold. Many of the creek outlets have developed sandy barriers which have been enhanced by dredge material placement. Typical examples are the mouths of Town and Jockey Creek (Reach 7) and East Creek (Reach 8), as well as the elongation of Nassau Point and Robins Island (Reach 8). In addition there are barrier features on Fishers Island (Reach 10) and at Long Beach in the Orient Beach State Park (Reach 5). There are also two dredge spoil islands in the vicinity of Budds Pond (Reach 6) and Town Creek (Reach 7) which act as coastal barriers.

(e) Inlets

A short narrow waterway connecting a bay, lagoon, or similar body of water with a large parent body of water. Inlets are highly dynamic with natural tendencies toward movement and closure, and subsequent openings of more efficient inlets. They are often stabilized for navigation requirements. The shoreline of the Peconic Estuary in Southold has many

inlets, while only Mattituck Inlet (Reach 1) and Goldsmith Inlet (Reach 2) exist on Southold's Long Island Sound shore.

(f) Tidal wetlands

Wetlands are low-lying areas subject to frequent inundation by tidal flows or storm tides, or merely having a relatively high water content. These areas are established in locations with little wave energy, allowing vegetation to establish itself away from destructive wave energy. Tidal wetlands protect shoreline areas from erosion by absorbing the energy of approaching waves and trapping sediment that is being carried along by currents. This shoreline protection function is valuable on exposed sandy beachfronts or other barren areas where erosion control is needed. While wetlands do not provide full protection, they may at least, partially dampen wave action and allow for less costly and massive back-up protection (USACOE, 1981).

Tidal wetlands are found in close association with every creek, inlet and pond in the Town. The most extensive areas of tidal wetlands are found on the protected northern shoreline of Long Beach Bay (Reach 5), in the vicinity of the Orient Point causeway (Reach 4/5), and on Hashamomuck Pond (Reach 6). A more thorough discussion of the Southold's wetland resources can be found in *Section II.E.8* and in the Reach Analysis.

(g) Nearshore areas

Nearshore areas include the underwater lands beginning at the mean low water line and extending to the point where mean low water is 15 feet in depth, or to a distance of 1,000 feet from the mean low water line, whichever is greater. Nearshore areas dissipate a substantial amount of wave energy by causing waves to break or collapse before reaching inland areas such as beaches dunes or bluffs. Nearshore areas also function as seasonal reservoirs of sand, gravel and other unconsolidated material that is returned to beaches, dunes and other inland areas. Generally, nearshore areas vary in configuration based on such factors as wave direction, energy, frequency and seasonality. The characteristics of nearshore areas also vary based on location. Nearshore areas on the Peconic Estuary differ from those on the Sound, due to the presence of wetlands and the reduced extent of beaches.

(iii) Coastal processes

Shoreline configuration is constantly changing as coastal processes alter the nature and extent of the coastal landforms discussed above. This evolution occurs during both over long periods of time during normal wave conditions and more dramatically during storms. The processes affecting these landforms are discussed below.

(a) Littoral transportation

The movement of a beach in response to waves is referred to as littoral transport, defined as the alongshore movement of sediments in the nearshore zone by waves and currents. Transport direction is mostly determined by wave steepness, sediment characteristics, and beach slope. Longshore transport of sediments results from the initiation of sediment motion by incoming waves and continued movement due to longshore currents. The magnitude and direction of longshore transport is dictated by the angle of wave approach to the shoreline, sediment characteristics and supply, and available wave energy. Direction and magnitude of longshore sediment transport is highly variable from day to day. Differences in longshore transport result in either accretion or erosion of the shoreline, and

are responsible for many of the current erosion hazards along the project coast. Interruption of this longshore movement, by such features as headlands, inlets, and shore protection structures, can result in significant impacts on shoreline position.

The direction of longshore transport can often be deduced from the study of existing landform. As sediment is transported in the nearshore and beach, man-made structures can interrupt this flow. Sediment is deposited on the up-drift side, while the down-drift side suffers a loss of sediment. Sand can also be lost offshore into deeper water because of these man-made structures.

On the Long Island Sound shore of Southold, the predominant direction of longshore transport is west to east. The jetties at Mattituck and Goldsmith Inlets interrupt this flow, leading to accretion on the west side of the inlets and erosion on the east side. Along the rest of the Long Island Sound shoreline, the headlands and points interrupt the flow during low wave periods, forming cells between the points. During storms, longshore transport occurs around the points, primarily from west to east, although major storms, which can generate waves higher than 6 feet, often temporarily reverse the direction of transport.

The shoreline of the Peconic Estuary has many small cells and the direction of longshore transport varies greatly. The orientation of the shoreline varies and there are numerous creeks, inlets and headlands which interrupt the longshore transport. At any one time, longshore transport can be moving in two or more different directions on the Peconic Estuary.

The continued alongshore movement of sand that is dependent on wave direction and height is superimposed on cross-shore movement of sand on the beach. Gradients in this alongshore movement either erode or accrete beaches. Long-term erosion up to 2 feet per year and annual accretion rates of nearly 2 feet have been estimated along the Long Island Sound shoreline in Southold (Davies et al., 1973). In general, the shoreline is erosive with sparse accretional shoreline sections. Significant problems occur when littoral material is intercepted by coastal structures or inlets. At Mattituck Inlet, for example, annual updrift shoreline changes reflect roughly 3 feet per year of accretion, and downdrift erosion rates exceed 1 foot per year. Erosion rates of 6 to 10 feet horizontally have been reported at Goldsmiths Inlet. Downdrift erosion is a particular problem of stabilized inlets and groins because it results in steep narrow beaches that are unable to provide necessary storm protection to the properties behind them.

(b) Sediment characteristics and supply

Shoreline condition, in general, is affected by the amount of sediment entering and leaving an area. Sediment supply is a major factor in determining whether a coastal region is eroding, accreting, or stable. Along the Southold coastal front, the primary sediment source is the glacial bluffs. Sediments on most beaches range from fine sands to cobbles, with occasional large boulders. Wave erosion of these bluffs, along with the impacts of surface drainage, rainfall, ground water seepage, and vegetative cover, and subsequent bluff failure, introduces large amounts of sediment to the littoral environment. This material is then transported alongshore to other shoreline reaches at a rate referred to as the longshore sediment transport.

The volume of sediment transported is an important parameter, and its analysis requires a large amount of data. The problem needs to be studied in all three dimensions to determine how many cubic yards of sediment are contained in a foot of beach. Several seasons are needed over which to obtain data on beach profiles. The profiles can be supplemented with aerial photographs to determine changes in form, but the photographs do not show elevation changes. Without collecting and analyzing these data, only the most general estimates of sediment volume and change in the longshore transport can be made.

(c) Winds

Winds cause changes in coastal landforms through three primary mechanisms:

- wind-generated waves
- wind-induced storm surges
- aeolian (wind-induced) sediment transport.

Generation of wind waves depends on the fetch, i.e. the distance over water that the wind blows without interruption, and wind conditions, i.e. duration and speed. During storm events when extreme wind speeds persist, water elevations at coastal sites may increase as water piles up against the coastline. This effect is a component of storm surge, which often causes flooding and extreme wave attack damages. Aeolian sediment transport is a primary mechanism responsible for either the growth or deflation of coastal dunes. Strong winds, generally exceeding 15 miles per hour, must be present to cause significant sediment movement by aeolian transport. The magnitude of aeolian transport is highly dependent on the presence of vegetation and/or moisture, both of which reduce the movement of sediment. In conjunction with this process, it should be noted that a wide (deep) beach is necessary for dune formation to occur.

Wind data for long periods of record are available from observations at the Brookhaven National Laboratory at Upton, the Suffolk County Department of Public Works and Highways at Westhampton Beach, and the U.S. Weather Bureau at La Guardia Airport for New York City. Short-term data are also available from the U.S. Weather Bureau at Calverton Airport. Average wind conditions for the northeast, southeast, northwest, and southwest quadrants were estimated from the records at these four wind stations. The wind direction distribution for Long Island can be summarized as:

- northeast 20 percent
- southeast 17 percent
- northwest 30 percent
- southwest 33 percent

Winds from the northern quadrant dominate during the winter, and winds from the southern quadrant dominate during the summer. The wind velocity and storm duration during the winter tend to be higher than during the summer. In the summer, the percentage of calm conditions is more than 10 percent, while calm conditions drop to less than 3 percent during the winter.

It should be noted here, that the values stated above summarize wind conditions in the Long Island vicinity. However, they may not be directly applicable to Southold because of the distance between the Town and where the data is gathered (La Guardia Airport is nearly

80 miles to the west); and because of the different topographic settings of Southold to where the weather stations are located (Upton is centered inland on a wider land mass further west and Westhampton adjoins a pine barrens preserve to the west and the ocean to the south). Because actual wind data are not available for coastal areas along the north shore of Long Island, this information is of limited value. From agricultural records, we know the Town's weather patterns consist of microclimates affected by the maritime waters, but which are quite different from weather and wind patterns experienced on the south shore or in western Long Island.

(d) Waves

Waves are created by wind blowing across the water with energy transferred to the water surface. This energy transfer creates perturbations in the water surface commonly referred to as *wind waves*. Waves then travel across water until reaching land, where they expend their remaining energy on the shore. Waves generated by local winds blowing on shore typically reach the shore as steep erosive waves called *seas*. Waves generated at great distances prior to reaching the shore will decay into long low waves referred to as *swells*.

The height, length, and period of wind waves at a coastal site are determined by the fetch, wind characteristics, decay distance, and water depth. In general, increases in fetch, wind speed, and duration result in larger wind waves. Water depth, if shallow enough compared with the wave height and period, will affect wave characteristics, with wave breaking beginning when the wave height is roughly 80 percent of the water depth. Waves generated by wind are characterized by many combinations of height, period, and direction. This combination of waves is referred to as the *wave spectrum*, which is often characterized by representative wave parameters (wave height and period). Wave conditions at any given location over a period of time can be described through use of a wave spectrum, where characteristic wave conditions are referred to as the *wave climate*.

Wave data for the north shore of Long Island has never been rigorously collected. Waves that affect the shore are generated by local winds, as Long Island and Block Island stop ocean swells from entering Long Island Sound (Davies et al., 1973). Given the orientation of the Long Island Sound shoreline of Southold, winds from the northern quadrant and the west are primarily responsible for wind waves along this stretch of coast.

In the Peconic Estuary, the fetch is more limited, but waves large enough to cause erosion can occur. Fishers Island is somewhat exposed to ocean wave conditions from the southeast; however, waves traveling from the ocean are affected by Montauk Point and Block Island. In general, the wave climate at shorelines along Long Island Sound and on Fishers Island are moderate, whereas shorelines along the Peconic Estuary are less energetic. In 1969 the U.S. Army Corps of Engineers summarized fetch distances for the Long Island Sound coast. These were augmented with approximations for the Peconic Estuary and Fishers Island. Estimates for these locations are for the maximum single fetch distance. These fetch distances are summarized in Table II-28.

Table II-28 Town of Southold - Fetch Distances

<u>Location</u>	<u>Fetch Distance (miles)</u>			
	<u>Northwest</u>	<u>Northeast</u>	<u>Southwest</u>	<u>Southeast</u>
Mattituck Inlet	50	20	-	-
Town Beach	49	14	-	-
Orient Point	17	11	-	-
Fishers Island	-	6	-	20
Little Peconic	-	10	-	-
Great Peconic	-	-	-	-

Source: Allee, King, Rosen and Fleming, 1995

Beach profiles continually adjust to dissipate the incoming wave energy. Beach response during normal conditions is subtle, as wave energy is easily dissipated by the beach's natural protective features. The beach will accrete sand from the littoral transport and become wider and higher. At the end of a summer, a beach will normally have stored a large volume of sand. During storm conditions, however, the coast responds to increased amounts of wave energy, often leading to the loss of significant quantities of beach, dune, and/or bluff material. During large storms, whole dune systems or bluffs can be eroded. The beach slopes become flatter. Some of the eroded sand is deposited in an offshore bar, but much of it can be lost offshore. These losses are sometimes, but not always, temporary, except in the case of bluff erosion, which is a permanent change to the coastal configuration.

(e) Water levels

Elevation of the water surface can be considered as a long-term average dependent on the volume of water contained in glacial form or as a short-term change in water elevations as a result of astronomical tides, storm impacts, and precipitation and ice melt (for rivers and small bays). The fluctuations resulting from the combined effects of astronomical tides and storm surges, and the effect of sea level rise on global ocean levels are of primary importance for this report.

Tides are created by the gravitational forces exerted by the moon and, to a lesser extent, the sun. These forces of attraction, coupled with the fact that the sun, moon, and earth are always in motion relative to one another, cause oceans to be set in motion. These tidal motions are very long period waves, and result in the periodic rise and fall of water levels along the coast. The phasing of high and low tides is variable and important to the level of wave attack along the shoreline. High tides in conjunction with strong onshore winds, for example, cause increased shoreline erosion as large waves break closer to shore in deeper water, thus exerting greater forces on the shoreline.

Tides in Long Island Sound are semi-diurnal (occurring twice a day), and the height increases from east to west due to the narrowing of the Sound, as the area of the Sound lessens and the volume of water remains unchanged. Tidal ranges for points within Southold are shown in Table II-29. Tides are given as spring and mean tide for each location. The mean tide is the average tidal range. Spring tide occurs at or near the time of the new or full moon. It rises the highest and falls the lowest from mean sea level.

Table II-29 Southold Tidal Ranges

Tidal Ranges (feet)		
Location	Mean	Spring
<u>Long Island Sound</u>		
Mattituck Inlet	5.0	5.8
Horton Point	4.0	4.6
Truman Beach	3.4	3.9
Orient Point	2.5	3.0
<u>Peconic Estuary</u>		
Southold	2.3	2.7
New Suffolk	2.6	3.1

Hurricanes and tropical storms are large wind fields, driven by central low pressures and temperature gradients. These storms cause the water elevation at the shoreline to rise and flood the land. Several factors are involved: wind stress, wave setup, barometric pressure reduction, and the Coriolis force. In response to the earth's rotation, the Coriolis force causes water currents to deflect to the right in the northern hemisphere. These factors have caused increases in water elevations in excess of 13 feet above normal in Long Island Sound.

Wind stress and barometric tide are of primary importance to the magnitude of storm surge. Height of the wind stress depends on wind speed and direction, fetch, bathymetry, and nearshore slope. Basically, the wind drives the water into the shore faster than it can return to open water. Either the water piles up until the wind reduces in force, or the water reaches such height that gravity forces it to return to open water. The barometric tide is the increase in water surface elevation within the storm's low-pressure system. The higher barometric pressure outside of the storm forces water in toward the lower barometric pressure at the center of the storm. A Coriolis water level rise occurs when the storm forces currents to flow along the shoreline. This component of storm surge occurs in Long Island Sound, but is not particularly large. However, it can also reduce the storm surge when the current direction causes the Coriolis force to be directed toward Connecticut. The final component is the wave set-up, which occurs in the surf zone when wave momentum transfers from the waves to the water column. This component is important for large storm waves where wave set-up may be as much as 20 percent of the breaking wave height.

Factors that eventually determine the magnitude of the storm surge are the stage of the astronomical tide (when the storm surge is superimposed on top of the tide level), storm intensity, forward storm speed, and angle of storm track to the shoreline. Shoreline configuration is also important in determining surge elevations, in much the same way as shoreline configuration affects astronomical tides. This effect is simply the funneling of water that occurs when there is a constriction between two land masses. This occurs in Long Island Sound, causing water levels in the western portion of the Sound to exceed

those in the eastern section. Increased fetch distances for wind setup also contribute to this effect.

Sea level rise can be separated into two categories:

- eustatic rise (change in ocean elevation)
- relative rise (change in ocean level relative to adjacent land)

Relative rise includes changes in both ocean and land levels, thus including eustatic sea level changes. Causes of sea level rise include changes in sea floor spreading, ocean and land area changes, tectonic plate movement, thermal effects, ocean sedimentation, glacial characteristics, hydro-isostasy, sediment isostasy and compaction/subsidence, ocean surface topography and temperature/salinity effects, changes in the geoid, geological faulting, and climatic effects (GTFII 1994).

Scientific evidence suggests that water levels during the peak of the ice age were at least 450 feet lower than they are now, because of water contained in glaciers. As the glaciers melted, sea levels rose about 0.3 inches per year. Along the New York coastal region, the relative sea level rise over the last 100 years (accounting for land rebound and sediment accumulation) is estimated to have been from 0.04 to 0.14 inches per year. Historical sea level rise rates are anticipated to continue, but there is much uncertainty about the degree of increase. The effect of excess fossil fuel emissions, which leads to global warming, would be to accelerate glacial melting. Past estimates have been for sea level increases from 2 to 7 feet in the next century; more recently, these estimates have been revised to less than 2 feet. Further research is required to refine these estimates; thus, use of non-historical sea level rise rates should be used with extreme caution.

Despite the difficulties associated with predicting sea level rise, especially accelerated rates, it is an important factor in determining future erosion patterns. As sea levels increase, low-lying areas become more subject to flooding; magnitude of wave attack on previously protected shoreline locations increases; and wetland areas could become inundated, exposing current inland locations. These conditions are important in the Southold region for several reasons. First, the bases of bluffs are particularly susceptible to sea level increases, as current protective beaches would be rendered ineffective in protecting against wave attack. Once bluffs are exposed to more direct wave attack, bluff recession would proceed at a relatively rapid rate. Therefore, the rate of bluff erosion and shoreward migration along Southold's Long Island Sound shore is likely to increase in the future. In addition, development in low-lying areas along the Town shoreline would be subject to increased flooding and landward movement or destruction of coastal beach and dune systems. Finally, current protective measures, e.g. bulkheads, revetments, and groins, would be destroyed or at least rendered less effective, and current Federal Emergency Management Agency Flood Insurance Rate Map boundaries would be affected.

(f) Currents

Nearshore currents play an important role in the evolution of coastal environments. Currents are driven by four mechanisms:

- spatial differences in water surface elevations
- wind

- angled wave approach to the shoreline
- river discharge

Significant currents can be generated by tides at inlets to bays or lagoons or at entrances to harbors. Currents at these constricted entrances flow inland when the tide is rising (flood tide), and flow outward as the tide falls (ebb tide). USACOE (1969) reports that maximum currents along the north shore of Long Island typically range from 0.5 to 3.5 knots during floodtide and 0.6 to 4.3 knots on the ebbtide. However, the Average currents along Southold were reported as 2.7 knots (flood) and 3.2 knots (ebb) at Terry Point (Reach 4); 1.9 knots (flood) and 2.3 knots (ebb) at Mulford Point (Reach 4); and 3.5 knots (flood) and 4.3 knots (ebb) at Plum Gut (Reach 5). High river discharges or strong winds can alter these velocities, which can be seen in Long Island Sound when strong winds from the west slow the ebb tide and allow the flood tide to bring additional water and subsequent extreme water surface elevations into the Sound.

Currents are created as wind blows over the water's surface, and stress on the surface initiates movement in the direction of the wind. When the surface current reaches a barrier, such as a coast, water piles up against the land. This piling up of water, which is called *wind setup*, is a component of storm surge, and can create significant increases in water elevation.

Another important mechanism in the nearshore region is the generation of alongshore currents caused by waves approaching the shoreline at an angle. This results in a gradient in nearshore surface elevations and induced currents, which tend to dominate during calm periods. Tidal current velocities rapidly decrease as the shoreline is approached, and therefore, any littoral movement is usually the result of wave action. This holds true for Long Island Sound shorelines east of Port Jefferson, whereas the western areas are subject to increased tidal ranges, which cause higher tidal current velocities.

(g) Storms

Shoreline changes result from both day-to-day coastal processes and storm-induced coastal processes. It is not certain which of these change mechanisms is most important over the long term; however, it is clear that both play an important role in coastal conditions. While shoreline changes under normal conditions are nearly imperceptible, those that take place during a storm event are often dramatic.

As discussed earlier, storm winds typically generate high, steep waves in conjunction with the storm surge. Increasing water levels expose higher portions of the beach to wave attack, and allow large waves to pass over the nearshore without breaking. At the point where the breaking occurs, which is often close to shore, the remaining surf zone is insufficient to dissipate the increased wave energy. This excess energy then causes erosion of the beach, berm, dune, or bluff. The eroded material is carried offshore in large quantities and is deposited in a bar formation that grows to the point where the large storm waves break farther offshore, spending their energy in the surf zone. Ultimately, these storm-induced processes establish an offshore bar that provides protection from storm wave energy.

Eroded beach material will often return to the beach berm during normal conditions when waves assume an accretional character. This stage is referred to as *post-storm recovery*.

This recovery is fairly slow in Long Island Sound because there are few long period swells to move sand from deeper water onto the beach. Erosion of dunes is more severe, requiring re-establishment through aeolian processes. Bluff erosion is most problematic because it is essentially irreversible. Although some post-storm recovery does take place on the beach, each storm removes some amount of beach material, decreasing its protective capabilities. Finally, storm waves and storm water levels can also damage coastal structures and flood low-lying areas. Although storm damage to man-made structures is the more immediately evident and financially harmful result to the coastline, ultimately it is the overall erosion of the entire coastal region which set the stage for further erosion and flooding in future storms.

Along the coastline of New York State, two types of storm events are of significance:

- tropical storms (originating in the tropics)
- extratropical storms (originating outside of the tropics)

Tropical storms, the most powerful of which are called hurricanes, typically affect the New York area during the months of July through October. Hurricanes wind speeds are in excess of 74 mph. Historically, the New York shoreline along the Atlantic Ocean has been hit by a number of hurricanes; 24 storms have been recorded in the New York coastal region since records have been kept on these phenomena. See Table II-27.

Because of the cold water in the New York region, hurricanes move faster in the forward direction, which increases the apparent wind speed. Many meteorologists also believe that it is improbable that the New York area could be subject to a hurricane more powerful than Class 4 (winds from 131 to 155 mph). Damage from this class of hurricane, coupled with high forward speeds, would be tremendous. Alternatively, the high forward speeds and relatively limited size of hurricanes reduce damages as a smaller area is impacted and storm duration is limited. Furthermore, storm damage magnitudes can be traced to the concurrence of high astronomical tides and the storm surge, which act together to allow large waves to penetrate farther inland, resulting in extreme erosion and flooding.

Extratropical storms originate outside of the tropics, usually in the mid- to upper-latitudes during winter months. More commonly referred to as *northeasters*, these storms are less intense than hurricanes but have localized winds that often reach hurricane strength. Extratropical storms cover large areas and are slow moving; typical storm durations may be several days. The USACE (1969) lists 65 moderate to severe *northeasters* that have impacted the New York coastal region over the 100-year period before 1965. More recently, a series of severe *northeasters* impacted the New York coastal region in October 1991, December 1992, March 1993, and December 1994. Table II-30 lists the severe extratropical or hurricanes that have had significant impacts on the New York coastlines.

Table II-30: Historical storms affecting the New York coast

Date	Storm Type	Name
September 14, 1904	Hurricane	--
March 3, 1931	Extratropical	--
September 8, 1934	Hurricane	--
November 17, 1935	Extratropical	--

September 21, 1938*	Hurricane	--
September 14, 1944*	Hurricane	--
November 25, 1950*	Extratropical	--
November 6, 1953*	Extratropical	--
August 31, 1954	Hurricane	Carol
September 12, 1960*	Hurricane	Donna
March 6, 1962*	Extratropical	--
August 6, 1976	Hurricane	Belle
February 6, 1978	Extratropical	--
March 28, 1984	Extratropical	--
September 27, 1985	Hurricane	Gloria
August 19, 1991	Hurricane	Bob
October 30, 1991	Extratropical	--
December 11, 1992	Extratropical	--
March, 1993	Extratropical	--
December, 1994	Extratropical	--

* caused considerable flooding and erosion in Southold

Source: Allee, King, Rosen and Fleming, 1995 & others

Northeasters are similar to hurricanes in that damage to coastal areas occurs from erosion and flooding stemming from high winds, large waves, and increased water levels. Although wave heights and storm surges from extratropical storms are less severe than from hurricanes, erosion and flooding can equal or exceed hurricane-induced levels. Increased storm duration is the primary factor that causes large coastal damages during *northeasters*. Because they last for days rather than hours, *northeasters* persist over numerous tidal cycles, continually attacking coastal areas with several peak water elevations. In addition, continued strong winds can trap much of the ebb tidal flow within Long Island Sound, allowing flooding tides to augment existing high water and cause extreme water elevations.

Damage from hurricanes and *northeasters* is highly dependent on storm intensity and duration. However, the location of a storm relative to Long Island's north shore is another major factor. Storm location is linked to storm characteristics that determine where, relative to the storm movement, the most severe conditions exist. Tropical cyclones are characterized as small fast-moving storms consisting of a counter-clockwise spiral about the center (the "eye") of the storm. This forward speed increases the apparent wind speed. Winds to the right of the eye are most severe and are parallel to and reinforced by the forward storm speed. Therefore, since tropical storms travel in a general northerly direction, south-facing coastlines are usually subject to the greatest hurricane forces. North-facing coastlines, however, are somewhat protected from the strongest storm impacts.

Similarly, extratropical storms are characterized by a counter-clockwise spiral directed toward a central low pressure center. Wind direction and velocity at a given coastal location depend on the relative location of the storm track. The course of a *northeaster* to the east of the Sound is the most important factor for the north shore of Long Island, where winds blow initially from the northeast. Wind direction changes with storm movement to

north-northwest winds as the storm passes, and produces large wave heights and wind setup along the north shore. *Northeasters*, with winds from the east occurring through numerous tidal cycles, have historically had the greatest effect on the Long Island Sound coastal region because of their intensity and long duration.

(h) Land use

Human activity and man-made structures brings additional forces into the coastal area which may cause erosion. For instance, dunes that store sand are stabilized by shallow-rooted vegetation. People walking across the dunes break the root systems, weakening the plants and leading to their destruction. Without the vegetation, the dune is easily eroded and the sand is lost to the beach system. Another example is that of a public beach designed to accommodate large number of people. The investment of tax dollars into the construction of parking fields, rest rooms, food concessions, playground equipment, picnic tables, etc necessarily implies that the shoreline must be managed and not allowed to vary greatly in its width or position. This management can range from restricting times of year when the beach is open to constructing large-scale, hard structures, including groins and breakwaters to hold the beach. Beach nourishment using sand from other areas is an intermediate approach that is often used to maintain public beaches.

A similar situation may exist in on residential lots when structures (from homes to swimming pools) are placed too close to the shoreline. As those shorelines erodes or recedes and residential structures become threatened, property owners may resort first to installing stabilization structures in an attempt to protect their initial investment. Because stabilization structures are expensive to build, residential versions tend to be small.

Public highways built close to the waterfront may need substantial stabilization and protection in order to maintain emergency and escape access during storms. Sometimes these structures disrupt the natural accretion process, thereby setting the cyclical stage for more erosion, more protection, more erosion. The same process is applicable to large commercial sites such as waterfront motels and restaurants.

Finally, recreational boaters desiring direct and unfettered access to deep water may construct bulkheads along exposed shorelines. Strong wave action during storms may undermine the shoreline adjacent to the bulkhead thereby setting in motion an erosion problem in the vicinity. Recreational boaters that opt to keep their boats in more sheltered waters such as creeks or inlets frequently have to contend with shoaling at the creek or inlet mouths, thereby instituting the dredging of navigation channels.

Erosion and flood protection: hard and soft engineering solutions

Beaches, dunes, bluffs, inlets, or barrier landforms can be protected from erosion or flooding in a number of ways. Erosion and flood protection structures fall into two categories:

- structures that are constructed parallel to the shoreline such as seawalls, breakwaters, bulkheads, and revetments
- structures that extend perpendicular from the shoreline such as jetties and groins

In addition, there are non-structural or “soft” techniques of erosion control and flood protection. These include the use of specialized development design standards, beach nourishment programs, sand fencing, and vegetative plantings.

Since the processes of beach erosion/accretion, inlet shoaling/opening, etc. are natural and ongoing phenomena of the coastal environment, any man-made alteration to the system is likely to affect its inherent dynamic stability. In the long run, most human attempts to prevent erosion and flooding along the shoreline essentially are stopgap measures. While carefully engineered techniques may slow the inevitable consequences of coastal processes, most man-made efforts are not successful.

Hard engineering solutions: bulkheads, seawalls, revetments and breakwaters

Bulkheads, seawalls, and revetments are parallel structures used to provide specific shoreline support and protection against flood-induced erosion and wave action. The effect of these shore-parallel structures is to retard erosion of the upland while sacrificing the beach and nearshore areas. The terms bulkhead, seawall and revetment are often used interchangeably, however, they are designed for different purposes. *Bulkheads* are retaining walls whose primary purpose is to hold or prevent soil from sliding seaward while providing protection from wave action. *Seawalls* are structures whose primary purpose is to protect the backshore from heavy wave action (USACOE, 1981). Seawalls are not generally required in sheltered waters. A *revetment* is a structure that is constructed on a slope to protect it and adjacent uplands against wave scour. It depends on the underlying soil material for support, so it must be built on a stable slope. Revetments primarily protect the land located immediately behind them.

Breakwaters are hard structures that are placed offshore and parallel to the shoreline. As their name implies, breakwaters break the force of open waters thereby reducing the energy with which waves hit the shore behind them. By reducing the wave energy, breakwaters allow littoral materials to deposit, which leads to the formation of a protective beach. However, accumulation of beach material behind the breakwater necessarily reduces the amount of littoral material available for other shoreline reaches unless beach nourishment or other mitigation measures are undertaken.

Parallel structures are usually successful in protecting backwater inland areas from flooding and erosion. However, because they cause littoral material to accumulate on the shoreline behind them, these devices tend to accelerate the erosion of adjacent shoreline areas. Bulkheads, seawalls, breakwaters, and revetments can generally damage adjacent shoreline areas in one of two ways:

- Bulkheads, seawalls, breakwaters, and revetments tend to stabilize shoreline areas. Consequently they alter or block the supply of sand eroding from updrift dunes and bluffs that is transported to adjacent shoreline areas by littoral drift. In some instances, this causes the adjacent shoreline areas, which are eroding under the same natural processes as the updrift areas, to lose sand faster than it can be replaced.
- Bulkheads, seawalls, and revetments deflect wave energy in a manner that accelerates the rate of adjacent shoreline erosion. During periods of flooding and high wave action, dunes and wide beach areas dissipate the wave energy gradually

and over a large area. When in contact with a parallel structure, however, this wave energy is deflected creating a scouring and stripping effect on the beach areas located seaward of the structure. Over time, repeated storm wave action can pull more sand from the base of the structure until the adjacent seaward beach area is eliminated, and there is water at the base of the erosion protection structure at all times.

To illustrate possible negative impacts, a shore parallel structure placed at a location that experiences chronic long-term erosion is analyzed here. The structure essentially removes the upland sediments from the coastal regime, thereby pinning the shoreline to a given location. Under natural conditions, the upland would provide the sediment necessary to maintain a protective beach, but would result in permanent loss of the upland. The structure pins the shoreline position but does not alleviate the erosional condition. Nature often finds an alternative sediment source, which results in accelerated erosion of the beach directly in front of and adjacent to the structure. Following or prior to the loss of protective beach, beach nourishment is necessary as a mitigation effort. Should the situation not be mitigated, the beach might totally disappear, resulting in direct wave attacks on the structure. This condition often leads to structural failure and severe erosion of the upland that can even exceed that which would have occurred had no protective measures been constructed.

Perpendicular erosion and flood protection structures, such as groins and jetties, are designed to alter the natural processes that create littoral drift. *Groins*, the most commonly used device, are wall-like structures measuring two to eight feet in height, and are generally made of stone, steel or wood. Groins are constructed perpendicular to the shoreline, projecting into the water. Used singly or in groups (known as groin fields), they trap or retard the longshore movement of sand, subsequently widening the beach on the updrift side of the structure. In theory, the use of groins will cause the shoreline to rotate and align itself with the crests of the incoming waves, gradually decreasing the angle between the waves and the shore. In turn, the longshore transport rate will decrease and the shoreline will stabilize. The proper design of a groin must take into account certain oceanic and geomorphic factors such as the shape and profile of the beach, currents, and wave angle.

Groins are very successful sand traps. The sand fillets that collect on the updrift side of the groin act as protective buffers. Storm waves attack these accumulations first, before reaching the unprotected backshore. Once the updrift fillet is completely formed, the sand will pass around or over the groin to the downdrift shoreline, but at a slower rate. This can lead to erosion problems on the downdrift side of the structure. This usually necessitates the use of additional groins downdrift of the original groin to minimize downdrift erosion and rebuild the beach at the groin's shoreward end.

Jetties are another perpendicular structure used to stabilize inlet positions and reduce channel shoaling. Littoral material is intercepted by jetties in a manner similar to groins. However, the negative effects of jetties on the downdrift shorelines are of greater magnitude. Jetty-stabilized inlets intercept a great deal of sand, and a series of jetties increases this effect, ultimately resulting in a significant decreasing of the volume of sand traveling in the downdrift direction. Inlet stabilization also appears to deposit larger volumes of sediments in ebb and flood tidal shoals compared with natural inlets. In natural inlets, sand is distributed along the shorelines as the inlet migrates alongshore, which

reduces the volume of material trapped by the inlet. Natural inlets allow more material to bypass to downdrift sections; therefore, whether jetties are installed or maintenance dredging alone is used, artificially stabilized inlets leads to downdrift sand deficits on adjoining beaches.

Attempts to stabilize a beach by altering the longshore or littoral drift may appear successful at first. By preventing the natural flow of sand and consequently cutting off the sand supply for beaches downdrift, these structures appear to solve the problem locally but over time create or exacerbate the problem somewhere else. As with other coastal structures, beach nourishment can mitigate this impact. Another mitigation method is to place a series of groins along a stretch of shoreline, and to use beach nourishment to fill in the groin compartments. Once the groin compartments are at capacity, longshore sediments can bypass to downdrift beaches, thus minimizing negative impacts on the littoral supply. However, the groins must not be constructed in such a way that the sand is transported offshore and lost from the littoral system. This distance offshore is related to the width of the surf zone under normal conditions, which can strictly limit the allowable groin length.

To conclude: the use of the aforementioned structures requires careful engineering, periodic maintenance and monitoring. They may resolve or mitigate specific localized problems, but in so doing may disrupt the natural coastal processes to the extent that significant problems are created on downdrift portions of the adjoining shoreline. In some cases, their placement may cause the loss of all littoral beach sand to the offshore. While these structures appear to be effective in the short-run, they have the potential to be quite destructive and counter-productive in the long run unless very carefully designed and placed.

In some cases, the use of soft engineering solutions, including beach nourishment and dredged material placement, may be more effective, and affordable. These are discussed in the next set of paragraphs.

Soft engineering solutions

Soft structures are often preferable to hardened structures, and represent an attempt to work with the natural system by augmenting its natural defenses. Soft engineering solutions include:

- beach nourishment, that is the placement of beach sediments to create a larger protective beach and dune system,
- beach shaping,
- sand fencing to help the dune-building process, and
- vegetation planting to stabilize existing dunes or trap additional wind-blown sand.

These soft engineering solutions can be used alone or combined with hard engineering solutions.

Beach nourishment is accomplished by delivering sand to the beach or dune from either an offshore or upland site. This is a temporary solution to erosion and flooding problems, since the placed material is soon lost to the forces that created the original problem. However, it has the effect of “buying time” in that it offsets the existing erosion problems.

Although this method requires frequent application and maintenance, it has few detrimental environmental consequences.

Large-scale beach nourishment is often augmented with coastal structures, particularly when there is severe long-term erosion; typically greater than 3 feet per year. Beach nourishment is usually less expensive than hardened structures. Assuming an abundant supply of sand can be obtained easily and cheaply. Beach nourishment is an effective mitigation technique, whether or not combined with coastal structures or inlet dredging and stabilization. Beach nourishment, when combined with breakwaters, bulkheads, or groins, often improves the effectiveness of these structures by introducing additional material to the littoral system.

A soft engineering solution that is often used in conjunction with jetties is sand bypassing. As sand accumulates on the updrift side of the jetty, it is periodically dredged or mined and then placed on the downdrift side of the jetty. Sand bypassing prevents erosion on the downdrift side and large accumulation of sand on the updrift side. The littoral system, if the bypassing is done correctly, stays in equilibrium. However, placement of sand or dredged materials on a beach requires a permit from the NYSDEC. This agency has been hesitant to issue these permits because of concerns that productive wetlands that might be lost if materials were not placed carefully. Accordingly, most dredged material is placed on upland sites where it is not as easily assessable to the littoral drift system.

Beach scraping is a technique whereby sand is removed from the nearshore and scraped onto a dune or a beach berm. This technique can augment dune profiles and beach berm widths to provide additional recreational beach area or greater protection against flooding. It has been questioned whether beach scraping is an effective means of preventing erosion. Although increasing the volume of the dune profile is a practical way to create additional flood protection, the steepening of the beach face may actually increase erosion and loss of beach material during storms. Beach scraping has also been described as an effective tool for dune building that, when properly conducted, leads to no significant negative impacts. However, it introduces no additional beach material to the system, and its effectiveness in providing protection in eroding areas is therefore limited.

Sand fencing and establishment of vegetation are other techniques used to provide additional flood protection by increasing dune volumes. These attempts at dune restoration use wind-driven sediment transport to capture necessary sediments. This approach seems to have been successful at New Suffolk. Since this is an environmentally sound and low-cost effort, many communities undertake dune restoration projects. Increased dune volume protects upland areas from flooding during storm events and reduces beach erosion by acting as reservoirs of additional beach material. Because of frequent erosion of the dune during storm events, the success of dune building projects depends on continued effort and vigilance.

To conclude: Soft structures can be used alone or in combination with hard structures. They often have less impact on the natural system than do hard structures and often are less expensive to install. However, they may require more frequent maintenance and may provide less protection against the problem in question. Finally, because of their nature, they work best over large areas of shoreline, thus may not be effective when used by individual property owners on short stretches of shoreline.

(iv) The shoreline characteristics of the Town of Southold

The shoreline of the Town of Southold can be split into two distinct regions. The shoreline of Long Island Sound and the shoreline of the Peconic Estuary. Certain coastal landforms, processes and trends characterize these two regions.

(a) The Long Island Sound shoreline

Shorelines fronting Long Island Sound are characterized by nearly continuous bluffs composed of loosely consolidated glacial outwash, primarily sand, and moraine material, which is a mix of clay, silt, cobble, and boulder. The glaciers expanded from the north, carrying this mixture of sediments with it. When the climate warmed, the advance of the glacier slowed, then stopped with back-and-forth shudders. During this process, the morainal materials were deposited in a long ridge shape along the face of the glacier. As the glacier retreated with the warming climate, sand was deposited in outwash plains. This stopping and retreating formed what later became Southold's bluffs, dunes, and beaches.

Material eroded from the bluffs enters the littoral system, contributing to beaches of varying width, slope, and sediment character. Beaches fronting the Long Island Sound shoreline in Southold consist of sediments ranging from sand to cobble, with widths ranging from 25 to 100 feet. Portions of this section of the Town's coastline are backed by dunes, such as the Peconic Dunes area (Reach 2), while some locations represent low-lying coastal barriers, such as Truman Beach (Reach 4).

On the Long Island Sound shore of Southold, the predominant direction of longshore transport is west to east. The jetties at Mattituck and Goldsmith Inlets interrupt this flow, leading to accretion on the west side of the inlets and erosion on the east side. Along the rest of the Long Island Sound shoreline, the headlands and points interrupt the flow during low wave periods, forming cells between the points. During storms, longshore transport occurs around the points, primarily from west to east, although major storms, which can generate waves higher than 6 feet, often temporarily reverse the direction of transport.

The primary cause of erosion on the Long Island Sound shoreline of Southold is littoral drift caused by wave action. Wave fetch along the Long Island Sound shoreline of the Town of Southold varies from 9 to more than 20 miles, generating waves from 6 to more than 9 feet in 75 mile-per-hour winds. Generally, annual cycles of beach building and erosion take place. Over long periods of low wind and wave action, when the sand moves slowly west to east, a gently sloping beach builds up. During large winter storms, sand moves quickly from east to west and off-shore. These storms can remove sand and leave behind a stone and cobble beach.

As long as the bluffs remain in a natural condition, beaches heal themselves over the summer and Southold's shoreline erodes slowly over time. Points form around the areas with large rocks and cemented bluff sands. Areas with low bluffs and clayey soils become embayments. High sandy bluffs, such as those east of Mattituck Inlet (Reach 1), have supplied large volumes of sand to the shoreline. Low bluffs and dunes do not provide the necessary volume of sand, and adjacent downdrift shorelines are usually eroding.

Certain individual areas are greatly affected by their orientation toward the waves. During the 1990's, the portions of the shoreline facing northeast have been heavily eroded by four

major storms: Hurricane Bob (August 19, 1991), the Halloween storm (October 30, 1991, and the storms of December 12, 1993, and December 24, 1994. Over the previous 50 years, the same areas had eroded at a much slower rate. Shorelines with a more northerly exposure have not been as severely affected during the 1990's.

Bluff composition and height are also very important factors in erosion levels. Silty-clayey sediments in the Pettys Bight area (Reach 4) have been heavily eroded while rocky points, such as Horton Point (Reach 2/3), have resisted erosion forces more successfully.

There are two inlets along the Long Island Sound shoreline of the Town of Southold: Mattituck Inlet (Reach 1) and Goldsmith Inlet (Reach 2): both protected by jetties. Much of the accelerated beach erosion found along the Sound shoreline east of these inlets is due to the presence of these jetties. The shoreline west of Mattituck Inlet, its updrift side, has generally accreted seaward as a result of the two jetties on either side of the Inlet mouth, but shoreline east of the jetties has severely eroded. It has eroded close to the jetties, and the low bluffs and dunes on the east side of the jetty cannot provide sufficient sand to re-supply the shoreline, resulting in a prominent shoreline offset. Similarly the west side of the single jetty at Goldsmiths Inlet, its updrift side, has accumulated sand, while the east side has eroded, resulting in a prominent shoreline offset. The impacts of these coastal structures are discussed in more detail in the Reach Analysis.

Although Southold's Long Island Sound shoreline is eroding slowly, over the short-term it is dynamically stable. The low level of shore protection structures is evidence of the lower, long-term rate of erosion. Only a few thousand feet of bulkhead and less than 100 groins have been built over the 39 miles of Southold's Long Island Sound shoreline, most of them clustered downdrift of the Goldsmith's Inlet jetty. Long-term shoreline erosion is slow, because the bluffs have been able to re-supply some of the sand lost to the offshore system. Long-term shoreline erosion averages less than 1 foot per year based on independent studies by Davies et al, 1971, and the Department of Environmental Conservation for the *Coastal Erosion Hazard Areas Act*. However, the use of jetties to keep the inlets open and the placement of groins and bulkheads to keep bluffs from eroding have, in places, taken the system out of equilibrium in specific locations which will be identified further in the Reach Analysis.

(b) The Peconic Estuary shoreline

Shorelines fronting the Peconic Estuary are irregular and indented by numerous creeks, inlets and bays. Areas to the east of Shelter Island (Reach 5) are fronted by Gardiners Bay and are exposed to a moderate wave climate, while those areas to the west of Shelter Island (Reaches 6, 7, 8 and 9) and along Long Beach Bay (Reach 5) have minimal wave energy. The wave energy becomes greater in Little Peconic Bay and greater still in Great Peconic Bay. However, the fetches are longer in Gardiners Bay than the Peconic Bays.

Generally, narrow and sandy beaches predominate along the eastern shoreline of the Peconic Estuary in the Town of Southold, with the exception of the wetland areas along the shoreline of Long Beach Bay. Bluffs are relatively low and infrequent along the Peconic Estuary. Shorelines backed by dunes are limited to the barrier spit formation in Orient Point State Park (Reach 5). Tidal wetlands predominate along the western low-energy shorelines, which are the result of the presence of Shelter Island. Numerous barrier spits and shoals exist along the entire bayfront region.

The direction of longshore transport along the shoreline of the Peconic Estuary varies greatly. The orientation of the shoreline varies and there are numerous creeks, inlets and headlands which interrupt the longshore transport. At any one time longshore transport can be moving in two or more different directions along the Peconic Estuary shoreline.

The causes of erosion on Southold's Peconic Estuary shoreline are complex. Littoral drift dominates in areas exposed to waves. Going from west to east, bays become smaller, and therefore bay waves are smaller. Shoreline on either side of James Creek is fully exposed to waves from Great Peconic Bay, where waves theoretically could reach a height of almost 5 feet. Robins Island affords some protection to Cutchogue Harbor and the west side of Nassau Point, but the east side of Nassau Point is exposed to Little Peconic and Hog Neck Bays. Southold Bay and its waves are smaller. At the far east end of Southold, Hallock Bay is almost totally enclosed. However, the Peconic shore, unlike the Long Island Sound side, has few high bluffs. Therefore, when a storm causes erosion, for an equivalent wave condition, shoreline retreat is greater and recovery is slower. In addition, flooding is common along the shore. To protect these low flat shores, over the years many property owners have built groins to hold beaches or bulkheads to protect the upland or to raise ground level of their property.

Currents are the second cause of erosion on the Peconic shores. Baymen report the existence of eddies, places where the water flows constantly in one direction, no matter whether the tide is flooding or ebbing. These currents contribute to formation of elongated features, such as that found off of Nassau Point and Robins Island.

There are numerous creeks and inlets on the Peconic Estuary shoreline of the Town of Southold. Tidal currents flowing through these inlets move and deposit sand, both inside and outside of the inlet's mouth. Under natural conditions, each inlet would maintain a shallow channel and form shoals around its mouth. However, when inlets are dredged for boat navigation: the deepened channels change the currents, which lead to different erosion patterns. The interaction of waves, offshore currents, and tidal flows through inlets, coupled with the impacts of human construction leads to a series of complex erosion and deposition systems that change seasonally and yearly in response to weather.

Much of the erosion along the Peconic Estuary can be attributed to the hard erosion protection structures placed by well-intentioned property owners. Bulkheads have caused localized scouring and erosion. About 50 percent of the residentially developed shoreline is bulkheaded. Approximately one-quarter of the shoreline in each of the Reaches 6, 7, 8 and 9 is bulkheaded. Most of the inlets and creeks along the Peconic Estuary shoreline have bulkheading along over 20 percent of their shoreline (Dobriner, 1990).

In addition to bulkheads, over 1,000 groins and numerous jetties can be found throughout the Southold shoreline of the Peconic Estuary. The location, effectiveness and impacts of these groin fields and jetties is considered in the Reach Analysis. Every type of groin field imaginable can be found within the Estuary shoreline. Stone, concrete, steel, and wood have all been used as construction materials. The length, height, and spacing of the groins vary considerably, reflecting the piecemeal approach that has been used to protect individual properties. A large number of groins are concentrated in Reaches 7, 8 and 9, which encompass the shoreline from Founders Landing in Southold westward to Laurel.

In 2004, the Peconic Estuary Program (Tiner, et al, 2003) determined that Southold's nearly 140 miles of estuarine shoreline contained 12.6 miles of hardened shoreline, more than any other town on the estuary and twice that of the next ranked town. It should be emphasized that the PEP recommends a "no net increase" policy towards the creation of new shoreline hardening structures within the estuary.

Many jetties have been built at the mouths of the inlets on the Peconic Estuary. Many of these inlets have been dredged by the Town and by Suffolk County. Placement of the resultant dredged material on adjacent beaches has been an important soft engineering approach in Southold. This heavy investment has maintained the navigation channels to the creeks and helped maintain the shoreline, and few, if any, houses have been lost to erosion. However, several areas still flood regularly, leading to property damage. With such extensive amounts of the shoreline hardened by bulkheads, and modified by groins and jetties, it is a safe assumption that the natural erosion processes have been significantly disrupted. As a result, a high level of investment will continue to be necessary in the future to prevent loss of property and minimize damage along the Peconic Estuary shoreline of the Town of Southold.

(v) Erosion Hazard Area Regulations

Development in erosion and flood-sensitive areas is currently regulated by a variety of local, State, and Federal programs and legislation. These include the *National Flood Insurance Program* administered by the *Federal Emergency Management Agency* (FEMA) and the local regulations established pursuant to the FEMA program that have been discussed in *Section II.I.1*. Two specific regulatory programs are concerned with coastal erosion. These are the *Federal Coastal Barrier Resources Act* and the *New York State Coastal Erosion Hazard Areas Act (Article 34 of the New York State Environmental Conservation Law)*. These are discussed below.

(a) Coastal Barrier Resources Act

In October of 1982, Congress passed the *Coastal Barrier Resources Act* (CBRA) which established the *Coastal Barrier Resource System*. The CBRA prohibits federal expenditures for the development of these areas, or portions thereof which are not presently developed, including grants, loans, loan guarantees, and flood insurance. This act advances the philosophy that the risk of new private development in these hazardous areas should be borne by the private sector and not underwritten by the Federal government (LIRPB, October 1984). To be eligible for consideration as a designated coastal barrier unit, an area must be a coastal barrier, it must be undeveloped, and it must not be otherwise protected.

The Department of the Interior recommends that all undeveloped, unprotected coastal barriers and associated aquatic habitat along the Atlantic coastline in New York be added to the *Coastal Barrier Resources System* (CBRS). The DOI also recommends that otherwise protected, undeveloped coastal barriers be excluded from the CBRS. However, if any otherwise protected, undeveloped coastal barrier is ever made available for development that is inconsistent with the purposes of the CBRA, it must then be automatically included in the CBRS.

The following areas of the Town of Southold, illustrated on [Map II-19](#), have received CBRA designation:

- Reach 1** · Mattituck Inlet (NY-21P)
- Reach 2** · Goldsmiths Inlet (NY-22P)
- Reach 4** · Truman Beach (NY-23P)
- Reach 5** · Plum Island (NY-24)
- Orient Beach (NY-25)
- Reach 6** · Pipes Cove (NY-26)
- Conkling Point (NY-27)
- Reach 7** · Southold Bay (NY-28)
- Cedar Beach Point (NY-29P)
- Hog Neck Bay (NY-30)

- Reach 8** · Little Creek (NY-31/NY-31P)
- Robins Island (NY-33)
- Reach 9** · Downs Creek (NY-32)
- Reach 10** · Fishers Island Barrier (FO1)

(b) Coastal Erosion Hazard Areas

In October of 1991, the Town of Southold adopted *Chapter 37* of the Town Code, the *Coastal Erosion Hazard Areas Law*, pursuant to the provisions of Article 34 of the *New York State Environmental Conservation Law*. The purpose of Chapter 37 is to:

- (1) *establish standards and procedures for minimizing and preventing damage to structures and protecting natural protective features and natural resources from coastal flooding and erosion;*
- (2) *regulating land use and development activities so as to minimize or prevent damage or destruction to man-made property, natural protective features and natural resources, and to protect human life;*
- (3) *regulate new construction or the placement of structures in order to locate them a safe distance from active erosion and the impacts of coastal storms, and to prevent damage to natural protective features and other natural resources;*
- (4) *restrict public investment in services, facilities and/or activities that are likely to encourage new permanent development in coastal erosion hazard areas; and*
- (5) *regulate the construction of erosion protection structures in coastal areas subject to erosion to ensure that the use of such structures is justified and that their construction and operation will minimize or prevent damage and destruction to man-made property, private and public property, natural protective features, and other natural resources.*

The law is designed to classify specific land and/or water areas as *erosion hazard areas* based upon the existence of natural protective features, and the rate at which the shoreline is receding annually. The boundaries of these areas are identified on *Coastal Erosion Hazard Area* maps prepared by NYSDEC. NYSDEC has designated the entire Long Island Sound shoreline of the Town of Southold (Reaches 1 – 4 and 10) as a *Coastal Erosion Hazard Area*. Also all of Plum Island in Reach 5 and all of Fishers Island (Reach

10) is a CEHA. The regulated area begins at the waters edge and extends between 100 and 300 feet inland.

On the Peconic Estuary shoreline of the Town of Southold, the NYSDEC has designated Orient Point, Orient Point State Park, and a stretch of land that extends between 50 and 150 feet inland from the eastern side of Gull Pond to Peter's Neck Point (Reach 5) as *Coastal Erosion Hazard Areas*. The location of the *Coastal Erosion Hazard Areas* are illustrated on [Map II-19](#).

Erosion area permits must be obtained for redevelopment, new construction, erosion protection structures, public investment, and other land use activities within the designated coastal erosion hazard areas. The Town Trustees issue erosion area permits, except in the case of state agency activities, which would be undertaken pursuant to permits from the New York State Department of Environmental Conservation. Approval is contingent upon compliance with established standards, restrictions and requirements; however, conditions can be attached to the permit, if deemed necessary. The proposed regulated activity must meet the following general standards:

- it must be reasonable and necessary, relative to alternative sites and the necessity for a shoreline location
- it must not cause a measurable increase in erosion at the site or at other locations
- it must prevent or minimize adverse effects on natural protective features, existing erosion protection structures or natural resources

The regulations also establish restrictions on certain land use activities undertaken in nearshore areas and on beaches, bluffs, and primary and secondary dunes. Regulated activities include:

- the installation of utility systems
- dredging, excavating, grading and other soil disturbances
- construction, modification or restoration of docks, piers, wharves, groins, jetties, seawalls, bulkheads, breakwaters, revetments and stairways
- beach nourishment
- vehicular traffic
- the creation of pedestrian passages

Activities generally not requiring a permit include planting, sand fencing, and the erection of private elevated stairways.

J. INVENTORY AND ANALYSIS – REACH ANALYSIS

1. Introduction

Sections II A. through I. provided an overview of key facts, resources, issues and policies relevant to the Town as a whole.

Southold Town contains more than 160 miles of shoreline. In order to develop this plan it was necessary to find a way to divide the land area into easily identifiable sections. There had to be some way of making it easy for officials, residents and outside agencies to obtain pertinent information relevant to specific sites. Accordingly, the inventory and analysis had to be designed so as to facilitate the required use and review of this document by Federal, State, and local officials. For these reasons, the Town has been divided into ten “Reaches”, a nautical term used here to describe a stretch of shoreline between two easily distinguishable landmarks, as seen from the water.

The boundaries of these ten reaches are illustrated on *Map I-1*. There are nine reaches on the mainland: four along the Long Island Sound and five along the Peconic Estuary. Reach 10 incorporates Fishers Island in its entirety. The designation of the Reaches was designed as a mechanism for enabling an organized discussion of the coastal resources and issues within the Town. The demarcation of the Reaches does not necessarily have any particular political or environmental significance. However, their inland boundaries were initially intended to separate the watersheds of Long Island Sound and the Peconic Estuary. The ten Reaches include the following:

- Reach 1 stretches east along the Long Island Sound shoreline from the boundary between the Town of Riverhead and Southold to Duck Pond Point, Cutchogue. Its inland boundary is Old Sound Avenue and County Route 48. The Reach includes the communities of Mattituck Hills and Oregon Hills, as well as the northern reaches of Mattituck hamlet.
- Reach 2 extends east along the Long Island Sound shoreline from Duck Pond Point to Horton Point, Southold. Its inland boundary is CR 48. The Reach includes portions of the Peconic and Horton Neck communities;
- Reach 3 extends east from Horton Point to Rocky Point, East Marion. Its inland boundary is CR 48 and State Route 25. The Reach includes portions of the small communities of Hashamomuck Beach and Stirling;
- Reach 4 stretches east from Rocky Point to Orient Point at the end of the North Fork. Its inland boundary is SR 25. The Reach includes portions of the East Marion community and the Orient Point community;
- Reach 5 extends west from Orient Point to the eastern boundary of the Incorporated Village of Greenport, and includes the hamlets of Orient and part of East Marion. Its inland boundary is SR 25.
- Reach 6 extends west from the western boundary of the Incorporated Village of Greenport to Founder’s Landing in the hamlet of Southold, and it includes the

small communities of Hashamomuck and Beixedon. The inland boundary of the Reach is SR 25 and CR 48;

- Reach 7 stretches west from Founder's Landing to Indian Neck, Peconic and it includes the hamlet of Southold and the small communities of Harbor Lights, Reydon Shores, Bayview, Goose Neck, Laughing Waters, and Indian Neck, Peconic;
- Reach 8 extends west from Indian Neck to Halls Creek in Cutchogue, and it includes the communities of Cutchogue, Nassau Point, Nassau Farms, East Cutchogue and Fleets Neck as well as New Suffolk. Its inland boundary is CR 48;
- Reach 9 extends west from Halls Creek to the town's boundary with the Town of Riverhead, and includes the hamlets of Laurel and parts of Mattituck;
- Reach 10 is comprised solely of Fishers Island and its surrounding islands.

In order to facilitate understanding of the many and varied issues affecting Southold's coast. Each Reach is discussed separately and in detail. The format used here provides an in-depth inventory and analysis of the resources and character and issues of each Reach. Specific issues or areas of concern are examined as are potential opportunities and solutions.

REACH 1: SOUTHOLD/RIVERHEAD TOWN LINE TO DUCK POND POINT

A. INVENTORY AND ANALYSIS

1. Location

The Reach 1 shoreline runs from the Riverhead-Southold Town line eastward to the west side of Duck Pond Point on Long Island Sound. The eastern boundary is on the west side of the two small subdivisions at the northern end of Duck Pond Road, on the west side of Duck Pond Point. The boundary continues south along Duck Pond Road, then Depot Lane to CR 48. The southern extent of this Reach is CR 48 and Sound Avenue. Reach 1 borders all of Reach 9 and part of Reach 8 to the south. This Reach contains Mattituck Inlet and Creek, the Town's only navigable creek on Long Island Sound. Mattituck Creek is the only safe harbor on Long Island Sound east of Mount Sinai Harbor, a stretch of more than 40 miles.

2. Land use and development

The land use pattern within Reach 1 is described below and illustrated on [Map II-5, Existing Land Use](#). The dominant land use is agriculture followed by residential. Commercial land use is a distant third. Part of the business center of Mattituck lies within the southernmost portion of this Reach.

The pattern of land use within Reach 1 is distinctive. At the center lies Mattituck Creek, which bisects the Reach into two nearly equal halves. Within the Creek's watershed lies the bulk of the residential development found in Reach 1. The sloping and wooded terrain around the Creek, particularly near the mouth, provides attractive home sites from which to view the creek. While there are a few inland clusters of small subdivisions within the agricultural belts on either side of the Creek's watershed, most of the residences are concentrated within the watershed's boundary. A smaller percentage of the residences front on the Long Island Sound shoreline, to the east and to the west of the inlet mouth.

The residential development around the Creek and on the Sound on either side of the Creek entrance is generally of low and medium density, with lot sizes ranging from less than 10,000 square feet to over two acres. Many of the older subdivisions have lots that are smaller than 40,000 square feet in area. The homes within this part of the Reach are a mix of year round and seasonal, old and new. There is considerable potential for infill development within existing subdivisions in this portion of Reach 1.

The undeveloped soundfront lots outside of the Creek's watershed boundaries tend to be larger lots (80,000 square feet or greater). The developed lots outside the Mattituck Creek watershed (on both sides of the inlet) contain a mix of seasonal and year-round homes. The developed lots west of the jetty tend to be small, an acre or less. Those on the east side of the jetty tend to be larger, an acre or more. The soundfront lots tend to be narrow and deep, a reflection of the agricultural lots from which they were carved. Most of the large, farmed parcels in Reach 1 run in a northerly-southerly direction in long rectangular strips. More than half of the agricultural land no longer has frontage on the sound due to the sale of the waterfront portions for residential development. Even where the soundfront is intact, farmers rarely plow up to the bluff due to the less than ideal soils found directly behind the bluff face. The soils adjacent to the bluff edge may be more affected by salt spray, which may make them less

useful for agriculture. In any case, the farmers are practicing good conservation by keeping a buffer between the bluff edge and their fields. The buffer minimizes the impact of runoff on bluff erosion and minimizes nonpoint pollution reaching the water of Long Island Sound.

On both sides of the Creek, there has been a chipping away of the farmland to accommodate small subdivisions and set-offs. There are two areas where this is particularly noticeable. One, located on the north side of CR 48, between Depot and Alvah's Lanes, is a cluster of 50 home-sites, most of which are developed, surrounded by farm fields. The other area is on the north side of Sound Avenue between Cox's Neck Road and Bergen Avenue. The lots here tend to be at least an acre or larger. Because the terrain is varied, contains a fair amount of woodland, and many of the homes are accessed by private right-of-ways, they are less obvious from the road.

While most of the outlying residential subdivisions within Reach 1 are located off or near CR 48, there is one subdivision of three 5-acre lots that extends south from Sound View Avenue. It has had the effect of driving a noticeable wedge into the largest contiguous block of agricultural land within the Town. Additional soundfront subdivisions further east are accessible only by long driveways running north from Oregon Road, providing additional barriers to the movement of farm machinery across the fields. A similar situation exists on the west side of the Creek, particularly near the Riverhead Town line. Continuation of this pattern of residential development is not in the best interests of maintaining the integrity of one the largest contiguous blocks of farmland left in the Town.

Approximately 2,200 acres of farmland lie within this Reach. The Town and the County hold the development rights to 21 agricultural parcels totaling about 592 acres. (October 2002) The acreage is farmed in grapes, potatoes, vegetables, grain and field corn.

The main east-west roads in this Reach (CR 48, Bergen Avenue, Westphalia Avenue, Wickham Avenue-Oregon Road and Sound View Avenue) run roughly parallel to the shoreline. CR 48 forms the southern boundary of the Reach. On the west side of the Creek, Bergen Avenue provides secondary access from Sound Avenue to Cox's Neck Road. Westphalia Avenue parallels the west bank of the Creek head and provides an alternative route to Cox's Neck from the heart of the hamlet. On the east side of the Creek, Oregon Road runs parallel to the shoreline at a mid-point between CR 48 and the shore. Further north, Sound View Avenue parallels the shoreline behind the soundfront lots for approximately a third of the distance. South of Oregon Avenue, Wickham Avenue runs north from SR 25 in Reach 9, crosses CR 48, then runs roughly parallel to CR 48 before merging with it near Elijah's Lane. On each side of the Creek, the local road network branches off a main north-south route. A circuitous and sometimes tangled network of public and private roads access the residences nestled in the branches of the Creek.

In addition to being a focal point for residential development, Mattituck Inlet and Creek is an important harbor containing a large number of water-dependent and water-enhanced uses. These uses are discussed in more detail below in *Subsection 3. Water dependent/water enhanced uses and water uses*. It is worth noting here though that these commercial uses are the only active uses within the Reach save for the few businesses located on the northeast corner of CR 48 and Cox's Neck Road where a small strip mall hosts a delicatessen, pizzeria, retail stores and medical offices. This Reach's

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attractiveness for residential development is attributable in part to the topography, which is relatively unique to the Town. Most of the land fronting on Long Island Sound, west of the inlet, contains bluffs in excess of 150 feet in elevation, the highest in Southold. On the east side of the inlet, the soundfront bluffs are mostly lower than 100 feet in elevation, with the probable average height being about 75 feet.

With the exception of some residences located directly on or behind the bluff face to the east and west of the entrance to Mattituck Inlet, most of the bluff-front is in a naturally vegetated state, providing a buffer between the extensive agricultural use and the bluff face. The terrain behind the bluffs on the west side is a bit hilly and almost entirely developed as wooded homesites. The flatter portions south of the inlet entrance are still in agricultural use. Fortunately, along the creek itself, much of the steeply sloped land is still heavily wooded, with homesites tucked in around the slope edges, but hidden from view due to the tree cover. Thus the density of development within the watershed is not immediately evident from the water. Unfortunately, as will be noted throughout the Town, there is a trend towards stripping native vegetation from homesites to “improve” the view of the water, but at the expense of the neighborhood’s view of those sites and the heightened potential for soil erosion. Land use practices that increase the potential for soil erosion have potentially negative implications for the water quality within the creek, thus will be discussed in more detail later in this inventory in *Subsection 8. (iii) Water Quality*.

There are a number of underutilized commercial sites within Reach 1 that are zoned for Marine business, totaling 13.3 acres in area. One of the sites is an abandoned and badly deteriorated asphalt plant that needs to be removed. This parcel is 1.7 acres in area. Most of the property is bulkheaded, but it is in deteriorated condition. A proposal to redevelop this site by removing the tanks and replacing them with a dry rack storage marina with five floating docks and a boat launch was never pursued. The New York State Department of Environmental Conservation acquired this property in 2002.

To the immediate west and east of these two properties are two vacant, mostly bulkheaded lots. Each is in separate ownership. The lots are 1.6 and 4.8 acres in size. The largest lot once was used as a gravel transport and storage depot and contains the silted-in remains of a small dredged basin. The soil on these lots is probably dredged fill, for this area was a marsh before it was filled in during the early 1900s. The waterfront value aside, these lots will be difficult to develop due to the unknown costs of cleaning up underground contaminants.

Westward of these commercial lots is site of 1.3 acres, which used to contain gasoline storage tanks. The tanks were removed by arrangement with the owner before the Town bought the property in March of 1993 using *Environmental Quality Bond Act* funds. The Town has since made limited improvements to this site for passive recreational uses such as picnicking and fishing. Additional improvements may be made as funding permits and usage requires.

3. Water-dependent/water-enhanced uses

The water-dependent and water-enhanced uses in Reach 1 are concentrated in Mattituck Inlet and Creek. Within the Town, this is the only harbor fronting on Long Island Sound. It is both a recreational and commercial port and is the site of one of the Town's largest concentrations of marine facilities, second only to Greenport Village.

The Inlet and Creek have regional significance as the only major harbor on Long Island Sound to the east of the Mt. Sinai/Port Jefferson harbors, a distance of about 40 miles. This regional importance was identified in the *Long Island Sound Coastal Management Program* (DOS, 1999). The Inlet was identified as one of ten Maritime Centers on Long Island Sound. Maritime Centers provide the most suitable and appropriate locations for new or expansion of existing water-dependent commercial and industrial uses.

Mattituck Inlet and Creek encompass approximately 165 acres. A 2.5 mile-long inland waterbody, it is tidally connected to Long Island Sound. At its widest, it is but 400 hundred feet across. A naturally shallow waterbody, Mattituck has been dredged to a depth of 10 feet in the center channel. The tidal fluctuation is about 5 feet. The creek has two long arms that extend outward: one to the west (Howard's Creek), the other to the east (Long Creek). The former is navigable for most of its entire length. The latter, however, is navigable only to the original Grand Avenue bridge crossing, a few hundred feet northeast of the existing crossing. Only small boats with shallow draft can be taken past this point. These particular physical characteristics have limited commercial use of this port to boats of less than 60 feet in length.

The Creek is an active and busy working harbor that has retained significant natural resources in spite of the degree of residential and commercial development within its watershed. The water-dependent uses include four marinas, a federal anchorage, numerous moorings and private docks; four commercial fishing docks, fish packing facilities and two public boat ramps at its head. On either side of the Inlet mouth, outside the rock jetties guarding the channel are park district beaches. The two rock jetties, most particularly the westerly one, are heavily utilized for recreational fishing. Most of the water-dependent uses are concentrated on the west side of the Creek. The locations of these facilities are indicated on [Map II-J.1](#), located at the end of this chapter, and they are described in greater detail below.

(i) Recreational boating

Mattituck Inlet and Creek supports four marinas. These provide a total of just under 300 slips. The location of these marinas is indicated on [Map II-J.1](#) and the facilities and services that they provide are discussed below:

- *Peterson's Dock*
Located just inside the mouth of the inlet on the west side on a 3.4-acre parcel, Peterson's Dock has about 30 slips, which are used by commercial and recreational craft. The commercial boats include a trawler and half-a-dozen lobster boats. In addition to the in-water slips, Petersons has the only outside dry rack storage facility on the Inlet. The dry rack capacity is about 60 craft. Upland uses on the site include winter storage, staging areas for commercial operations and lobster trap storage. Amenities provided include travel lift, electricity, water, ice, and basic repair services.

- *Mattituck Inlet Fishing Station*
Just south of Peterson's is the Mattituck Fishing Station, a 3 acre with about 50 slips. This marina provides rental boats along with a bait and tackle shop, a launching ramp available for a fee, gasoline fuel and rest rooms. This marina caters to smaller craft in the under-20 to 30-foot range. There also is a residence on the property.
- *Mattituck Inlet Marina and Shipyard.*
Mattituck Inlet Marina is a large full-service marina, located just south of the Old Mill Road on the west side of Mattituck. Although it provides slips for seasonal rental and limited transient use, one of its principal functions is full-service boat maintenance and repair. There are seven large sheds on the upland portion of the site, which are used for hull and engine repair, maintenance, painting, drying and refinishing as well as winter storage. Outdoor winter and wet storage are also provided. There are three travel lift stations with the capacity to handle boats of 30, 50, and 80 tons, and lengths up to 110 feet. The in-water docking capacity is about 78 slips. Amenities include a swimming pool, showers and restrooms. Gasoline and diesel fuel also is available.
- *Matt-A-Mar Marina*
Located at the eastern bank of the head of the creek, Matt-a-Mar marina is one of the larger recreational marinas in the Town. It has about 90 to 100 slips, of which close to 50 percent are used by transient craft. This marina is one of the main concentrations of transient use within the inlet. Matt-a-Mar provides many recreational boating amenities, with showers and restrooms, ice, full-service repair, and a pumpout facility. Also provided are a restaurant, an outdoor pool with a cabana, and a kayak launching dock. In addition to outdoor winter storage, the marina has the ability to store about 50 boats in its sheds. In-water wet storage is available for about 25 craft.

There is a marked anchorage area located at the head of Mattituck Creek. Dredged in the 1960s, its dimensions are about 460 feet wide and 570 feet long, an area encompassing about 6 acres of underwater land. Its potential capacity (depending on the size of the boats) is estimated to be as high as 75 vessels. Unlike designated federal anchorage areas, which are established under 33 C.F.R. Part 110 (Code of Federal Regulations), this mooring area was established through congressional authorization; an act which enabled the U.S. Army Corps of Engineers to establish and dredge a channel from Long Island Sound through the Inlet to this area. Today the anchorage is a popular destination for recreational transient craft in the summer months, and provides a well-protected harbor of refuge.

The anchorage does not have moorings. Vessels must be self-anchored, which requires greater scope and occupies more space in the anchorage. The use of permanent (or semi-permanent) moorings and tackle, which have a much shorter scope, would enable better use of space within the anchorage. Additionally, they are considered safer than conventional anchors. Installation of permanent moorings would require a relatively small capital expenditure relative to their potential public benefit. The moorings could be installed and maintained by a private operator, who could recover costs by collecting a reasonable overnight fee. This is standard practice in other popular transient harbors in the Northeast.

The installation of moorings requires approval of the Army Corps of Engineers (ACOE), unless this authority has been delegated by the ACOE to the State of New York. Regardless of whether the delegation rests with the State or the ACOE, the Coast Guard has objections to the installation of permanent moorings as they would be an unnecessary interference with navigation in that area. As an alternative, the Coast Guard recommends the State of New York request the Commander, First Coast Guard District, to designate an appropriate area as a special local anchorage pursuant to 33 C.F.R. Parts 109 and 110. The concept of installing permanent or semi-permanent moorings to improve the use of space in a designated anchorage should be examined in a mooring plan and explored with the ACOE, the State of New York and the Coast Guard prior to taking any action.

The Town Trustees permit private moorings within Mattituck Creek. In 1994, these moorings totaled 27, and were basically located to the west of the federal anchorage. In 1999, the numbers totaled 22 and they were clustered primarily in Howards Creek and near two local streets: Knollwood Road and Bay View Avenue. This Creek has been identified as operating at near its mooring capacity. It should be noted here that the moorings are not placed in accordance with a grid system. In addition to these mooring areas, many, if not most, shorefront property owners have installed bulkheads, floating docks and finger piers for berthing of boats. It is estimated that these private facilities provide dockage for about 80 to 100 craft. With docking space at such a premium, it would not be surprising if some of these waterfront property owners rent space at their docks.

There are two public boat launch ramps on Mattituck Creek. These are located side by side, at the head of the Creek. Access to both is from CR 48. The location of these boat launch ramps is indicated on [Map II-J.1](#). The western ramp was designed and built with funds from the Town's Park and Recreation account. The ramp is open to all Town residents, their guests and out-of-town visitors by Town permit. The eastern ramp is much older. Built and operated by the Mattituck Park District, this concrete ramp is available for use only by district residents who have purchased the seasonal permit sticker and ramp key. District residents also can use the showers and restroom facilities on the Park District property.

The Park District also built and maintains a combination fixed and floating dock to the east of the ramp. Accessed by a raised catwalk, this dock also is used by the crew of transient vessels in the federal anchorage to get to Mattituck's business district and to avail themselves of the showers and restroom facilities.

(ii) Commercial fishing

"Mattituck Inlet supports a significant commercial fishing industry. What is interesting is that most of the commercial boats and shoreside facilities here are owned and operated as multi-generation family businesses" (A.T. Kearney, 1989, p3-93). Although there are commercial fishing businesses elsewhere most notably in the Incorporated Village of Greenport and at Orient Point, Mattituck is the center of the Town's commercial fleet. The fishing and lobster boats that operate from this port utilize the four docks and local packinghouses. These are Long Island Sound Seafood, Kings Seafood, Cooks Dock, and Mattituck Inlet Fishing Station. Mattituck is also home to a small fleet of charter party fishing boats. These boats are docked on the west side of the inlet, just north of Old Mill Road.

The following discussion of the commercial fishing activities and facilities located at Mattituck Inlet and Creek is based on a detailed analysis of New York State's commercial fishing industry that was prepared for the Department of State by A.T. Kearney, INC. (1989). This research was based on data from the National Marine Fisheries Survey for 1987. Although some of this research date is more than a decade old, it provides a good overview of the commercial fishing activities and facilities in Mattituck Inlet and Creek. Where appropriate, updated information has been added to reflect 1999 conditions.

In 1987, the coastal waters off Mattituck Inlet supported approximately 6 full-time commercial lobster fishermen, about 12 to 15 full-time fishing trawlers and about 10 to 15 surf clamming boats. Obviously the size and type of the commercial fleet will fluctuate depending on the strength of the natural resource and the vagaries of the fish market. For instance, by 1999, the number of lobster boats had jumped to about 25, and the number of full-time trawlers had declined to two or three. The number of surf clammers also has seen a precipitous decline down to nearly zero, attributed to over-fishing. And as of this year, there are fears that the lobster fishery may be stressed as well.

Most of the commercial fishing boats operating out of Mattituck Inlet fish exclusively in the waters of Long Island Sound, seldom venturing further east than Plum Island. However, some boats make 2-3 day trips to the south. Most local boats fish between Horton Point, about four miles northeast of Mattituck, and the site of the former Shoreham Nuclear Power Plant some 15 miles to the west. A number of smaller boats based in Shinnecock may use Mattituck Inlet during the summer. Out-of-state transients rarely use the harbor.

Typical of Long Island fishermen, boats from Mattituck limit most of their fishing to day trips. Only one boat from Mattituck is said to go out for longer periods, and then only for several days at a time. Mattituck boats fish approximately 150 to 200 days per year, generally between March and December. The small size of their boats precludes winter fishing.

The trawlers permanently based in Mattituck harbor (past and present) range in size from 30 to 60 feet. During an average year, a typical season for a trawler would begin in March, by fishing for blackback flounder. By May, a switch would be made to squid and blackfish, thereafter they would harvest scup, bluefish, weakfish, fluke and butterfish. Most boats take conch throughout the year as a bycatch, but one boat carries special "beam trawl" gear for this purpose. Based on National Marine Fisheries Service data, in 1987 two of the trawlers devoted a significant amount of effort to dragging for lobster. However, in 1990 a law was passed prohibiting dragging for lobster.

The National Marine Fisheries Service reported only six lobster boats in the harbor in 1987. By 1989 this number had increased to 10 or 12 boats. Today there are at least 25 in operation. These are small boats, averaging about 35 feet in length and primarily of fiberglass construction. The local lobster boats make day trips to fish the nearby waters of Long Island Sound.

Mattituck Creek served as an important packing-out location during the surf clam (skimmer) boom in the Mid-1980s. At that time, between 10 and 15 surf clam boats ranging in length from 20 to 60 feet used the harbor. Today, only one of these boats, now inactive, remains docked in the port. The decline

in the surf clam population is generally attributed to overfishing. If and when this resource will rebound is unknown.

Two packinghouses and two docks provide dockage for commercial fishing boats in Mattituck Inlet and Creek. The docks used by commercial fishing boats are located on both shores of the creek about half a mile to a mile inland of the Sound. Over 250 yards of dock space, all believed to be in good condition, is available to commercial fishing boats in the harbor. Commercial fishing boats share the docks with recreational boats at some of these sites.

Other exclusively recreational docks are located throughout the Inlet and Creek. In the past, use of the harbor by recreational boats has been limited compared to other local ports. Although this remains basically true, use of the harbor by recreational boaters is increasing because of its well-protected anchorage and the availability of a full line of recreational boating services. So far, conflicts between recreational and commercial boaters remain relatively rare.

The location of the commercial fishing operations and the facilities that they provide are discussed below:

- *Petersen's Dock*
Located on the western shore of Mattituck Creek near its entrance, Petersen's used to be primarily a commercial dock. Today only half a dozen commercial boats are docked here: one a trawler, the rest lobster boats. The dock services a greater numbers of recreational boats these days. The in-water capacity is about 32 boats.

The commercial boat slips are located at the north end of the dock closer to the Inlet. The commercial dock is a new floating dock and it is in excellent condition. Access to the commercial arm of the dock is by way of a narrow, four-foot wide gangway that runs for some 60 to 80 yards parallel to the shore. The commercial dock is approximately 60 yards long, for feet wide and has five perpendicular articulations, each 16 yards in length, serving as slip margins. While water is provided at the dock, power is not. Shoreward of the dock is ample parking and gear storage space.

Commercial fishing boats pack-out at a dock several hundred feet from the commercial slips. Some fishermen feel that the number of recreational boats in the area prevents the efficient use of the pack-out dock despite its proximity to the Inlet from the Sound.

Commercial fishing boats at Peterson's Dock attend to their own ice, fuel and service needs. Hauling services for the smaller fishing boats are provided by Peterson's with its 15-ton boat forklift. The dock recently installed a travel lift capable of handling 25 tons. Each captain markets his own product, generally to fish and lobster markets located as far away as the south shore of Long Island. Privately owned pickup trucks are generally used to transport goods. In recent years though, lobster dealers have been going directly to the docks to purchase the daily catch.

- *Cook's Dock*

Cook's Dock is located approximately three-quarters of a Mile south of the inlet mouth, at the foot of Mill Road, on its north side. The property was the site of the Anchor Inn, which burned down in 1979. The dock here, reported to be in good condition, consists of an approximately 200 yard long bulkhead on the western side of the harbor. Four trawlers used to dock and pack out fish at this facility. Today the commercial fleet here consists of two trawlers and four lobster boats. Behind the dock bulkhead is a gravel parking and gear storage area varying between 20 and 40 yards wide. Neither water nor electricity are available at the dock. Only commercial and charter party boats dock at Cook's. In 1989 the monthly dockage cost was between \$5.00 and \$6.00 per foot of overall length. Long-term leases of dockage space are not available, making future docking prospects somewhat uncertain.

Since there are no services at the dock, each boat captain arranges for his own ice, fuel, boxes, packing and maintenance needs. Trawlers generally run a pickup truck to Greenport or Riverhead for crushed ice once or twice a week. Each boat uses approximately three tons of ice per week. Fuel is delivered to each separately as ordered by individual captains. This is generally not a problem since boat fuel tanks require filling only every several weeks (consumption is approximately 200 gallons per week).

Fish packed at Cook's Dock are transported by individual operators to local fish markets, to regional packing houses (e.g in Greenport, or the Shinnecock Fishermen's Cooperative), and to the main highway (Sound Avenue or CR 48) where the fish are transferred to tractor-trailer trucks in transit from regional packing houses to Fulton Market. "Trash fish" are sold to local lobster fishermen at \$12.00 per three cubic foot tub to be used as bait.

- *Long Island Sound Seafood*

Long Island Sound Seafood (LISS) is the largest of the packing docks in Mattituck. In 1989, this family owned business had been in operation for 25 years, 20 at the current location. LISS occupies about 100 feet of waterfront on the eastern bank of Mattituck Creek approximately one mile from the mouth of the inlet. There are two docks, situated perpendicular to the shore, both fitted with a boom for unloading boxed fish. In 1989, LISS operated three trawlers and a 30-foot fiberglass lobster boat. Today they operate one trawler and one lobster boat; and service two seasonal trawlers.

LISS ships between 75 and 80 percent of its product to Fulton Market for sale on a consignment basis. The remaining fish, principally flounder, blackfish and scup, are marketed locally. LISS usually sells directly to dependable local buyers. An independent trucker transports the product to market.

The LISS facility has two warehouses and one residence. One is used exclusively for storage of supplies such as cardboard for boxes, tools, nets, and two forklifts. The other warehouse contains two ice machines, a utility shop where fish packing boxes are made and stored, and two cold rooms for storing fish prior to daily shipment to market. LISS is the only ice producer

in Mattituck and all of it is for its own use. Behind the warehouse, there is an aboveground diesel fuel storage tank.

- *King's Dock*
King's dock is a family owned and operated business operating three lobster boats. They also provide dockage for six additional lobster boats. The business occupies about 300' of waterfront on the east side of the Creek, just south of the Mill Road terminus. King's facilities include two docks, a warehouse and two residences. Fuel is purchased from an adjacent marina.

Currently, only limited repair services are available for commercial fishing boats in Mattituck Inlet and Creek. Boat owners do most minor repairs, maintenance and welding themselves. Mattituck Inlet Fishing Station can haul out commercial fishing boats of 15 tons or less. The Mattituck Inlet Marina, located immediately across the harbor from King's Dock and LISS is a large recreational marina offering hauling, maintenance and repair services. Until 1986, when shoaling decreased water depth at the marina's haul-out area to five and a half feet, the marina provided haul-out services for commercial fishing boats. Boats in need of annual painting were generally hauled, cleaned and painted within a day. Mattituck Inlet Marina installed a 75-ton travel lift to handle the large recreational boats that berth at this marina. Commercial fishing boats are also hauled here.

Haul-out maintenance and repair service has also been provided by Mat-A-Mar Marina, located at the head of the bay. However, in 1986, the new owners ceased providing services to commercial fishing boats. At present, captains from Mattituck generally have their boats hauled at Star Island in Montauk or at Jackson's Marina in Shinnecock, Southampton. Haul out services are also available at Greenport Yacht and Shipbuilding Co. in Greenport. However, captains are less likely to use this facility because of its higher prices.

One local mechanic provides diesel repair services. Out-of-town mechanics provide on-call services for major repairs. No electronics repair services are available in the Inlet, so services elsewhere on Long Island or in Connecticut are used. Nets are made on site or purchased from Wilcox in Stonington, Connecticut. Other fishing gear is usually purchased in Greenport.

The A.T. Kearney study (1989) identified a number of problems affecting the commercial fishing industry in Mattituck Inlet and Creek. These are summarized as follows:

- docking facilities are marginally adequate for the existing commercial fishing fleet
- shoreside services (such as water and electricity) are not available at most of the docks, and few boat pumpout facilities are provided anywhere along the waterway
- commercial boat maintenance and repair facilities are limited
- maintenance dredging of this Federal channel has been cited as less than adequate.

Significant expansion of the commercial fishing industry in the harbor appears unlikely for several reasons. First, with the exception of the inlet mouth, most of the frontage along the harbor that might be appropriate for the development of fishing industry related facilities has already been developed. Second, access to all the existing docks and packing houses is through residential areas and there is local opposition to the use of more and/or larger trucks on these roads. This suggests that a significant increase in business at these facilities may also be difficult given the degree of local opposition that may arise. Third, the recent declines in fish populations are serious. Harvesting restrictions mandated by federal or state fishery management plans have resulted in a down-sizing of commercial fishing activities and operations.

(iii) Commercial and recreational shellfishing

Mattituck Inlet contains extremely productive shellfish beds producing hard and soft clams and oysters that are harvested both commercially and recreationally. It is considered by the local baymen to be one of the most productive creeks in the Town. However, since the portion of the Inlet south of Howards Creek is closed year-round to shellfishing and the northern part of the Creek is opened conditionally during winter months, landings from the Creek are limited.

(iv) Aquaculture

There is one aquaculture facility located at the head of the Creek east of the Mattituck Park District property. In operation since January of 1994, it raises seed oysters in tanks on land. When the oysters are nearly market size, they are transplanted to certified waters in the Great South Bay of Long Island, where they are later harvested for sale.

(v) Navigation and dredging

The Long Island Sound in Reach 1 is open water. There often are large submerged rocks near shore, remnants of the glacial formation of Long Island. While many of these rocks are above the waterline and visible, many are not, thus posing a significant threat to casual cruising in nearshore waters. Within Reach 1, the nearshore is defined as being generally within 1,500 feet of the beach. These hazards are identified on National Oceanographic and Atmospheric Administration (NOAA) nautical charts.

Mattituck Inlet and Creek is accessed by a channel that is dredged and maintained by the U.S. Army Corps of Engineers. According to NOAA charts, channel depths within the creek at mean low water, range between 7.5 feet at the mouth and 4.5 feet near the narrow neck opposite Old Mill Road. There is a 5.5 feet depth near the head. The channel entrance was last dredged in 1990 to a depth of approximately 9 feet. (Authorized depth is 7 feet, but 2 feet over draft is often taken.) Two long, extended rock jetties protect the channel entrance and the mouth of the Inlet. The jetty locations are marked, both on and offshore, with U.S. Coast Guard navigational aids.

During the busier summer months, shoal growth can affect navigation of the narrower reaches of the channel in the first two turns inland from the jetties, particularly during periods of tidal change. This waterway is only dredged to approximately seven feet deep (at low tide), thereby limiting passage of commercial vessels larger than 60 feet in length. Only a small amount of shoaling is required to affect navigation.

The increasing number of recreational boats using the inlet and creek has added to the traffic congestion within the harbor. The greatest potential for conflicts exists at the inlet mouth and within the first two turns of the inlet. The demand for dockage for more and larger boats has led to an increase in the number and size of docks and finger piers, some extending a considerable distance from the shore. This trend is most noticeable in Howard's Creek, the westernmost arm of Mattituck Creek. The large number of moorings on either side of a generally narrow creek necessarily restricts boat traffic to narrow travel lanes. Further, the lack of boat ramps near the inlet mouth has resulted in significant boat traffic between the two ramps at the head of the creek to the inlet.

Dredging of the Inlet dates back to the late 19th century, when consideration was given to developing Mattituck as both a commercial port for the transport of agricultural fertilizers between Southold, New York City, and Connecticut and a harbor of refuge. The natural Inlet was narrow and crooked with a shallow depth of two feet. This constrained the opportunity for the development of trade. In 1896, Congress approved the dredging of a 7-foot-deep channel and the construction of two jetties. Work on the jetties began in 1901, and dredging commenced in 1907. The dredging extended south from the inlet mouth to the tidegates at the Mill dam, which was located at what was then called Waterville, where East and West Mill Roads once crossed over the creek, and now dead-end at either side of its banks.

In 1914, a drawbridge replaced the dam and the southern portion of the channel was dredged. The north channel subsequently was dredged again in 1921, 1923, 1927, and 1935. Due to the costs and difficulties of maintaining the channel, and the more efficient availability of rail, further commercial growth of the port was not realized. However, efforts to keep the channel open continued, in spite of recurring shoaling problems which are believed to be caused by storms from the northwest and the littoral transport of sand around the west jetty. In an attempt to resolve these problems, a 250-foot extension of the west jetty out to the 12-foot contour of Long Island Sound was completed in 1938.

By the mid-1960s, commerce within the creek had changed, and shipments began to consist almost entirely of petroleum products, including gasoline, fuel oil, and asphalt from a processing plant at the mouth of the inlet. These uses have since ceased and those parcels now are vacant and underutilized as noted above. In 1965, the federal anchorage was dredged at the head of the Creek, with Suffolk County providing the 50 percent local matching funds required by the U.S. Army Corps of Engineers, and the Town providing a disposal site on the south side of Long Creek.

Today, dredging in Mattituck Inlet and Creek serves a number of water-dependent commercial uses, which were discussed earlier. Records show that maintenance dredging at the Inlet was done by the U.S. Army Corps and took place in 1938, 1946, 1950, 1955, 1961, 1965, during the 1980s, and in 1990. The quantity of sand removed during these dredging operations during this time ranged from 13,300 to 51,500 cubic yards. Except for the federal anchorage in 1965, dredging efforts were focused primarily on the entrance to the channel, with the sediment being deposited on the beach to the east of the eastern jetty.

Suffolk County dredged Mattituck Creek in 1955, removing 1,596,429 cubic yards. In 1967, Suffolk County dredged Long Creek (the eastern arm of Mattituck Creek). Here, 13,000 cubic yards were removed and disposed of on an upland site near the intersection of Long Creek and Mattituck Creek.

Currently, shoaling is reported to be taking place at the two turns south of the Inlet mouth. This is becoming a hazard to navigation. Shoaling and deposition of sand within the channel entrance has been a long-term issue for Mattituck. As mentioned earlier, the maintenance dredging performed in 1990 removed about 13,250 cubic yards of material. The dredged material was placed along the downdrift shoreline east of the eastern jetty as beach nourishment. Future maintenance dredging efforts are expected to be performed in a similar manner, provided the dredged material is suitable for placement along the shoreline.

As mentioned earlier, new in-water structures, particularly docks and bulkheads, have become prevalent along the creek shoreline. These structures impede access to the creek for shellfishing and other uses. They also may affect navigation in narrow, shallow areas if they extend too far into the channel. Decking that covers underwater lands should be limited, and should not be placed within navigation channels or adjacent areas where navigation could be affected.

4. Existing zoning

The majority of the land area in Reach 1 is zoned for A-C (Agricultural-Conservation) and R-40 or R-80, one and two acre-density residential development (see [Map II-6: Zoning](#)). The residential zoning covers the bulk of the existing development within the Mattituck Creek watershed, described in the land use section earlier. A band of R-80 zoning also runs along the soundfront shoreline for a depth of approximately 800 feet, the only exceptions being the two pockets of R-40 which denote older subdivisions. Many of the lots zoned R-40 do not meet the minimum required acreage. Typically, these lots are part of older subdivisions created before the adoption of the R-40 category in 1989. Most of the remainder of the land within Reach 1 is zoned A-C. Most of this land is still in active agricultural production.

As noted earlier, the southern portion of this sub-area, a narrow band of land between the head of the Creek and CR 48, is part of the Mattituck hamlet business district. These properties are zoned General Business (B).

There is a substantial amount of land, located along the inlet that is zoned Marine II (M-II), which allows both water-dependent and water-enhanced uses. Of the approximately 16 acres of M-II zoned land, about 12.5 acres of it is vacant or under-developed. The underutilized land is located close to the mouth of the inlet, on the west side of the creek. The suitability of this land for development is compromised by the lack of public water, the limited road access through a considerable amount of residential development, and the fact that much of the property was a former marsh that was covered with fill. In addition, the removal of the asphalt plant poses a substantial set of financial and environmental obstacles to economically feasible re-development efforts. Further, some of these properties may require environmental remediation before they can be re-developed. This can be a costly and time-consuming process, thus posing significant obstacles to re-development.

Although the existing water-dependent uses along the Mattituck waterfront are consistent with the M-II zoning category, the district does allow the potential for non-water-dependent uses. These uses are considered “water-enhanced” in that they provide different forms of public access to the waterfront (e.g., restaurants, hotels). However, here, the loss of commercial docking and support facilities would be devastating to commercial fishing operations, since the facilities in Mattituck are the only ones available along this stretch of the Long Island Sound.

5. Existing waterfront access and recreation sites

Mattituck Inlet and Creek provide a number of important waterfront access points and opportunities for recreation. It contains more than 2,700 feet of public access to the Sound and more than 10,370 feet of access to the Creek itself. While the Creek is particularly important for its concentration of recreational boats, its commercial charter fishing fleet is also an important access point to the water. The Creek itself is used more for sheltered refuge than anything else. Its long narrow configuration and narrow channel does not allow room for water-skiing, fishing and cruising types of boating activity. Details of the marinas, mooring areas and anchorage within the Creek were considered earlier in the discussion of water-dependent uses. This section will focus on the recreational access sites. The location of these is indicated on *Map II-11* and the facilities available at these sites are discussed below.

New York State

- *Oregon Marsh State Tidal Wetlands*
Located on the east side of the Creek directly behind the barrier beach and to the east of Mattituck Inlet, this state-owned wetland system is part of the Mattituck Inlet Wetland, a designated Significant Coastal Fish and Wildlife Habitat. Access is by permit from the State’s Department of Environmental Conservation. The system provides opportunities for passive recreation, such as nature study and observation. The wetlands can be viewed from the local roads on the east side of the Creek, as well as by boaters passing through the channel. These wetlands are 28.4 acres in area, and comprise an estimated 7,355 feet of the Creek’s northeastern shoreline. Piping plovers have nested on the adjacent beaches on Long Island Sound.

Town of Southold

- *Mattituck Creek Boat ramp*
This is a Town-owned boat launch ramp that is located at the head of Mattituck Creek, adjacent to the Mattituck Park District site off CR 48. The concrete ramp is in good condition. This 1.5-acre site is open year round and has parking capacity for 12 to 15 cars. Use of this Town facility requires purchase of a Town parking permit.
- *Bailie’s Beach Road End*
There are no facilities at this 50 foot-wide road end other than sufficient paving to accommodate about 10 to 15 cars. Town permits are needed to park here. The road end is marked by a guardrail. No on-site drainage exists. This site provides access to the east side of the jetty which is used by fishermen. The beach itself is also used for surf-casting, sunbathing, and beach-walking. No life-guard facilities are provided.

- *Mattituck Inlet Park*
Formerly the site of gasoline storage tanks, this 1.3 park was acquired by the Town in 1993 using *State Environmental Quality Bond Act* funds. The tanks and the underground contaminants were removed from the property prior to the purchase as a condition of the contract of sale. The site has been improved with some landscaping and the addition of picnic tables and benches. Together with a Town-owned strip of land between the west jetty and the channel, it provides nearly 1,500 feet of shoreline access to the inlet entrance. The jetty is accessible from this property. Parking is limited, but accessible from Breakwater (Luthers) Road.

Mattituck Park District

- *Breakwater Beach Park, Breakwater Road, Mattituck*
This 17.3-acre Mattituck Park District facility is located on the west side of the Mattituck Inlet, fronting Long Island Sound. This park has an extensive beach spanning more than 1,006 feet on Long Island Sound, although only a small portion of it is roped off and supervised by lifeguards during the summer season. The park also hosts a small playground area and some benches. Restrooms also are provided during life-guarding hours. The western jetty is accessible from this beach. Fishing off the inlet jetty is popular. There is parking capacity at this facility for approximately 100 cars. Access is limited to residents of the Mattituck Park District.
- *Bailie's Beach Park, Bailie Beach Road, Mattituck*
This 22.6-acre Mattituck Park District facility is located on the east side of the Inlet, fronting on both Long Island Sound and the Creek. This property contains extensive shoreline: 1,705 feet on Long Island Sound and 1,575 feet on the Creek, just east of the inlet entrance. The park property is also bounded on its southwest corner for a distance of 1,441 feet by the NYS Oregon Marsh wetlands, noted above. This park offers no facilities other than a large cabin nestled in the dunes. The cabin is used by the Boys Scouts and other local organizations at the discretion of the Park District. Access is limited to residents of the Mattituck Park District. Portions of this site are known nesting areas for the endangered piping plover.
- *Mattituck Creek Launching Ramp, CR 48, Mattituck*
This 1.2-acre Mattituck Park District site is located at the head of Mattituck Creek off CR 48. This park site features a boat launch ramp. It also contains a picnic area and restroom facilities with showers. It is open year round and has parking capacity for approximately 20 cars. Access is limited to residents of the Mattituck Park District who chose to pay the minimal seasonal ramp fee. The fee covers the cost of creating new keys each year to open the locked gates at the head of the ramp. The use of the ramp is basically run on an honor system.

Mattituck Inlet and Creek are part of the *Andros Patent*. The underwater lands of the Creek are under the jurisdiction of the Town Trustees. Underwater lands and water in Long Island Sound belong to the State of New York. Public access to the public trust lands of the Long Island Sound shoreline in this Reach is substantial, but expansion of this access is limited by the lack of places which could provide additional public access to the shoreline. The configuration of the shoreline throughout much of this

Reach is such that the height of the bluffs precludes access without extensive modifications to the bluff. The two principal points of access on the Sound are owned and operated by the Mattituck Park District and access is limited to residents of the Park District and their guests.

Boat ramp access to Long Island Sound is available if somewhat inconvenient. The location of the existing public boat launch ramps at the head of the Mattituck Creek are almost 2.5 miles from the Inlet mouth. As a result, public access has a significant downside: additional boat traffic and congestion within a narrow inlet. The potential for negative impacts on the marine and wetland habitat by the additional boat traffic is an ever-present reality. Potential opportunities for improving boat access at the mouth of the Inlet are examined in more detail later, in *Section 7. New opportunities for public access and recreation provision.*

6. Inland recreation facilities

There are two public, inland recreation facilities within Reach 1: Wolf Pit Lake and the Fairgrounds. Located on the east side of Mattituck Creek on Wickham Road, the lake is owned by the Mattituck Park District. The 3 acre parcel contains a freshwater pond that collects stormwater drainage from the surrounding area. This pond can be used for ice skating in the winter season. Lights permit skating at night.

The Fairground was acquired by Suffolk County in 2002. The Town has leased the site for twenty years. As part of this partnership agreement, the property will be used for an annual Strawberry Festival as well as for active recreation. The Town will construct two Little League fields, two soccer fields and a storage building with rest rooms by 2004. This property consists of 37.3 acres and is located on the north side of CR 48 just 900 feet east of its intersection with Cox Neck Road. (Source: Communication: James McMahon, Community Development Director July 16, 2002.)

There are a few, small, privately-run boarding stables for horses located within Reach 1. Riders at these stables can ride along the soundfront beaches. Access is principally from public roads.

7. New opportunities for public access and recreation provision

Four underutilized parcels that were identified earlier, in the discussion of land use development, could be redeveloped to provide new opportunities for public access and recreation. These properties could be improved for passive recreational uses such as picnicking and fishing and perhaps a limited, small boat launching ramp. However, it should be noted that at the present time, there is serious opposition within the neighboring residential community to placing a boat launching ramp here because of concerns about the additional traffic congestion that is likely to be generated: there being primarily one heavily-traveled local road to the site: Breakwater (Luthers) Road.

One of the sites contains an abandoned asphalt plant. Located adjacent to the east-side of the former tank farm property, now a Town park, this site had been the focus of development proposals by private entrepreneurs wishing to create such businesses as a hover-craft ferry terminal, and a dry rack storage marina. While such enterprises would add to the diversity of the local marine industry, they also would be more likely to have a negative impact on the volume of local traffic, the quality of the environmental resources and the scenic vistas. For these reasons, a public park and boat ramp facility may be a preferable alternative use of this land.

8. Natural resources

Reach 1 contains extensive and significant natural resources. These are concentrated in Mattituck Inlet and Creek and provide significant shellfishing and wildlife habitat.

(i) Wetlands

Extensive tidal marshes fringe the shoreline of Mattituck Inlet and Creek. The wetlands support both intertidal and high marsh vegetation, and the creek itself is classified by NYSDEC as littoral zone. Smooth cordgrass (*Spartina alterniflora*) dominates the marsh vegetation. There are also areas of dredged material located within this wetland system. These tidal wetlands are relatively undisturbed and highly productive, providing habitat for a variety of wildlife, shellfish and marine finfish.

An extensive complex of tidal habitat including water and wetlands, the Mattituck Inlet Wetland, is located within the Inlet. This wetland system is characterized by good flushing action and a complex that supports juvenile marine finfish, clams, mussels, and osprey. Part of this wetland system was described earlier in *subsection 5. Existing waterfront access and recreation sites* as the Oregon Marsh.

The remainder of the underwater lands and tidal wetlands in the Reach are owned by either the Mattituck Park District, the Town of Southold or private property owners. These wetlands are highly productive habitats that support a variety of fish and wildlife, both within the Inlet and Creek and in Long Island Sound near the Inlet. These include a substantial soft clam and oyster shellfishery, which is dependent on high water quality and undisturbed wetlands.

(ii) Significant Coastal Fish and Wildlife Habitats (SCFWH)

Most of the tidal wetland system described above is part of a designated Significant Coastal Fish and Wildlife Habitat in Reach 1. This is the Mattituck Inlet Wetland SCFWH. Its location is illustrated on [Map II-14 : Significant Coastal Fish and Wildlife Habitats](#). This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2005) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website.

The habitat documentation for the SCFWH should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitat by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitat.

- **Mattituck Inlet Wetlands and Beaches Significant Coastal Fish and Wildlife Habitat**

The Mattituck Inlet Wetlands and Beaches SCFWH consists of approximately 60 acres of tidal wetland and open water within the inlet and the creek. It includes Mattituck Inlet, a deepwater inlet with strong tidal flushing, which enters Long Island Sound between two jetties, 10 acres of shoals and mudflats, and 80 acres of protected park district land located on either side of the Mattituck Inlet jetties. South of the inlet, Mattituck Creek is bordered by tidal wetlands and moderate residential and marina development. The wetland habitat itself is undisturbed and much of the wetland is owned by the NYSDEC. This type of ecosystem is rare in northern Suffolk County.

The Mattituck Inlet Wetland has a high primary productivity which supports a large variety of fish and wildlife species, both in the wetland itself and around the mouth of the inlet in Long Island Sound. Osprey (T) nested on the state property in the wetland in 1984 and 1985 and feed in the wetland and on the creek. That nest was still active in 1999. (Within the past few years, ospreys have been observed nesting on poles that were erected in the island in the center of the southern part of the Creek, at its junction with Howard's Creek.) The wetland also serves as an important habitat for a variety of other wildlife as well as marine finfish and shellfish. Surf clams, hard clams and mussels have been harvested in or adjacent to the habitat area, but there have been pollution problems due to marina development within close proximity, thereby consequent shellfish closures. One pair of piping plover (T) nested on the beach to the east of the inlet in 1984, but the extent of use of this habitat by this species is not documented.

Any activity that would substantially degrade the water quality in Mattituck Creek and the tidal wetland would adversely affect the biological productivity of this area. All species of fish and wildlife are affected by water pollution such as chemical contamination (including food chain effects), oil spills, excessive turbidity, and waste disposal. The existing pollution from the marina development in the area should be minimized to enhance this habitat area. Alteration of tidal patterns by modification of the inlet could have major impacts on the biological productivity and the fish and wildlife species present. Elimination of salt marsh and intertidal areas, through dredging, excavation or filling, would result in a direct loss of habitat area. As identified in the assessment form for this SCFWH found in Appendix A, nesting osprey inhabiting the area may be vulnerable to disturbance by humans. Recreational activities near active osprey nest sites should be minimized during the nesting period.

(iii) Water Quality

There are three state-designated surface water quality classifications in Reach 1. The waters of Long Island Sound and the mouth of Mattituck Inlet have been designated as high-quality SA waters. The portions of the creek lying north of Old Mill Road (site of former mill and bridge crossing) and the tributaries of Mattituck Creek (Howard's and Long creeks) are designated as SC waters. Wolf Pit Lake is designated C waters. Mattituck Inlet is included on the NYSDEC *Priority Waterbodies List* (NYSDEC, 1996, p145).

Mattituck Inlet has consistently appeared on the NYSDEC *Priority Water Problem List* and the *Priority Waterbodies List*. In 1988, the Inlet was a high priority waterbody with a problem ranking of "severe." This indicated that the designated use of the waterbody, shellfishing, was precluded by the poor water quality. The waters of Mattituck Creek have been severely impacted through non-point sources of pollution, particularly from stormwater runoff from agricultural, residential and street areas. Other pollution inputs come from on-site wastewater treatment systems located close to the shoreline, the marinas and commercial docks, illegal discharges from holding tanks of boats, and high concentrations of waterfowl, especially in the sheltered portions of the Creek during the winter months.

Water quality problems in Mattituck Inlet have been identified as having a high resolution potential in the 1996 *Priority Waterbodies List*.

The ecological health of Mattituck Inlet has been a focus of the Town's attention since 1980, when the Mattituck Inlet Advisory committee was appointed. Under the Committee's direction, the Suffolk

County Planning Department was retained to undertake a study of the inlet, the land uses around the creek and the watershed which drained into it. The study, titled *Mattituck Creek Watershed Study, Phase 1, Inventory of Existing Conditions and Identification of Development Opportunities*, was completed in April 1981. In 1986, the Southold Conservation Advisory Council identified and mapped all known sites where stormwater run-off was discharged directly into the creek. This map was updated in 1994: this time showing the location of completed improvement projects (filtration of stormwater runoff). With the stormwater run-off sites identified, the Town's next task was to develop and implement a stormwater management plan for the Inlet, with the aim of preventing sediments, nutrients and pollutants from entering the Inlet.

This particular project was funded by the New York State Department of State through an Environmental Protection Fund grant award. The project was broken into two phases, a planning and design phase, and an implementation phase. Phase 1 was the subject of the grant and it was completed in April 2001.

Titled *Mattituck Creek Watershed Analysis*, the study was conducted by the Town Trustees with technical and editorial assistance from the United States Department of Agriculture's Natural Resources Conservation Service, the Suffolk County Soil and Water Conservation District and EEA, Inc. The study assessed the volume of water entering the watershed and draining into Mattituck Creek. The Mattituck Creek watershed encompasses 1,687 acres. (EEA, Inc., USDA-NRCS, SCSWCD, 2001, p.6) In order to determine the types and sources of pollutants entering the creek, the watershed was divided into ten subwatershed areas. One of the ten (#9) was later determined not to be a contributor to the creek, thus the contributing watershed area was reduced to 1,022.6 acres. [*Map II-J-1*](#) shows the boundaries of the watershed of Mattituck Creek.

The findings of this study supported that of previous studies which identified stormwater runoff and septic systems as the major contributors to the degraded water quality in the Creek. The greatest concentration of bacteria occurs on a regular basis from June through August and that appears to be a result of the following activities:

- *large concentration of recreational vessels*
- *apparent lack of adequate pump-out facilities*
- *increased summertime population exerting pressure on the aging septic system*
- *the increased volume of patrons to the waterside restaurants.*

(Source: EEA, Inc., USDA-NRCS, SCSCWS, 2001, p. 15)

The subwatersheds were ranked in order of the degree to which they contributed to the overall level of pollution entering the creek, and specific solutions were offered. The study found that the creek was being impacted by point and non-point sources of pollution. The possible point sources of pollution included hazardous materials that used to be stored on industrial properties located near the inlet, discharges of material from the marinas and boatyards. Potential non-point sources of pollution to Mattituck Creek include herbicide and pesticide contaminated runoff or groundwater from agricultural properties, animal wastes from dogs, horses and waterfowl, fertilizers used by homeowners and farmers and urban sources. The urban sources include the following: stormwater runoff from developed properties such as roads, commercial and residential sites where the rainwater is channeled

directly to the creek. Impermeable surfaces allow substances such as engine oil, heavy metals, and road salt to be collected in the rain water and deposited directly into marine surface waters. Residential lawns are considered a major source of nitrates, not to mention a source of pesticide and herbicide contamination. Septic systems are another concern because they can be a source of nitrogen, organic chemicals, metals, bacteria and viruses to ground and surface waters. Nitrates from septic systems are highly soluble and move easily through the soil into the groundwater. Where housing density exceeds one unit per acre, nitrate contamination of groundwater can occur. Since many developed lots within the watershed area of Mattituck Creek are less than one acre in area, this is a problem. If septic systems are not properly maintained, additional problems can result. The illegal discharge of human wastes from boats is another source of pollution in the creek, as is bilge water. Finally, at least ten storm drainage outfall pipes, some from private property, constitute urban contamination sources to the creek.

The study concluded that the creek suffers from the effects of fecal coliform pollution, and that the source of that pollution was attributable to direct discharge of rainwater and the seepage of septic wastes into the creek, most particularly after rainfall. It also found that these sources of pollution could be eliminated or reduced by implementation of the following measures:

- storm drain system maintenance including regular cleaning of leaching basins and street sweeping
- the construction of additional storm drains, catch basins and infiltration basins to retain and filter the water before its discharge into the creek
- purchase of land for the new stormwater retention facilities
- use of porous pavement in parking lots and local roads carrying a low volume of traffic
- adoption of a “pooper-scooper” law that would require dog owners to pick up after their dogs
- initiate, promote and enforce a *Homeowners Best Management Practices* program and create financial incentives for homeowners to reduce or eliminate runoff from their properties, and
- develop Best Management requirements for new construction or additions so as to mitigate runoff from the site.

An implementation timetable and budget based on the design recommendations was set forth. That report and its findings have been included, by reference, in this LWRP.

Phase 2 of this project, is the actual implementation of the recommendations. It will be the subject of future grant applications, thus is discussed in this report in *Section V – Techniques for Implementing the Local Waterfront Revitalization Program*. A portion of Phase 2 has recently been funded through a grant award through the *NYSDEC Nonpoint Source Implementation Grants Program*.

While agriculture is the dominant land use in the watershed of Mattituck Creek and there is a concern over the impacts of pesticides and fertilizers from agricultural runoff on the water quality of the Creek, the fact remains that residential land use is a close second in extent of land use. With residential development, the volume of runoff discharging directly into surface waters may increase due to the

introduction of impermeable surfaces and the channeling of water onto those surfaces into the Creek. Further, the obliteration of natural drainage swales through thoughtless building practices and site design can result in a change in the normal water recharge pattern within the watershed of the Creek. In addition, the location of subsurface wastewater leaching pools between shorefront homes and the water's edge means that high tides and storm tides can result in a temporary influx of salt-water into the leaching systems with a subsequent outflow of pollutants into the Creek waters.

As was mentioned earlier, there are over ten storm drainage outfall pipes emptying into Mattituck Creek. The drains originate from County and Town roads as well as from private property. The size of the outfall pipes ranges from 4 to 36 inches in diameter. These are believed to be a significant contributor to water quality impairments in the Creek. In addition, several local streets terminate at the creek shoreline, allowing rainfall runoff to enter directly into the creek. The Town of Southold has identified Mattituck Inlet and Creek as a top priority for drainage improvements. As a result, it has undertaken several storm drainage improvement works. On Bayview Avenue, on the western shore of Mattituck Creek, nine catch basins and leaching pools were installed in gravel trenches at the road end. A series of catch basins also were installed along either side of Bayview Avenue upgradient of the trenches at the road end. And, two catch basins were installed at the foot of Knollwood Lane, on the east side of the creek. These improvements were noted in the aforementioned Watershed Analysis.

The sheltered nature of Mattituck Creek means that commercial fishing boats and private recreational boats are docked within the creek year round. Some of the water quality degradation is related to the concentration of vessels at the marinas, moorings, and federal anchorage at the head of the inlet. However, only one of the four marinas (Matt-A-Mar) located on Mattituck Creek contains a pumpout station. Only two of the four marinas provide onsite restroom and shower facilities, Matt-A-Mar and Mattituck Inlet Marina. Wastewater from these facilities is discharged into private cesspools.

While the waters of Eastern Long Island Sound within Reach 1 are certified for shellfishing, the waters within Mattituck Inlet and Creek experience significant fluctuations in water quality thus are, with one exception, closed (uncertified) to shellfish harvesting. The exception to this rule is during the winter (December 9th – April 30th) when water quality north of a line between landmarks at the south side of entrance to Howard Creek and 1085 West View Drive improves adequately to permit a conditional harvesting program. The conditional harvesting program allows shellfish to be taken except following a 0.3 inch rainfall within a 24 hour period, when coliform levels are unacceptable. The colder and dryer winter season is a time when there is little stormwater runoff entering the inlet and there are lesser levels of boating activity.

While water quality within Mattituck Creek fails to meet SA water quality standards most of the year, the most recent study (*Mattituck Creek Watershed Analysis, 2001*) indicates that if property owners agree to cooperate with the Town, it may be possible to improve water quality and reopen areas within this otherwise productive water body for shellfishing on a more regular basis. On land, this will require a concerted effort to control the flow of the stormwater long enough to remove pollutants. However, the size of the watershed and the volume of water preclude the use of physical containment and filtration facilities only. Best management practices for agricultural and residential land uses will have to be introduced as well.

In the water, the introduction of human wastes and chemicals (e.g. fuel, solvents, gray water) from boats could be reduced if more pumpout stations were available and, equally importantly, their use was enforced by boaters and the marina operators. Presently, shellfish beds near marinas and commercial dockage cannot be harvested due to high potential for contamination. One short term solution to expand the shellfishing opportunities would be to concentrate moored vessels in clearly marked clusters that are not near prime shellfish beds. This option may require some relocation of existing mooring permits, but would result in an increased level of public enjoyment of the Creek. Adoption of a *No Vessel Discharge* policy in Mattituck Creek is another possibility that deserves serious consideration.

9. Historic resources

(i) State and National Registers of Historic Places

There is one property on the State and National Registers of Historic Places within Reach 1.

- *Richard Cox House, Mattituck*

The Richard Cox House was listed on the National Register of Historic Places in August 1986. The following summary of its importance is extracted from the nomination form (OPRHP, 1986). The house is located at the northeast corner of Breakwater (Luther) and Mill Roads. At one time, the house overlooked the Howards Creek branch of Mattituck Creek. The waterfront has since become overgrown with vegetation thus blocking the view from the house. Set on 1.7 acres of what was a larger estate, the property consists of two contributing buildings; the Cox house and a carriage barn which has been converted since to a residence on a separate lot.

The Cox House was originally constructed in 1826 as a two story Greek Revival style frame residence facing south on Mill Road. In the 1870s, the house was extensively enlarged and remodeled in the then popular Italianate style. Considered the finest and most sophisticated example of Italianate style in Mattituck, the residence now faces west onto Breakwater (Luther's) Road. A large rectangular addition was added to the rear, its exterior remodeled, roofs and cornices were reshaped and ornamented, the wrap around veranda and cupola were added and the interior and exterior trim embellished. The house's interior contains noteworthy features that date from the original Greek Revival style and from the Italianate remodeling. The Cox House retains its overall historic setting, including some of its late-nineteenth century and early twentieth century landscaping. Additionally, the Cox family played a significant in the commercial development of Mattituck. Richard Cox is credited with constructing the tide mill on Mattituck Inlet and laying out Mill Road and Luther Road.

(ii) Local historic resources

More than 55 structures within Reach 1 are noted as being of local historical significance. One, the Reeve-Pim House, is a designated Town Landmark.

Of this total, twenty one structures are located between the Riverhead Town line to the on the west and south shorelines of Mattituck Creek. Most (17) of the structures are residences that were built during the 18th and 19th centuries. The Richard Cox house, described above, is among this grouping. Two of

the structures in this part of the Reach were designed as water towers. These date back to the turn of the 20th century and are among the handful such towers still standing in Southold. One of the towers, built of brick to a height of six stories, has recently been converted into residential use.

Also of great interest because of its connection to the Town's nautical history is the tidal grist mill that was built in 1821 by the same Richard Cox whose residence, described earlier, is now a National Historic Landmark. The Mill is at its original location at the foot of Mill Road on the west bank of the creek. The two-story, square structure is one of only four existing tide mills left on Long Island. They are classified as "relatively rare engineering structures." (Long Island: An Inventory of Historic Engineering and Industrial Sites. John A. Gable, Ph.D., U.S. Department of Interior. 1974.) Sometime during the 1920s, the mill was converted into a restaurant. Today, the restaurant offers diners serene vistas of the creek waters, wetlands, and wooded headlands that provide the backdrop for the recreational boats and commercial fishing docks. This structure is an important feature of the Town's aesthetic and historical landscape.

The remaining 34 historical structures of note are located on the east side of the creek. All of these are farmhouses dating in construction between 1850 and 1900. Most of them are located on Oregon Road: a testimony to the prosperity of the agricultural farm community of that era. This community once included a general store, chapel, post office and a school, the latter having long since been converted to a residence. On Reeve Avenue, the oldest part of the Reeve-Pim House dates back to the mid 1700s.

As noted by the Society for the Preservation of Long Island Antiquities in its inventory of the Town's historical resources, "The historic ambience of Sound Avenue, Oregon Road and Main Road has long been recognized." *Long Island Landmarks*, published in 1969 by the New York State Office of Planning Coordination mentions the "distinctive rural mood" of Route 25 and describes it as ... "lined with architecturally important buildings."

10. Archaeological resources

As noted on *Map II-17*, there are no known archaeological resources within Reach 1.

11. Scenic resources

Reach 1 is a mostly open agricultural landscape with a concentration of low and medium residential development clustered around the extensive and mostly wooded shoreline of Mattituck Creek. To the west of the Creek, the agricultural land is interspersed with woodland and wetlands which reveal the changing grades of the terrain. To the west of the Creek, the farmed terrain is flatter and less varied, but still sloping. Agricultural land stretches in narrow long fields northward between the main roads and the Sound. The agricultural land is visible to travelers on Sound Avenue, Bergen Avenue, Oregon Road, Wickham Avenue, Mill Road and CR 48. The agricultural uses consist of a mix of cropland and vineyards, providing variety to the landscape. There is a narrow, wooded buffer between the agricultural fields and the soundfront bluff tops. Much of the Mattituck Creek watershed that is developed residentially, also is wooded. The impact of the residential development around the Creek is lessened by the fairly extensive tree coverage.

Among the shoreline characteristics within Reach 1 are dramatic bluffs along Long Island Sound fronted by sand and pebble beaches. The steep, high bluffs provide a distinct edge to the landscape. A major scenic component is the Mattituck Inlet and Creek. The mouth of the Inlet is accentuated by the stone jetties, the deep, wide sandy beaches to the west of the Inlet, and narrow eroded beaches to the east; a clear indication that the jetties are interrupting the predominant natural littoral drift of the sand from west to east. The initial sharp turns of the Creek and its narrow width and sense of enclosure by the surrounding shorelands, particularly to the north of Bay View Avenue, contrast with the wider, open water and lower shorelands to the south, near the head of the Creek. The tidal wetlands that fringe much of the shoreline of the Creek, soften its edges, whilst shoreline hardening structures and the trend towards clear cutting of all trees from the waterfront side of creekside homes have marred the scenic quality associated with the otherwise natural feel to the Creek. The extensive and undisturbed Mattituck Inlet Wetland Complex is a significant scenic component within the Creek, providing a contrast with the tightly defined and developed portions of the Creek's shoreline. The activity associated with the working waterfront of marinas and commercial fishing provides an important visual interest within the Creek, albeit one that is somewhat impaired by large storage buildings and the upland storage of boats near the shore.

Breakwater Beach and Bailie's Beach, owned by the Mattituck Park District, are located respectively on the west and east sides of the inlet entrance. These beaches provide ample access to the Long Island Sound shoreline for residents of the Mattituck Park District and their guests. (See *Section D. Public Access and Recreation, (iv) Park District* for maps and an in-depth description of the role and holdings of park districts within the Town of Southold.) Views from the beaches include the mouth of the Mattituck Inlet and the surrounding bluffs, the most outstanding of which are the Mattituck Hills, rising 160 feet above mean sea level: the highest elevation within Southold. The Town of Southold's Boat Launch and the Mattituck Park District Boat Launch, located side by side at the head of Mattituck Creek, just north of CR 48, also provide uninterrupted views of the lower half of Mattituck Creek.

There are many vistas from local roads that feature the important scenic components within Reach 1. Dominant are the expansive views of the open farmland from many of the local roads. Glimpses of Mattituck Creek are available from CR 48 and from local roads. Immediately around the Creek, the view from the roads is framed by woodland, wetlands and residential development.

As mentioned earlier, the cultural and historical importance of Sound Avenue, dating back to the American Revolution, was recognized in 1975 by the New York State Legislature as a significant scenic and visual corridor in Suffolk County. However, that designation was only applied to the portion of the road within the Town of Riverhead. Nevertheless, the small portion of Sound Avenue lying with Southold contains some locally significant structures, as was described earlier in *Subsection 9. (ii) Local historic resources*.

Along Oregon Road, in the eastern part of the Reach, there are still working farms with modest farmhouses and jumbled collections of barns, storage buildings, sheds, greenhouses and equipment yards. Many of these farm houses and structures date back to the 1800s. If not for the electric power lines overhead and the mechanized farm equipment, the vista from Oregon Road is a time-warped vista of flat, open fields against a backdrop of woodland and sky. Its character is such that most travelers

feel they have been transported back in time to an earlier era. This road is part of the Town's *SeaView Trails* network, which features scenic walking and bicycle routes within Southold Town. However, this vista will become threatened if the farmhouses continue to be split off from the farmland and the farmland subdivided to create new building lots either at or near the bluff line to the north or along the road.

12. Protected Resources

Table 1-1 on the next page lists protected lands within Reach 1. A total of 60 properties encompassing 784.57 acres of land are considered protected from development.

The geographic distribution of the protected resources are limited. Only 39.8 acres of soundfront property, located on either side of the Inlet entrance are in public hands; all of it owned by the Mattituck Park District. However, it must be noted that the location of the protected land is strategically close to the center of residential development and that this soundfront is extensive, spanning 2,711 feet of shoreline.

Within the Creek, there are extensive wetland holdings with the NYSDEC shoreline spanning more than 7,300 feet, the Park District spanning nearly 1,515 feet of shoreline and the Town-owned wetlands spanning nearly 1,500 feet of shoreline: most of it located at or near the Inlet entrance. There are a few small waterfront holdings by private property owners associations. These lands together with two boat launching sites comprise the preserved creekfront: a total of about 41.7 acres, not including the Park District property which was included in the soundfront tally.

There is considerably more protected agricultural acreage. Altogether, there are 592.21 acres of land from which development rights have been purchased. This acreage is estimated to be only 26% of the farmed acreage with the Reach. Reach 1 contains the second highest amount of viable farmland within Southold Town, close on the heels of Reach 8. Reach 1's agricultural lands are highly susceptible to development pressure due to their close proximity to the extensive residential population and business activity around Mattituck hamlet, not to mention Riverhead Town. The agricultural lands are clustered in the west and east sections of the Reach, although a locally-significant grouping of agricultural lots lie within the central section of the Reach, on either side of the Creek and within the Creek's watershed.

Table 1-1 Protected Lands within Reach 1

Type of Owner	Acreage	# of Parcels
Park District	44	5
Churches, Cemeteries	4.07	2
County Owned	46.87	9
Peconic Land Trust	13.4	1
Subdivision Park	2.72	6
Schools	0	
County Development Rights	174.2	6
State Owned	10.33	2
Subdivision Open Space	29.6	2
Town Development Rights	418.01	15
Nature Conservancy	0	
Town Owned	11.3	13
Museums	0	
Water Utilities	0	
DEC	28.4	1
TOTALS	784.57	60

Source: Town of Southold Geographic Information System, August 2002.

Other protected resources include drainage easements and recharge areas. The bulk of these drain into the Mattituck Creek watershed. However, relative to the size of the watershed, these facilities are estimated to be a fraction of what is needed to improve the quality of the stormwater runoff that is regularly discharged into the creek. This problem was discussed in detail, earlier, in *Section 8. Natural Resources (iii) Water quality*.

The *Community Preservation Project Plan (CPPP)*, which was adopted in July of 1998, aims to protect the open agricultural and scenic qualities of Southold Town. The Plan targets all A-C zoned land larger than 10 acres in size. Most of this acreage is still in agricultural production. Additional details are provided in *Section II.B.Planning Framework, 7.Open Space Preservation Plan*.

The CPPP proposes to add to the preserved acreage within Reach 1 by targeting the remainder of the unprotected farmland, about 1,600 acres of land. A number of these parcels contain soundfront, which could provide much needed public access to the water. In addition to farmland, the Plan targets land in the northern part of the Creek worthy of preservation for public access and resource protection. There is little vacant land left on the Creek, so these properties represent the last opportunities for the Town to add to the existing public holdings on the Sound.

12. Development constraints

There are not many development constraints within Reach 1, a situation that makes this Reach highly vulnerable to residential development pressures.

(i) Public services and facilities

There is extensive public water supply within Reach 1, principally on the west bank of Mattituck Creek, along Cox’s Neck and Breakwater (Luther’s) roads. With the exception of the Captain Kidd Estates’ subdivision behind the bluffs on the west side of the inlet, most homes within this part of the Reach still draw water from private wells. The Captain Kidd Estates’ subdivision consists of half-acre lots. The subdivision originally was designed in the 1960s with its own privately held water company. However, groundwater contamination and fiscal mis-management by the developer led the Town to ask the Suffolk County Water Authority to step in and take over the water system during the mid 1980s. Since then, the SCWA has not only installed expensive water purification equipment at the existing wellheads within the subdivision, but it moved to augment the future water supply by purchasing an extensive tract of land on the east side of Laurel Lake, within Reach 9. In 1998, a new main was installed along Sound Avenue and Cox’s Neck Road, connecting the new wellsite in Laurel with the Captain Kidd Estates system. This action effectively removed one of the major constraints to commercial development of the Marine zoned properties along the creekfront. It also increased the vulnerability of the remaining agricultural lots within this portion of the Reach. Surrounded by residential development, this land, much of it referred to as “Cooper’s Farm,” is treasured by the surrounding residents for its scenic value as well as its produce.

Individual properties have their own on-site water supplies through private wells. Well depth, location and water quality are factors under the jurisdiction of the Suffolk County Department of Health Services. The SCDHS’s policies regarding individual wells within Southold Town is explained and analyzed elsewhere in this document, specifically in *Section C. Land Use and Development, 2. Public services and facilities* and in *Section E. Natural Resources, 10. Groundwater resources*.

There are no public wastewater treatment facilities within Reach 1. Individual properties have their own on-site wastewater treatment systems consisting of cesspools and leaching tanks. Due to the age of much of the residential development with the Reach, the cesspools of waterfront lots may be located close to both the creek shoreline and the groundwater table, thus presenting a potentially significant source of pollution to the surface waters of the creek and the groundwater feeding into it. These systems, in combination with the stormwater discharge sites, are thought to be contributors to pollution levels in Mattituck Creek.

(ii) Flooding

With the exception of the area around Mattituck Inlet, the potential for flooding in Reach 1 is relatively low considering the extent of its shoreline. The high bluffs that stretch along Long Island Sound shoreline protect the inland from flooding except in the vicinity of the inlet. Here, localized flooding can occur, particularly during storm-driven tides and northeasters. While the marshes and wetlands in the northern part of Mattituck Creek are flooded by Sound waters entering the Inlet, the uplands are not affected. However, south of Mill Road, where the mill and bridge were located, storm-driven water levels can result in extensive flooding of low lying areas. The shoreline in the southern part of the Creek generally is lower in elevation than is the northern part. The risk to life and property is aggravated by the large number of small lots with homes located close to the shoreline and the direct discharge of stormwater runoff into the lower part of the creek from CR 48, Westphalia Avenue, Wickham Avenue, Mill Road and Cox’s Neck Road, to name just the major contributors.

Further, Long Creek receives the accumulated runoff of several hundred acres of farmland in the northeast quadrant of the Creek's watershed. This water runs south to Long Creek and empties into Mattituck Creek near its head.

Flood areas are indicated on Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms acts as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make the development of some low-lying properties more attractive by requiring the first floor of new construction to be raised to a height that is one foot higher than the base flood elevation of the site. As seasonal cottages are winterized and expanded into year-round dwellings, they also are being raised on pilings or mounded earth. However, the existing roads and surrounding terrain remain susceptible to flooding. This trend is likely, in the near future, to cause problems for emergency services personnel, particularly as the year-round population increases.

Within Reach 1, the most troublesome areas in this regard are the soundfront lots on the north side of Sound Beach Drive (on the west side of the inlet) and the residential community known as Brower's Woods, west of Grand Avenue on the lower east bank of Mattituck Creek, just north of where Long Creek enters it. Many residents in this area are within the 100-year floodplain. The Town needs to develop a Flood Hazard Mitigation Plan (FHMP) to inventory potential troublespots and solutions.

Around the Inlet, there is a real danger of the barrier beach breaching and affecting this system. If a breach occurred, it would result in changes in natural processes which could cause sediment to block the navigation channel and render the jetties useless, thereby disrupting marine businesses located within Mattituck Inlet. The barrier beach is narrow and could be breached by a coastal storm with a wave field coming from the north or north-northwest.

(iii) Erosion

Beaches backed by steep bluffs are the dominant coastal landforms in Reach 1. These bluffs are broken by Mattituck Inlet and Creek. The characteristics of the coastal landforms in Reach 1 are described below. Predominate drift direction is from west to east, but waves from large storms occasionally come from the northeast and move sand from east to west.

Reach 1: Inventory of Coastal Landforms

Beach:

<i>Location</i>	The beach runs along the entire coastline of Reach 1.
<i>Width</i>	51-100 feet. The beach directly to the west of Mattituck Inlet is exceptionally wide. By contrast, the beach to the east of the jetty is very narrow and eroded.
<i>Composition</i>	Mostly sand and gravel. The most noteworthy exception is the beach directly west of Mattituck Inlet, which consists primarily of sand.

Bluffs:

<i>Location</i>	Continuous bluff along the entire length of this Reach, except in the vicinity of the Inlet.
<i>Height</i>	0-150+ feet.

Tidal Wetlands: Large tidal wetland areas border approximately 30 percent of Mattituck Creek, primarily on the eastern side.

Annual Shoreline

Erosion(e)/Accretion

Rate(a): 2.0 feet(*e*) to 0.4 feet(*a*). This rate bears some explanation. It is an average rate for the span of time between 1884-85 to 1995-98. However, between 1884 and 1995, the greatest erosion occurred downdrift at Bailey's Beach where the rate reached a maximum of 4.2 feet per year. This rate was not sustained continuously. Overall, the erosion rate east of the inlet has averaged about 2.9 feet per year. This is in notable contrast to the average erosion rate elsewhere along this shoreline which has generally been between 0.5 and 1.5 feet per year. (Source: Historical Shoreline Change Analysis (Feb. 1999)

Town of Southold, 1989

Much of the shoreline in Reach 1 is unprotected. Details of coastal protection structures within the Reach are outlined below. Most of the bulkheading is within Mattituck Creek.

Reach 1: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length	67,200 linear feet (l.f.)
Total Bulkheaded	20.8%

Coastline

Length	23,400 l.f.
Bulkheaded	8.5%
Groins	0
Jetties	2

Creeks, Inlets

Length	43,800 l.f.
Mattituck Inlet	27.3% bulkheaded

Town of Southold, 1989

Within Reach 1 there are two jetties located at the mouth of Mattituck Inlet. As mentioned earlier, the east jetty was completed in 1906 and the west jetty in 1914. The west jetty was extended by 250 feet in 1938. Because of their length (over 1,500 feet), these jetties interfere with the natural west-to-east littoral drift. This interference has been a factor in the change of shoreline morphology around and eastward of the inlet entrance over time. The shoreline west of the Inlet entrance presently is stable, although it has been the site of significant sand accumulation in the past. Sand is migrating around the end of the west jetty either into the inlet channel or offshore. However, the ultimate disposition of sand entering the channel is unknown. The beach that has accreted to the west of the jetty extends about 2,000 feet westward. A review of data revealed that the present day beach extends seaward up to 800 feet farther than it did before the jetty was built.

By contrast, the shoreline for a distance of about 2,700 feet on the east side of Mattituck Inlet is not stable, but rather is eroding. The beach directly to the east of the jetty is extensively eroded. The low dunes around Bailie's Beach have not been able to supply sufficient sand to compensate for sand that may be lost due to the interference of the jetties. In order to counter this, material dredged from the inlet is generally placed as beach nourishment along the downdrift shoreline. However, dredging occurs too infrequently and/or in too small a volume for the nourishment to have a significant impact or benefit on the shoreline. Nevertheless, future maintenance dredging efforts are expected to be performed in a similar manner, provided the material is suitable for placement along the shoreline.

The shoreline bluffs that span the area to the east of the jetty are subject to intensive erosion. The bluff, which rises to between 80 to 100 feet at Oregon Hills, is fronted by a narrow beach offering limited protection from storm-driven waves. As a result, the bluff has been attacked at the toe by waves. Also, the bluff has slumped in a number of locations, due to upland drainage. These slumps have been supplying sand to the beaches along this portion of Reach 1. Some waterfront property owners have installed wooden bulkheading at the bluff toe in an attempt to stabilize their properties.

The *Historical Shoreline Analysis* (February 1990) reports that "... the installation of shore parallel coastal engineering structures along this shoreline segment between 1955 and 1998 does not appear to have adversely impacted the overall rate of recession." The impact of Mattituck Inlet may be large enough to mask any accelerated erosion caused by the bulkheads constructed seaward of the bluffs. So, while the bulkheads appear to be innocent, based on the available data, it may be that the data itself is not good enough to make the fine distinction between erosion caused by the jetty and that caused by the bulkheads.

During 1996/97, the U.S. Army Corps of Engineers rebuilt the northernmost edge of the west jetty in order to ensure the stability of the metal structure housing the navigation aid. In addition, the trunk of the jetty had some loose in several places, with the result that sand was passing through the jetty into the navigation channel itself. Increased shoaling in the entrance channel led to concerns that inlet dredging would be required on a more frequent basis in order to maintain safe navigation. The damage to the jetty was caused by the cumulative impact of numerous storms, most notably the severe erosion caused by the Halloween storm of 1991 and the December storm of 1992. Both these storms had the effect of undermining the parking lot and access road at Mattituck Park District's Breakwater Beach as well.

During the repair and backfilling of the jetty, a geotextile fabric was placed on the west side of the jetty trunk to prevent future sand losses through the jetty during storms. The jetty was reconstructed to the previously authorized cross-section. In the process the jetty was raised 2.2 feet for a distance of 270 at its outer end. Since these changes were made, there has been an increase in the erosion rate east of the inlet. Mechanical sand bypassing from the updrift to the downdrift side of the inlet jetties would reduce the erosion rate on the downdrift side. It also may reduce the shoaling rate within the inlet channel. Money has been appropriated for the U.S. Army Corps of Engineers to conduct a Section I-II study to assess the feasibility of a permanent sand by-pass system. The assessment study is to start this year, 2003.

Finally, the *Coastal Erosion Hazard Area* within this Reach runs roughly parallel to the shoreline ranging from 70 to 500 feet landward of the water's edge depending on the topography. Only one residence within the Reach straddles the CEHA line, on the bluff face in the western part of the Reach. However, each of the Mattituck Park District properties at the Inlet entrance and the supporting structures lie within the CEHA. Most of the other residences and their accessory structures lie at or behind the naturally-defined line, although in the case of the westernmost lots on Sound Beach Drive, a residential street located on the west side of the Inlet entrance, the CEHA boundary is defined by the line of bulkheading along the beach edge.

The substance and importance of the CEHA are explained in *Section II.1.2.(v)(b) Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 1: three distinct land use situations have been identified within the Reach:

- existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below. Underutilized sites are and identified on [Map II-J-1](#).

(i) Areas of existing stable uses

The existing residential neighborhoods located within the watershed of Mattituck Inlet and Creek have been identified as areas of existing stable uses. Change within these areas probably will be limited to infill development of vacant subdivision lots and redevelopment or expansion of older dwellings. On the west side of the Creek, public water has been available for several years (particularly in the Captain Kidd Estates subdivision) and the extent of that service continues to expand incrementally. It is likely that infill and rehabilitation or expansion of existing dwellings will continue due to the prime quality of these neighborhoods and their close proximity to the water. On the east side, the lack of extensive public water has not been a deterrent to either infill or redevelopment, and is not perceived as being one for the foreseeable future.

(ii) Areas subject to development pressure

Much of Reach 1 outside of the developed fringes of Mattituck Creek is categorized as subject to development pressure. There are numerous approved subdivision lots that have yet to be built, which will change the character of the Reach in the near future. There are agricultural lands from which development rights have been purchased, however, these parcels represent a small fraction of the total farmed acreage and they do not abut each other in a contiguous block. Without aggressive action to protect the remaining blocks of active farmland, Reach 1 has enormous potential to be converted into an inefficient hodge-podge of subdivisions and isolated farms. Further, Oregon Road's scenic charm and historical integrity will soon be lost as investors petition the Planning Board to split the farmhouses along the road off from the remainder of the land, then seek to subdivide the waterfront into luxury homesites. The remaining land consists of very narrow lots with limited road frontage. Further aggravating the situation, localized opposition to extending Sound View Drive eastward will result in the continued loss of limited agricultural land to extensive private driveways running north to new homesites on the soundfront bluffs from Oregon Road. In addition to wasting valuable farmland, the driveways also pose short and long term obstacles to efficient farm tillage operations and the movement of farm equipment from field to field.

(iii) Underutilized sites

There are five underutilized areas within Reach 1. These are located at the first bend of the inlet entrance, beginning with the abandoned asphalt plant near the mouth and four adjoining lots to the east. The acreage of the five properties (from west to east) are 4.7, 1.7, 1.5, 4.8 and .5 acres. These

properties encompass a total of 13.1 acres of contiguous waterfront property that are zoned Marine II, the most intensive marine zoning. Most of the frontage is bulkheaded, with either metal or wood. These lots present opportunities to introduce either new water-dependent uses, or a mix of water-dependent and water-enhanced uses.

The location of these lots relative to the inlet entrance poses additional problems. Some of the properties are exposed to storm-driven waves entering the inlet from the northwest. Further, the first bend of both the natural and dredged channels is of limited width thus posing physical limitations to increased boating traffic. Land access to these sites also is limited. There is basically only one direct north-south arterial leading to the properties from CR 48: Cox's Neck Road, which becomes Breakwater (Luthers) Road enroute to the water. (The lots actually front on Naugles Road, which lies perpendicular to Breakwater Road.) The existing level of traffic, particularly during the summer months, is an issue of concern to the neighborhood.

The lack of significant habitat and the historical use of this waterfront for commercial purposes argues in favor of continued maritime use, albeit at a lesser intensity than normally permitted by the site's current M-II zoning. The Town can pursue two options. It can give serious consideration to changing the M-II to M-I zoning, which is more exclusively water dependent. Such a zone would preserve the commercial potential of the sites but at a level less threatening to the residential character of the surrounding neighborhood.

Another option would be purchase by the Town for an extensive marine waterfront and recreational park. Due to the economic and environmental obstacles to redeveloping these properties for commercial purposes as described earlier, purchase of the lots by the Town would be a cost-effective alternative. For starters, funds for environmental clean-up are more readily available to municipalities than to private individuals. Also, the potential for commercial traffic on residential streets would be considerably less. For this reason, pursuit of a creative public-private partnership for the purchase, development and operation of the entire waterfront to facilitate public access may be a more palatable compromise. Since these lots were identified as underutilized, the site of the asphalt plant (1.7 acres) was purchased by the State of New York.

(iv) Areas of Special Concern

The Town of Southold has identified three areas of special concern within Reach 1. These are examined in detail below.

- ***Erosion to the east of the Mattituck Inlet jetties***

The continued erosion of the shoreline eastward of the easternmost jetty is of considerable concern to the Town and the residents along that shoreline. The rate of erosion seems to be influenced by the jetty and the dredging and former mining activities that took place both within the inlet and west of the jetty.

The U.S. Army Corps of Engineers has conducted periodic maintenance dredging of the inlet entrance since 1921. The amount of materials dredged from the inlet for maintenance purposes has varied from 13,271 to 53,893 cubic yards. Typically, the dredged material was deposited on the eroded shoreline eastward of the jetty.

By contrast, the removal or mining of accreted sand from the west side of the jetty took place at various times over a fifty year period. During a fifteen year period between 1960 and 1975, the volume of this sand removal varied from 364 to 36,098 cubic yards. Since most of this sand was sold, it was lost for the purposes of littoral sand transport during that period of time. (Source: *Southold Erosion Management Plan*. August 1995.)

While maintenance dredging of the inlet and deposition of the sand eastward of the jetty continues to this day, it may not be taking place frequently enough to counter the rate of the erosion to the east. In recent years, property owners downdrift to the east jetty have expressed concern about the degree of erosion taking place at Bailie's Beach. By the summer of 1999, the narrow depth of the land separating the creek from the sound had reached a point where a severe storm might cause a breach. In response, the Town asked the U.S. Army Corps to undertake preventative action. The Corps' ability to engage in preventative measures is limited severely by regulatory and budgeting constraints. After much effort on the part of the State of New York, the Town and determined private citizens, the Corps has been working with state and federal representatives and elected officials to leverage funds to study ways to better facilitate the regular transport of sand to the east of the jetty. As a result, the Corps has received money to conduct a Section 111 study, the first such study to be conducted within the State of New York. The study is underway.

- ***Mattituck Inlet and Creek and Mattituck Creek Watershed Area***

The Mattituck Inlet and Creek is the Town's only sheltered harbor on Long Island Sound. It also is the only harbor on Long Island east of the Port Jefferson- Mount Sinai harbor complex. The primary issues of concern here are erosion and water quality.

The issues here are two-fold: that which is taking place at the toe of the bluffs to the east of the jetties, and that which is taking place at the mouth of the Inlet itself. The former may be a function of the latter due to the effect of the jetties on the natural west-to-east pattern of longshore sand drift. Sand is being deposited on the west side of the western jetty to such an extent that the excess sand is shoaling into the channel between the two jetties. Meanwhile, erosion of the bluffs downdrift of the eastern jetty highlights the loss of sand that used to flow across the inlet mouth to the eastern shore of the inlet.

The issue of bulkheading is a contentious one. As stated in the Governor's Coastal Erosion Task Force report, soft erosion control measures (e.g. beach nourishment at bluff toe or bluff face revegetation) generally have not been successful *when installed on an individual basis*. Better results are obtained when multiple owners on a long stretch of shoreline use non-structural methods. Yet, from the State's perspective, bulkheads generally are not the preferred strategy. Non-structural alternatives such as relocating structures and homes away from the bluff are more desirable methods.

Additionally, some property owners have installed staircases down the bluff face to remove the indigenous vegetation at the crest of the bluff, with the result that in some places the bluff face has become denuded of vegetation and subject to the erosive forces of wind and rain. The installation of stormwater or pool drains into the bluff face can result in gullies on the bluff and the beach. Poorly designed or located landscaping, careless excavation near or on the bluff face and ill-advised property drainage techniques can result in devastating and nearly irreversible erosion damage to the bluffs. Although variances (from the Town's Zoning Board of Appeals) are required for any type of activity or

construction within 100 feet of a bulkhead and permits (from the NYSDEC) are required for any type of activity or construction with 75 feet of the high water mark and 25 feet from the edge of the bluff, there is no consistent program of inspection by either the Town or the State for abuses or enforcement of permit conditions. Current enforcement efforts by the NYSDEC are time-consuming, cumbersome and poorly publicized. Further there is no coordination between the Town and the State on enforcement issues, nor is there continuing education of shorefront property owners about ecologically sound alternatives. Of necessity, the Town will have to require closer scrutiny of applications to rebuild structures seaward of either the mean high tide mark or the CEHA line. Where possible, all structures should be pulled landward.

The other issue of concern within this Reach is water quality. The Creek itself contains locally important stands of tidal wetlands, a designated Significant Coastal Fish and Wildlife Habitat and significant shellfish resources. However, poor water quality is a major concern because it prevents greater enjoyment of the abundant shellfish resources. As described earlier, ongoing research indicates the importance of filtering storm water runoff from the extensive watershed area. The runoff includes water from agricultural and residential properties as well as roads.

The large number of septic systems and cesspools within the watershed is also thought to be a significant contributing factor to the water pollution, particularly those less than 150 feet from the water's edge. While some of the pollution is undoubtedly due to concentrations of wildlife and waterfowl within the Creek, the human contribution is a factor that can be mitigated. Finally, the lack of sufficient numbers of pumpout stations and their conscientious use by boaters means that shellfish beds near moorings, docks and marinas are closed except during specific times in the winter months. The adoption of a *Harbor Management Plan* for the Inlet and Creek would help the Town mitigate many of the conflicts between competing water uses thereby resulting in more efficient use of the water surface, the shoreline and the natural resources. In addition, adoption of a *Watershed Management Plan*, recently completed and presently being implemented, mitigate the impacts of stormwater runoff and other pollution sources, such as on-site wastewater treatment systems. Finally, a detailed *Erosion Management* analysis of the impacts of the jetties on Mattituck Inlet and the shoreline to Reach 2 would help guide efforts to stabilize the easterly beaches and reduce erosion of the adjacent bluffs. Towards that end, the recent studies on erosion and watershed management are incorporated into the Town's LWRP.

- ***County Route 48 Corridor***

The primary issue of concern within the CR 48 Corridor is the potential for continued loss of agricultural land to residential and business development. Also of great concern is the potential for inappropriate business development (particularly high traffic generators) to be introduced to the commercial zones that abut this highway. As mentioned earlier, only 25% of the agricultural land within Reach 1 has been preserved from development. While the amount of land zoned for commercial uses CR 48 located within this Reach is not large, it has the potential to increase traffic congestion, negatively impact traffic safety, and undermine the intended function of CR 48 as a bypass route for the more congested SR 25 corridor. The Town commissioned a consultant to study the zoning within this corridor with an eye towards maintaining its open space and traffic congestion-free character. Several re-zonings resulted. Another important component of the effort to maintain the

character of the corridor is preserving its scenic value. CR 48 is part of the Town's *Scenic Corridor Management Program*. This program is described in *Section II. B. The Planning Framework 9. Transportation Planning: 1992-2002*.

- ***Oregon Road vista***

One of the most scenic vistas is that of the farmfields and historic farmhouses and barns along Oregon Road. Meriting its own Seaview Trail designation, this vista is threatened by the intrusion of new residential development. Many of the new homes are being sited near the bluffs in order to take advantage of the water views. However, there is no public access to much of this property with the unfortunate result that many private driveways cut into blocks of farmland and literally prevent farmers from moving equipment from field to field

The primary issue of concern here is the loss of character as new residential second-home development impinges on the edges of the farm fields. In addition to detracting from the vista, new residential development acts as a deterrent to efficient agricultural practices where private roads block farmers from moving machinery across the fields. The commercial and industrial activity taking place between Depot Lane and Cox's Lane also has a negative impact on the vista. As mentioned earlier in *Subsections 9 and 11*, the Oregon Road vista is unique on many levels. Maintaining its character deserves special care and attention.

2. Key issues

As a result of the preceding Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 1. These issues are discussed below.

i) Agricultural protection

Reach 1 contains a significant portion of the Town's prime agricultural soils. Over 2,200 acres of farmland lies within the boundaries of Reach 1 alone. Yet, only 26% of that acreage is protected from residential development. The Town's goal is to retain large contiguous blocks of farmland. This goal is still possible within Reach 1 provided the Town acts quickly to forestall the introduction of residential subdivisions in the midst of large tracts of active farmland. Even the introduction of 5- acre lots creates undesirable wedges into the blocks, as evidenced by the large lots that have been created and developed south of Sound View Avenue. Most subdivision design within the eastern portion of Reach 1 poses a significant design challenge due to the long, narrow configuration of most of the lots. Even a cluster design can have the unfortunate result of permanently breaking up blocks of farmland.

(ii) Harbor management issues

The harbor management issues in Reach 1 are concentrated within Mattituck Inlet and Creek. This is both a recreational and commercial port and provides one of the Town's largest concentrations of marine facilities. The Inlet and Creek have regional significance as the only major harbor on Long Island Sound to the east of Mt. Sinai and Port Jefferson, a distance of about 40 miles.

Mattituck Creek has been a focus of the Town's attention since 1980, when the Mattituck Inlet Advisory committee was appointed to focus on concerns about its use and declining ecological health. Under the committee's direction, the Suffolk County Planning Department completed a study in April 1981, *The Mattituck Creek Watershed Study, Phase I, Inventory of Existing Conditions and*

Identification of Development Opportunities. Ten opportunities were identified in that study among them: identifying land reuse opportunities at the mouth of the inlet, enhanced public access and recreational opportunities, stormwater runoff control, acquisition and protection of tidal wetlands, reduction of environmental impacts from development, and long-term protection of the navigation and natural features of the inlet.

Many of these issues and opportunities remain valid today. The inventory and analysis highlighted the following harbor management issues within Mattituck Inlet:

- protection of water-dependent uses and the working waterfront (both recreational and commercial maritime activities) from intrusions by incompatible residential development as has happened in Greenport Village
- encouraging adaptive reuse of underutilized, previously disturbed waterfront properties
- improving navigation and dredging, including use of the Town's only federal anchorage, maintenance dredging, and the protection of navigation channels
- provision of opportunities for shellfishing and aquaculture
- expanding access to the water for recreation and shellfishing
reducing conflicts between marine uses and the environment
- upgrading the substandard water quality and reducing all contributing pollution sources

Of particular concern today is the lack of pumpout stations and their consistent use by boaters, particularly boaters that rent dockage space for the summer and live aboard their yachts for extended periods of time. The trend has been to larger boats and potentially longer stays.

All of these issues were identified in the *Mattituck Inlet Harbor Management Plan*, which will be included as a component of the Town of Southold LWRP in *Section IV*.

(iii) Public access and recreation

The existing combination of public access and recreational opportunities is significant but limited. Given the potential for population growth and the trend of increased participation in leisure activities by residents and tourists, the need for more public access to the waterfront is expected to grow. The existing sites are limited in size and accessibility. Currently, Town residents outside of the Mattituck Park District technically have only one boat ramp and one undeveloped site with which to access the water throughout the entire Reach. Additional land is available with which to expand and enhance existing facilities and access opportunities.

Existing public access at the head of Mattituck Creek could be improved through a partnership between the Park District and the Town. Enhanced public dockage for transient boaters could be installed in the form of floating docks in the area between the two ramps. Use of the federal anchorage could be

managed so to maximize its mooring capacity through the use of a grid mooring system. A grid mooring system also could be used in the rest of the Creek to maximize mooring capacity and to keep moorings away from productive shellfish beds.

(iv) Protection of habitats and wetlands

Reach 1 features important wetlands and habitats. These are concentrated in the Mattituck Inlet and Creek which includes the designated Mattituck Inlet Wetlands Significant Coastal Fish and Wildlife Habitat. As boat traffic increases, these limited but important habitats will need protection from boat wakes and debris. Further, continued bulkheading and addition of piers and dockage along the creek shoreline will result in incremental but cumulatively detrimental losses to small but contributory wetland habitats, not to mention shellfish beds. The protection of the natural resources of the Mattituck Inlet and Creek will be an important component of the Mattituck Inlet Harbor Management Plan.

There are little known but contributory freshwater wetlands and drainage swales within the watershed of the Creek that are in need of protection from inappropriate land management. Most of these wetlands and swales are in private hands. Only one stretch of this land, at the head of Long Creek, is protected from private mismanagement by conservation easements. But even here, enforcement is not diligently pursued.

(v) Protection of water quality

The Town of Southold recognizes the importance of preventing further declines in the water quality within Mattituck Creek. A range of mitigation efforts will be necessary in order to reduce pollution of the water. Sources of pollution include particulate matter from direct discharge of stormwater runoff from local roads and private properties, seepage from on-site wastewater treatment systems located too close to the shoreline or the groundwater table, and dumping of human wastes by boaters. The latter problem is of growing concern given the trend towards larger boats, some of which rarely leave the dock and often serve as summer residences. Given the size of the Creek and the limited tidal flushing action towards its head, the number and portability of pumpout stations should be increased and their use more diligently enforced if water quality is to be improved. Designation of the Creek as a No Discharge Zone should be considered.

A few years ago, the Town identified the need to adopt a *Mattituck Creek Watershed Plan*. This plan was funded by the New York State Department of State through an Environmental Protection Fund grant award. This Plan was completed in 2001. Its recommendations are incorporated into the LWRP and will be implemented as part of this program.

In addition, the protection and improvement of water quality of the Mattituck Inlet and Creek will be an important component of the *Mattituck Inlet Harbor Management Plan*. A few years ago, the Town hired a consultant to develop a prototype *Harbor Management Plan* using Mattituck Inlet as the focal point. The ensuing report, *(Draft) Harbor Management Plan, 1995*, identified issues of concern and recommended strategies for addressing them. The Town will now proceed with the development of a detailed *Harbor Management Policy* for Mattituck Inlet. The reader is referred to *Section IV* of this document for a discussion of the purpose of Harbor Management Plans in the context of the LWRP Program, as well as the Town's proposed approach to Harbor Management Plans that may need to be developed for selected harbors within its borders.

(vi) Flooding and erosion

The major erosion issues in Reach 1 revolve around the impact of the Inlet's jetties on natural coastal processes along the soundfront shoreline. The shoreline to the east of the Inlet is experiencing extensive erosion. A detailed analysis by the U.S. Army Corps is underway at Mattituck Inlet to find a cost-effective and practical way to facilitate the transport of sand to the east of the jetty, which would help stabilize the easterly beach and the adjoining bluffs.

Flooding is of concern to the shorefront neighborhood on the west side of the jetty and the smaller waterfront lots on the lower east side of the Creek, particularly near Long Creek. Here the extent of existing development and the small lot sizes have limited the solutions to raising the first floor elevations of existing and dwellings. A Flood Hazard Mitigation Plan is needed.

(vii) Protection of scenic resources

Reach 1 features a variety of scenic components, some unique to the Reach. It is a mostly open agricultural landscape with a concentration of low and medium residential development in the vicinity of the Mattituck Creek. However, the soundfront shoreline features dramatic bluffs fronted by pebble and sand beaches. The steep, high bluffs provide a distinct edge to the landscape. These glacially formed bluffs are relatively unique, being found only in Nantucket, Martha's Vineyard, the outer edge of Cape Cod, and on the New York Shoreline of Lakes Ontario and Erie.

A third major scenic component is Mattituck Inlet and Creek, which contains a changing palette as you move towards the head. The bluffs, dunes, jetties and tidal wetlands define the entrance. Past the entrance, the working waterfront of marinas and commercial fishing docks provides a different and important visual focus. At this point, tidal wetlands still continue to fringe much of the shoreline of the Creek. The largest of these wetlands, the extensive and undisturbed Oregon Marsh State Tidal Wetlands Complex, is a significant scenic component within the northeastern part of the Creek, providing a contrast with the otherwise tightly defined and often developed shoreline found to the south. Many of these scenic components can be viewed from local roads, road ends, and the public parks at the mouth of the Inlet. Finally, the scenic character of the soundfront shoreline in the eastern part of this reach would be improved by the removal from the beach the remains of an anti-aircraft battery from World War II.

REACH 2: DUCK POND POINT TO HORTON POINT

A. INVENTORY AND ANALYSIS

1. Location

Reach 2 includes the Long Island Sound shoreline between Duck Pond Point in Cutchogue to Horton Point in Southold. The western boundary of the Reach begins in Cutchogue where it includes the two small subdivisions at the northern end of Duck Pond Road (including Vista Place, Birch Lane and Glen Court). From this point, the Reach's boundary runs south along Duck Pond Road and Depot Lane to CR 48. The southern extent of this Reach is CR 48, where it abuts Reaches 7 and 8. The eastern boundary of the Reach begins where CR 48 meets Youngs Avenue in Southold. The boundary runs north along Youngs to its end at North Road, then easterly along North Road to its intersection with Lighthouse Road, then northerly to Lighthouse Road's terminus behind the bluff on the eastern side of Horton Point. This Reach contains Goldsmith Inlet, and the inland water bodies of Autumn Lake, Great Pond, Lily Pond and Hummel Pond.

2. Land use and development

The land use pattern within Reach 2 is described below and illustrated on [Map II-5](#).

The primary land use in this Reach is agriculture followed by residential. The bulk of the agricultural land lies on the back or landward side of the bluffs along the Sound shoreline. West of Goldsmith Inlet, the farmed lots extend north from CR 48 to the back side of the bluffs on the Sound in a series of long, narrow parcels. East of the Inlet, the farmed lots extend from CR 48 upward to a point midway between the shoreline and the county road. Approximately 1,387 acres of farmland lie within this Reach. The Town and the County hold the development rights to 18 agricultural parcels within Reach 2, totaling about 289 acres, just 20% of the active acreage.

Of all the Reaches in Southold, this one is probably the least intensively developed residentially. The largest cluster of low and medium residential development is concentrated around Sound View Avenue between Henry's Lane in Peconic and Lighthouse Road in Southold. This part of the Reach contains older seasonal dwellings, many of them originally summer cottages, some of which have since been converted and expanded into year-round homes. The cluster of homes on the west side of Goldsmith Inlet are sited on lots generally of less than an acre in size. Most of the lots in this area, particularly around Autumn Lake, are non-conforming: the average lot being between a quarter and a half an acre in size. By contrast, the waterfront homes between Goldsmith Inlet's eastern shore and Great Pond are located on lots of at least two acres or more in area. Great Pond, however, is surrounded by developed non-conforming lots, most in the half-acre range. The waterfront lots along the Sound from Great Pond to Horton Point generally are about half an acre in size. There are a few narrow bluff-top lots to the west of Horton Point that are conforming. Behind the bluff and along Sound View Avenue, the bulk of the lots are one acre in size.

A second, smaller area of residential concentration lies north of Oregon Road, between Duck Pond Road and Bridge Lane. The development in this section of the Reach is clustered either along the shoreline or on the east side of Duck Pond Road. There are fewer than 100 houses in this area. About

half of the lots here are between 40,000 to 80,000 square feet in area. The remainder are less than 40,000 square feet in area, thus are non-conforming lots. The housing here also is a mix of seasonal and year-round, old and new, modest and substantial.

The third prominent cluster of residential dwellings are those lined up along the west side of Bridge Lane. These lots are about 40,000 square feet in size. About 14 are developed. Most of the homes here are fairly recent. These homes stand out on the horizon because of the nearly unbroken vista of farmland that surrounds them. Finally, there is a small, residential community of about 9 dwellings located north of CR 48, near the entrance to the landfill. This community predates the landfill.

There is very limited industrial and commercial development within this Reach, although it is spread out over a large area. The largest site in this area is the Town's solid waste disposal facility, which covers an area of about 60 acres that is being capped. The landfill is located within a rough square bounded on the west by Depot Lane, on the north by Oregon Road, on the east by Cox Lane and on the south by CR 48. Within this block lie about 15 industrial sites, most located off Cox Lane or CR 48. One business, a salvage yard, is located off Oregon Road directly north of the landfill property. The other businesses include: from west to east, a heating/air conditioning business, a car repair garage, a telephone satellite station, a complex that rents space to small contractors, manufacturers and custom workshops; an asphalt contractor's storage and operations yard; an open junk or metals recycling yard; a open materials storage and excavation yard; offices for engineering and construction businesses; a materials recycling yard; a labor camp; a cold foods storage business; general storage facilities (both open and enclosed); and a nursery products storage and transfer center. On the western side of this block, fronting on Depot Lane and CR 48 is a 29 acre parcel proposed to be subdivided into eight industrial lots.

A second cluster of commercial development is located on the north side of CR 48 in Southold from just west of Kenney's Road to Youngs Avenue. With two or three exceptions, most of the businesses here are located on small lots of an acre or less. The mix of uses on this stretch of road (starting from west and moving east) includes warehousing, a custom manufacturing shop, an irrigation company, a medical office, a small strip-type building with a mix of transportation, retail and professional businesses, a large car dealership, an antiques barn and warehouse, a restaurant, a professional/medical office complex and a barn used for storage.

There is one non-conforming commercial site within this Reach on the southeast corner of North Sea Drive and Kenney's Beach Road, diagonally across from the town beach at the foot of Kenney's Beach Road. This restaurant occupies a half acre lot that was zoned Business prior to the *1989 Master Plan Update and Zoning Map*.

There are six shoreline recreational sites and three inland ponds within Reach 2. These are discussed in more detail in *Subsections 5 and 6*, below.

The bulk of the land area fronting Long Island Sound is a mix of dunes and bluffs, the later rising in places to over 100 feet in elevation. The bluffs are a prominent shoreline feature in the western end of the Reach, extending from Duck Pond Point toward Goldsmith Inlet, at which point the ridge of higher

elevation moves inland just to the north of Sound View Avenue, before moving back to the shoreline to form the bluffs in the vicinity of Horton Point. The shoreline immediately north of Great Pond and North Sea Drive is very low and almost devoid of any dune formations.

Developable residential land within Reach 2 includes numerous infill plots of one acre or less that are scattered throughout the existing residential communities. Most of the remaining vacant subdivision lots can be found on Duck Pond Road and Kenney's Road. Many of the residences in this Reach are accessible by private roads or driveways only.

A few lots of vacant commercial property are scattered along CR 48 from just west of Kenney's Road to Youngs Avenue. There are no other properties zoned commercial for the remainder of this Reach.

3. Water-dependent/water-enhanced uses and water uses

The water-dependent uses include several publicly owned recreational access points to Long Island Sound, to Great Pond and to Hummel's Pond. These are described in detail in *Subsection 5. Existing waterfront access and recreation sites.*

The major water-enhanced use within this Reach are: The Santorini (formerly the Beachcomber Motel), which is located on the east side of Duck Pond Road at Duck Pond Point and Elbow East, a restaurant at the southeast corner of North Sea Drive and Kenney's Road. The motel site enjoys direct water access and water views. The restaurant is located about 500 feet from the beach, thus enjoying limited water views and close proximity to the beach.

(i) Recreational boating

There are no marinas or docks located within this Reach. There is one Town-owned boat launch ramp into Long Island Sound on the west side of Goldsmith Inlet. Consisting of packed beach stone, sand and asphalt, it is usable only at high tide and by lighter boats up to about 20 feet in length. The strong currents and unprotected aspect of the shoreline here make for less than ideal boat-launching and reloading conditions. There are no boat moorings permitted within Goldsmith Inlet. As mentioned earlier, the unprotected nature of this rocky and open shoreline is such that very few boats are moored offshore within this Reach, and then only during the summer months. The Town does not require permits for moorings on the Sound.

On the inland water bodies of Autumn Lake and Hummel Pond, which are owned by the Town of Southold, there is little or no recreational boating. Although Autumn Lake is owned by the Town, access to it is only over private property. Lily Pond is privately owned and not suitable for boating. Great Pond is owned by the County and is used by paddlers and small sailboats during the summer months and, sometimes, for ice skating during the winter.

(ii) Commercial fishing

Both commercial and recreational fishermen ply the waters of the Long Island Sound within this Reach. Recreational fishing in this area includes surfcasting off the beach, particularly by Goldsmith Inlet and fishing from the rocks around Horton Point. The extreme care that must be taken in

navigating the rocky shoreline of this Reach discourages some recreational boaters from fishing these waters.

(iii) Commercial and recreational shellfishing

Until recently, the southern third to one-half of Goldsmith Inlet was closed to shellfishing, and the northern two-thirds to one-half of the Inlet was open seasonally during the winter months, from December 15 through March 31. Now, however, Goldsmith is closed year-round. The Long Island Sound is open to shellfishing year-round.

(iv) Aquaculture

There are no aquaculture facilities in Reach 2.

(v) Navigation and dredging

With the exception of the nearshore areas, the Long Island Sound in Reach 2 is open water with depths rapidly increasing from 20 to more than 70 feet in short order. On marine charts, the area landward of a line drawn between Duck Pond Point and Horton Point shows relatively shallow water depths ranging from 4 to 9 feet. Within this nearshore area, particularly near the two points, there are countless rocks, remnants of the glacial formation of Long Island. The headlands owe their origin to the rocks, which act to reduce the rate of erosion. Since most of the rocks are fully or partly submerged, boaters must either steer clear a fair distance offshore or else proceed along the nearshore with extreme caution.

Reach 2 contains the only lighthouse in mainland Southold facing the Sound, other than the Orient Point light. The Horton Point Lighthouse dates back to 1857. It is a working lighthouse that was recommissioned by the United States Coast Guard in 1990 as part of Southold Town's 350th Anniversary celebration. More details of the Lighthouse are described below in *Subsection 9. Historic Resources*.

Goldsmith Inlet is not navigable. There are no water-dependent uses on the inlet or within the pond. However, the Suffolk County Department of Health has suggested maintaining tidal flow into the pond in order to prevent deterioration in the water quality, and to forestall any threats to public health. Accordingly, the Town periodically dredged the inlet. Approximately 5,000 cubic yards were removed with each dredging. The dredged sand was usually placed on the beach immediately to the east of the inlet, or else is trucked to Kenney's Beach further to the east. Recent studies (contracted by the Town) suggest that the water quality within Goldsmith is good.

4. Existing zoning

The land area in Reach 2 is zoned primarily for low-density residential use. The predominant classification is A-C (Agricultural-Conservation), followed by R-80 (two acre), and R-40 (one acre) zoning. Most of the A-C zoned land runs from CR 48 north to the back side of the bluffs. The R-80 zone between Duck Pond Point and the west side of Henry's Lane parallels the Sound shoreline for a depth of 800 feet. The bulk of the residential development along the remaining shoreline to the east is zoned R-40 except for the block of R-80 that lies between Goldsmith Inlet and Great Pond. Blocks of R-80 also are located south of Sound View Avenue as a transition between the R-40 to the north and

the A-C zoning to the south. In this Reach, most of the land that is zoned R-40 and R-80 is not prime agricultural soil. All of the land zoned A-C is considered to be prime agricultural land, as defined by the United States Department of Agriculture. From the air, the actual land use almost exactly mirrors the Zoning Map, in that the bulk of the A-C land is in agricultural production and the bulk of the residential zoned land is wooded.

Most of the R-40 zoned lands are located either on the west side of Goldsmith Inlet or east of, and including, Great Pond. The R-40 designation encompasses older subdivisions where the lots were smaller than 40,000 square feet. In fact, the majority of these lots are between 20,000 and 40,000 square feet. Much of the land within the R-40 districts is already developed.

Reach 2 contains two waterfront sites zoned Resort/Residential (RR). One of the properties is occupied by a motel: the other by seven small dwellings located on seven very narrow lots. The motel is situated on three separately owned lots encompassing 48.2 acres of land, of which 14.4 acres is zoned RR. In addition to 36 rooms, the motel offers a seasonal restaurant, an outdoor swimming pool, pool-side cabanas and shuffleboard. The motel property is located in a natural break in the bluff line, in what may once have been an inlet that filled in. It is accessible only from Duck Pond Road. The other RR-zoned property is located slightly more than 2,100 feet west of Goldsmith Inlet. The total acreage of the seven lots is 8.5 acres. Each lot contains a seasonal dwelling. Access to these properties is over an unpaved road, which traverses an eighth lot fronting on CR 48. Neither sites are served by public water.

This Reach contains a smattering of commercial zoning, most of it located on CR 48 starting on the west side of Kenney's Road on eastward to Youngs Avenue. Two businesses are located on Horton Lane at its intersection with CR 48. By contrast, the Town's largest concentration of Light Industrial (LI) and Light Industrial Office (LIO) zoning lies within the square created by Depot Lane, CR 48, Cox Lane and Oregon Road. As mentioned earlier, other than the landfill, most of the land on the north, east and south borders of the block is in industrial use. However, between the landfill and CR 48 exists a small residential community, which predates the landfill and the industrial zoning classification. A small cluster of residential development, consisting of about 13 homes, also exists on the east side of Cox's Lane.

5. Existing waterfront access and recreation sites

There are several publicly owned recreational access points to Long Island Sound within Reach 2, perhaps the most extensive and varied offerings of shoreline access that is available anywhere within the Town. These include Goldsmith Inlet Town Beach; Goldsmith Inlet County Park; Peconic Dunes County Park; Kenney's Beach; McCabe's Beach; and Southold Park District's Horton Point Lighthouse and Museum. The locations of these facilities are indicated on [Map II-11, Parks and Recreation](#) and they are discussed in more detail below. Only four Town roads provide direct access the Sound within this Reach; from west to east they are Inlet Road, Kenney Road, North Sea Drive and Lighthouse Road. With the exception of the park properties described below, all other access to the coastal shoreline within this Reach is limited to private property owners owning frontage on the Sound.

Suffolk County

- ***Goldsmith Inlet County Park***

This 34-acre County facility provides direct access to the Long Island Sound as well as to Goldsmith Inlet which is owned by the Town. The park surrounds three sides of the inlet, which covers about 21 acres of underwater land. Its northeasterly edge runs along Sound View Avenue. The park abuts Inlet Road, which is on the western side of the inlet mouth. This park has no facilities or services, thus is used almost exclusively for nature walks. The site supports a variety of wildlife species including deer, heron, and osprey. Access is primarily from Sound View Avenue, where a small, unpaved parking area exists. A second access point is on Inlet Road, also from an unpaved parking area off the shoulder of the road. This park, along with Peconic Dunes County Park, contains a unique system of primary and secondary dunes that is found nowhere else along this part of the shoreline. This dune system represents a significant environmental resource and is preserved and protected by the County as such.

- ***Peconic Dunes County Park***

This 37-acre County property is a unique park located on the west side of Great Pond (formerly known as Leeton Pond). It contains extensive woods, dune formations, access to the pond and beachfront. During the summer months it is used as a specialized environmental education camp for Suffolk County youth. Its facilities provide for co-ed, overnight camping, restrooms and dining facilities. A wide range of activities is offered here in addition to environmental education. These include sailing, arts and crafts, fishing, picnicking, and other sports. Access to the park during the summer season is provided only through the Suffolk Cooperative Organization for the Promotion of Education (SCOPE). During the winter season, when the camp is not in session, this facility is used by SCOPE as an outdoor learning laboratory for ecological and environmental study. The camp facility has parking capacity for approximately 75 to 100 cars. General public access to the park is somewhat limited due to its specialized nature.

This park abuts Great Pond, a large freshwater pond encompassing 30.8 acres, which is listed as owned by Suffolk County, but is thought to be in Town ownership.

Town of Southold

- ***Duck Pond Road end, Cutchogue***

This road end dips down to the beach at its terminus. Flanked on the west by a steep bluff bank and on the east by one of the main buildings of the Santorini Motel, this road end provides access to the beach for surfcasters and swimmers. There are no lifeguards provided here. Although a guard rail prevents access to the beach by four-wheeled vehicles, residents in the area have complained about jet-skiers using this beach to launch their craft.

- ***Goldsmith Inlet Beach, Inlet Road, Peconic***

This 1.4-acre Town property fronts on both Long Island Sound and the western side of the inlet mouth, opposite the County Park. Although utilized for swimming, no lifeguard services are provided. Surfcasting from the beach is a popular activity here. This site has parking capacity (by permit only) for approximately 20 cars. There is a small boat ramp on the westernmost

edge of this property. Consisting of packed beach stone, sand and some asphalt, and located in an exposed spot, it is usable only for lighter boats up to about 20 feet in length.

The Town also owns a small piece of property of less than 10,000 square feet in area on the east side of Inlet Road, directly opposite Second Avenue. This lot has 63 feet of frontage on the inlet and bisects the County park frontage on Inlet Road.

- *Kenney's Beach, Kenney's Road, Southold*
This site consists of two separate parcels on either side of Leeton Drive where it intersects Kenney's Road. The waterfront parcel is nearly 3 acres in size, and provides more than 600 feet of waterfront access, including the Kenney's Road right of way. This property is used as a beach and a parking area. A lifeguard is provided at this beach. The second parcel is 2.1 acres in size and is located on the south side of Leeton Drive directly opposite the waterfront parcel. It is used for a public restroom facility and for storage of lifeguard equipment.

This beach has been experiencing on-going erosion. The erosion became visibly worse following severe coastal storms in 1984, 1991 and 1992., as well as more recently. The elevation and depth of the beach have been reduced to the point where the parking area became undermined and had to be pulled landward several times. The boat ramp that once existed here is barely visible or usable. A Town-issued permit is required to park at this facility. Surfcasting off the beach and swimming are popular activities here. A privately owned restaurant is located within 500 feet of the shoreline.

- *McCabe's Beach, North Sea Drive, Southold*
This 2.2-acre Town property provides 330 feet of shorefront access to Long Island Sound. This beach has experienced minor erosion due to coastal processes. This is a quiet local beach. A lifeguard is stationed here during the summer season. A Town-issued parking permit also is required to park at this facility, which can accommodate at least twenty cars. Restroom are provided. Off-season fishing is a popular activity.

- *Horton Point Stairs, Lighthouse Road, Southold*
A dizzying series of steep and narrow flights of stairs lie at the end of the Lighthouse Road right-of-way to the Sound. These stairs take the adventurous down the face of the Horton Point bluffs to a rocky and boulder-strewn beach below, a distance of about 120 feet. The stairs provide a stunning panoramic view of the Sound and the shoreline, particularly to the east. These stairs are the only way to access the shoreline around the Horton Point Lighthouse. There is a small parking area at the end of the road for about 10 cars with Town parking permits.

Southold Park District*

- *Horton Point Lighthouse, Lighthouse Road, Southold*
This 8.8-acre Southold Park District site is located at Horton Point, on the west side of Lighthouse Road directly adjacent to the entrance to the Horton Point Stairs and parking area. It provides more than 830 feet of shoreline access to Long Island Sound. As mentioned earlier,

access to the water is by the Horton Point Stairs. The park's centerpiece is the historic Horton Point Lighthouse which is situated just behind the peak of the bluff. The Park District owns the property but the lighthouse and the nautical museum are maintained and run by the Southold Historical Society. The Historical Society frequently stages educational programs and maritime concerts here during the summer months, including tours of the lighthouse tower itself. The grounds are rolling, and dotted with rock outcroppings, clusters of trees, artifacts from old sailing ships and several picnic tables. Fishing and scuba diving are popular sports on the shorefront portion of this site throughout the year, as are beach-walking and boulder-climbing. Parking is provided within the park gates on an as-needed basis.

**An in-depth discussion of the territorial jurisdictions and operations of park districts within the Town can be found in Section II D. Public Access and Recreation.*

6. Inland recreation facilities

On CR 48, there is a large horse stable situated on 36 acres of land stretching north to Sound View Avenue. Horses are boarded, leased and rented here. With permission, riders from this stable may access Long Island Sound over adjoining private property on the north side of Sound View Avenue that runs to the Sound. This recreation facility is unique; nowhere else in the Town does the riding public have direct access to the Sound waterfront via horseback.

Autumn Lake is a Town-owned water body about 1.5 acres in size. However, access to it is only over private property. Great Pond encompasses 30.8 acres of underwater land. It is listed in County tax records as owned by Suffolk County. Presently, its use for recreation is limited to nature walks and paddlers.

Hummel Pond is owned by the Town. It is used for fresh water fishing and, during the winter months, for ice-skating. The Town recently purchased Hummel Pond using local Open Space bond money. Slightly less than half an acre of the site is reserved for overflow drainage from the pond to a natural swale extending to the south through farmland. The remainder of the site (about 6.9 acres) is about evenly split between woods and pond. The Town is in the process of designing access and other facilities that would be appropriate for the site.

7. New opportunities for public access and recreation provision

There are limited but significant opportunities to provide additional or enhanced public access and recreational opportunities within Reach 2. Some of the existing recreational sites would benefit from site improvements to enhance their enjoyment by Town residents. The most significant opportunity is that offered by the former Bittner property, which was purchased by the Town in 2008 and is now known as the Bittner Preserve. Encompassing 58 acres of property with frontage on both Sound View Avenue and Long Island Sound, this site has over 1,400 feet of shoreline. The property is separated from the Peconic Dunes County Camp by only 460 feet of shoreline. The property is being restored through the removal of existing structures, planting of dune vegetation and removal of the bulkhead and groins, thereby restoring the pathway for natural sand flow to beaches to the east.

Another noteworthy opportunity is the purchase of the four waterfront properties to the immediate west of Kenney's Beach. Purchase of these properties would facilitate removal of the Lockman groin and the nearby concrete seawall which is having the same effect as a groin. Removal of these structures will permit the natural flow of sand to be restored to beaches to the east, thereby enabling better use and expansion of the recreational facilities at those beaches.

8. Natural resources

As described in *Section II E.* earlier, Reach 2 contains a *Coastal Barrier Resource Area*, as per the federal government. Goldsmith Inlet is an undeveloped and unprotected coastal barrier which is *not* eligible for federally funded subsidies for development, including grants, loans, guarantees and flood insurance. Although there are *no* state-designated Significant Coastal Fish and Wildlife Habitats within Reach 2, the beaches, dunes, ponds and freshwater wooded wetlands between Goldsmith Inlet and Horton Point are all locally significant. The landforms in this area represent the advanced stages of a bay barrier, (land which formerly separated a bay, now a coastal pond from Long Island Sound). The coastal ponds are backed by elevated upland. The barrier was formed by (and owes its continued existence to) erosion of the adjacent glacial deposits. The advanced barrier formation is unusual for the New York coast. Further, the unique character and the relatively undeveloped state of the dune formations, and the maritime forest habitats adjoining the dunes are unusual within the Township. The County Department of Health has designated Goldsmith Inlet as a Critical Environmental Area 11. (Draft Environmental Inventory June 26, 1998 Ocean and Coastal Consultants, Inc.) The significance of this local resource merits its designation as such by the Town within its *Local Waterfront Revitalization Program*.

In 1998, a detailed environmental inventory was made of the Long Island Sound shoreline from Mattituck to Horton Point. That inventory documented the nesting sites of piping plovers within a narrow area about 250 feet deep, just behind the mean low water mark beginning at a spot slightly more than 500 feet from the west side of Goldsmith Inlet and continuing on to an area about twenty five hundred feet east of the Inlet. The inventory also found that the portion of the Reach running from Goldsmith Inlet to the western side of Horton Point contains a greater diversity of maritime-influenced vegetative habitat than the western part of the Reach from Goldsmith Inlet westward to Duck Pond Point, as could be anticipated given the geologic origin of the landforms. The habitat types included the following: Pitch Pine/Oak Forest, Maritime Shrubland, Maritime Grassland, Shrub Swamp, Emergent Marsh, Estuary/Salt Marsh.

(i) Wetlands

A narrow fringe of maritime grassland borders the southwestern edges of Goldsmith Inlet, which is classified as being an estuary/salt marsh containing intertidal marsh and high marsh. The inlet's waters are brackish and the salinity probably fluctuates depending on the amount of freshwater draining into the inlet from natural drainage swales that drain the surrounding uplands. We do not know for sure how the inlet's use during the 1800s and early 1900s for a combination tidal, wind and horse powered mill may have impacted the original wetland ecosystem.

This Reach contains several fresh-water ponds, referred to in the aforementioned analysis as Coastal Plain Ponds. Some are recognized NYSDEC Freshwater wetlands, others not. Some still retain maritime grasslands or emergent marsh on their borders. Autumn Lake, however, is almost entirely

surrounded by lawns and landscaping. Further east, maritime grasslands, coastal beaches and pitch pine/oak forest border Great Pond. There are several small boggy wetlands scattered among the back dune areas which support cranberries (*Vaccinium sp.*) and Red Maples (*Acer rubrum*). South of Sound View Avenue, there are several small, irregularly shaped freshwater wooded wetland areas, many of which drain towards the shoreline, some to the Inlet, others to Great Pond. Lily Pond, which is located on the south side of North Sea Drive opposite McCabe's Beach, is surrounded by emergent marsh. With the exception of Great Pond and the Peconic Dunes Park, most freshwater and wooded wetlands within this Reach are located on private property.

(ii) Significant Coastal Fish and Wildlife Habitats (SCFWH)

The Goldsmith Inlet and Beach SCFWH is found within Reach 2 and is illustrated on [Map II-14: Significant Coastal Fish and Wildlife Habitats](#). The information below is based on the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2005) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website.

The habitat documentation for the SCFWH should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitat by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitat.

• Goldsmith Inlet and Beach

Goldsmith Inlet and Beach is located on the north shore of Long Island, between Mattituck Inlet to the west and Horton Neck to the east, in the Town of Southold, Suffolk County (7.5' Quadrangle: Southold, NY). This approximately 150-acre area is bounded by Long Island Sound on the north, Horton Lane on the east, Sound View Avenue on the south, and Mill Lane on the west.

The fish and wildlife habitat includes a narrow area of maritime beach that extends approximately 2.25 miles along the Sound from approximately 800 feet west of Goldsmith Inlet northeast to and including Horton Lane Beach; Goldsmith Inlet and Pond and its contiguous tidal wetlands, which lie at the western end of the habitat; and a mosaic of maritime dunes, maritime freshwater interdunal swales, wetlands, and wooded uplands extending from Goldsmith Inlet County Park northeast to Great Pond.

The habitat is bordered by residential development as well as undeveloped vegetated dunes. The former Bittner Property (also known as the Bittner Preserve) is being restored and the house, pool and bulkhead will be removed thereby restoring this area to its natural state.

The Goldsmith Inlet and Beach area contains a variety of ecological community types, including tidal pond, maritime beach, maritime dunes, and maritime freshwater interdunal swales. These latter two communities extend from approximately 1.5 miles west of Great Pond southwest to Goldsmith Pond, and are considered rare ecological occurrences statewide by the New York Natural Heritage Program. Approximately 70 acres of maritime dune habitat extends from Great Pond to Goldsmith

Inlet, with approximately 22 acres of maritime freshwater interdunal swales located adjacent to the dunes. Small wetlands containing poor fen species such as cranberries (*Vaccinium macrocarpon*), sundew (*Drosera intermedia*), twig-rush (*Cladium mariscoides*), and marsh St. John's-wort (*Triadenum virginicum*) are also located within the habitat. Slender blue flag (*Iris prismatica*), a rare plant species with less than 20 remaining sites or individuals in New York State, has been documented within the wetlands of this habitat.

(iii) Water Quality

There are three state-designated surface water quality classifications in Reach 2:

Long Island Sound and Goldsmith Inlet: SA waters

Great Pond: A waters

Lily Pond:: C waters

Goldsmith Inlet has consistently appeared on the NYSDEC *Priority Water Problem List* and the *Priority Waterbodies List*. In 1988, the Inlet was a high priority waterbody with a problem ranking of "severe." This indicated that the designated use of the waterbody, shellfishing, was precluded by the poor water quality of the Inlet. The homes on the western side of the inlet are located within 50 feet of mean high water. Each home is serviced by an on-site subsurface sewage disposal system that is located adjoining to the inlet. In addition, large numbers of waterfowl utilize the inlet waters. Water quality problems in Goldsmith Inlet have been identified as having a medium resolution potential in the *Priority Waterbodies List*.

According to NYSDEC records, Goldsmith Inlet generally has high coliform bacteria levels. A stream that discharges into the southern end of the inlet, along with overflows from Autumn Pond located to the west of the inlet, have been identified as primary sources of coliform bacterial loadings by NYSDEC. Non-point sources, including road runoff, faulty septic systems and waterfowl wastes, are thought to have a significant impact on Inlet water quality. However, we have insufficient data available with which to determine the exact cause and effect of each point and non-point source.

The waters of eastern Long Island Sound within Reach 2 are certified for shellfishing. However, within Goldsmith Inlet, the water quality has deteriorated. Up to a few years ago it was closed for shellfish harvesting most of the year, except during the winter when the water quality improved sufficiently to allow harvesting. Now the entire Inlet is closed to shellfishing year-round.

A Town of Southold drainage improvement project has been undertaken at the intersection of Kenney's Road at Dogwood Lane. Here a catch basin and leaching pool has been installed in a gravel trench known as a french drain. This helps alleviate road runoff into Great Pond. However, throughout the length of Sound View Avenue, there are numerous places where road runoff is channeled directly into the low-lying wetlands or fresh-waters.

9. Historic Resources

According to the State Preservation of Long Island Antiquities survey during the mid-1980s, the Reach contains only about 20 structures of local note. The ages of the structures range from 1701 through 1958, with most of the structures dating back to the mid-1800s. However, one of them, the

Horton Point Lighthouse occupies a prominent role on the physical and cultural landscape. It is discussed in detail below.

(i) State and National Registers of Historic Places

Listed on the State and National Registers of Historic Places, the Horton Point Lighthouse is one of a number of lighthouses built on either side of the Sound during the nineteenth and early twentieth century as guides to navigation. Its national and regional significance is related to the importance of Long Island Sound as a major shipping route between New York Harbor and other historical ports in the northeastern United States, such as Bridgeport, New Haven, New London, Newport, Providence, and Boston.

• ***Horton Point Lighthouse***

The Horton Point Lighthouse was placed on the National Register of Historic Places in October 1994. The site of the lighthouse incorporates 8 acres of Soundfront bluff and beach. The Lighthouse is located at a high point on top of the bluff at Horton Point. Constructed in 1857, the Lighthouse consists of a square, slightly tapered 55-foot high tower, connected to a two-story “keeper's” dwelling. The dwelling has two distinct sections, the original keeper’s dwelling and a connecting section linking the dwelling to the tower. The connecting section was enlarged about 1865-70. A storage barn, built in 1891, contributes to the significance of the property.

The tower and keeper's dwelling are constructed of locally manufactured load-bearing brick walls laid on over two-foot-thick granite foundation walls. Portions of the wall above grade are also constructed of granite. All exterior masonry walls originally were whitewashed, but recently have been covered with white stucco cement. The tower is topped by a glass-domed lantern room that is capped with a multi-faceted copper clad dome roof and finial. The keeper’s dwelling has a gabled roof with deep overhang and undecorated eaves. The interior of the lighthouse retains much of its original plan and features (as altered c. 1865 -70).

The Lighthouse's distinctive character illustrates the individuality and purity of design that were common to lighthouses before the United States Lighthouse Service developed standardized specifications for lighthouses in the later part of the nineteenth century. Its design is unique for Long Island, with a relatively short, square brick tower and vernacular, attached keeper's dwelling. The tower and keeper's dwelling retain a high degree of architectural integrity from their appearance c.1870.

In 1933 this Lighthouse was decommissioned. At that time the Southold Park District acquired the property from the U.S. Department of Commerce for \$1. During World War II, though, the lighthouse was used by the military as a spotting station. The military presence continued during the Korean War. Following the departure of the military, the lighthouse was left empty and suffered from neglect. In the late 1960s, there was talk of razing the building.

In 1971, the newly formed Southold Historical Society urged the Park Commission to save the buildings. In 1976, as a bicentennial project, the Historical Society undertook a restoration project, which created a rental unit on the second floor of the keeper’s house and public bathrooms on the first

floor alongside the museum. Early in 1988, in conjunction with the Southold Park District, volunteers affiliated with the Southold Historical Society restored the tower and lantern. Their actions persuaded the US Coast Guard to demolish the skeletal metal light tower that had been built on the property in 1933, and to return the light to the original lighthouse tower. This was accomplished in June of 1990, when the US Coast Guard re-commissioned the original lighthouse.

In a 1993 agreement between the Southold Historical Society and the Southold Park District, the Society's Nautical Museum retains perpetual occupancy of the lighthouse as long as it maintains its exhibition function for the tower and museum space. The US Coast Guard maintains an operating light and the Park District maintains the grounds, restrooms and apartment above the museum. The Historical Society and the Park District have shared in cooperative maintenance and restoration activities. The nautical museum, housed on the first floor of the keeper's residence, exhibits much local maritime memorabilia. One notable item in its collection is Spanish bullion that was recently recovered by a scuba diver from a pre-Revolutionary era shipwreck offshore of Horton Point.

(ii) Local historic resources

The structures of local historic significance are mostly residential dwellings. Some of the dwellings are of interest by way of their inhabitants, or their architects. Others are of interest because of the age of components of construction, some of which reflect colonial and subsequent building styles particular to the North Fork. Various architectural styles are represented in this Reach, such as Colonial, Cape Cod, Salt Box, Victorian, Queen Anne and Italianate, with Italianate dominating. The rural and self-sufficient nature of these farm houses is further attested to by the many remaining out buildings, such as smoke houses, ice houses, corn cribs, milk houses, water towers, barns, chicken coops, privys and wind mills. Oregon Road itself is treasured because of the extent to which these remnants of the past are still in existence. Because most of Oregon Road lies within Reach 1, the reader is referred to that section for further details.

Many historical barns are located within Reach 2. Beams as large as 12" by 13" testify to the age of the oak and chestnut trees that once were prevalent in the Town. The American Chestnut (*Castanea dentata*) is now all but a memory due to a blight in 1904 that decimated this species from forests on the eastern seaboard.

10. Archaeological Resources

No record could be found of extensive native American Indian artifacts in this particular Reach although the area around Goldsmith Inlet is shown as being of archeological significance on [Map II-17](#). Due to the sheltered nature of portions of Goldsmith Inlet, the native Indians probably harvested fish and shellfish from it during their seasonal rounds of food sources.

The only other archeological site of note seems to be the scant remains of a grist mill on the eastern side of Goldsmith Inlet. The mill was built atop a wooden and stone dam within the narrow neck of the Inlet. By turns or by combination, it was driven by horse, tide and wind power. Built around 1840, the mill operated until 1898 when its windmill was destroyed during a severe winter storm. Considered to be one of the largest in New York State, the mill was not rebuilt, and eventually its remains were torn down in 1906. The cartway, now the access road from Sound View Avenue, to the mill dam

footbridge is, for the most part, still in use today as a County park trail. It is the lone reminder of a time when farmers came from Hermitage (now Peconic) by ox cart to bring their grain to be ground at the mill.

11. Scenic Resources

Reach 2 is a mostly open agricultural landscape that is fringed with rolling woodland. The low and medium residential development is clustered in the vicinity of Goldsmith Inlet, Great Pond, Kenney's Beach and Horton Beach. West of Goldsmith the agricultural land stretches in narrow long fields from CR 48 up to the woodlands that lie in back of the bluffs above the Sound. Most of the residential development in this area is tucked into these woods. Along Bridge Lane and Oregon Road there are working farms with their jumbled collection of barns, storage buildings, sheds and equipment yards standing in the back yards of modest farmhouses dating back to the 1800s. Oregon Road, in particular, is not only unique for its scenic beauty. Its character is such that most travelers feel they have been transported back in time to an earlier era. East of Goldsmith's, the character of the land is different. The agricultural land runs north from CR 48 to a point about three quarters of the way to Sound View Avenue after which it gives way to extensive woodland and wooded wetlands. Much of the residential development in this part of the Reach can be found in these woodlands. Between Goldsmith and Great Pond, the terrain north of Sound View contains extensive areas of dunes and freshwater wetlands beyond the woods that border the road. Between Great Pond and Horton Lane lies a comparatively low and open area, containing low sandy dunes and maritime grass vegetation. The residences in this area are much more obvious to the eye here due to the low terrain, the absence of woods due to the sandy soils and the elevated first floors (to meet federal flood insurance requirements).

The shoreline characteristics feature a short stretch of dramatic bluffs fronted by beaches. The steep, high bluffs provide a distinct edge to the landscape. The bluffs contrast dramatically with the low, rolling Peconic Dunes that stretch from Goldsmith Inlet to Kenney's Beach. This 1.5 mile stretch of land includes portions of Goldsmith Inlet and Peconic Dunes county parks. It contains primary and secondary dune formations, with elevation changes of over 30 feet, and it abounds with wetlands, diverse wildlife, and lush vegetation. Great Pond is an important scenic component of this landscape. In some places, due to terrain and landscaping practices that run counter to the indigenous ecology, residential development is a discordant feature of the landscape.

Kenney's Beach and McCabe's Beach, owned by the Town of Southold, provide access to the shoreline for Town of Southold parking permit holders. Views from the beaches encompass the Sound shoreline stretching from Duck Pond Point to Horton Point as well as the Connecticut coast. The Horton Point Lighthouse, owned by the Southold Park District, is an important scenic component offering spectacular vistas of Long Island Sound and, on a clear day, Connecticut.

Both Oregon Road and Sound View Avenue offer unique scenic vistas. Both roads are part of the Town's Sea View Trails network which highlights the most scenic walking and bicycle routes within the Town. Oregon Road offers a time-warp vista of flat, open fields and working farms that has remained nearly unchanged since the mid 1800s. Sound View Avenue, which begins at the southern edge of Goldsmith Inlet and runs eastward to Reach 3, offers an entirely different experience. This corridor winds over rolling terrain through scenic woodlands, around wetlands and coastal ponds and

alongside sand dunes. Altogether, this Reach contains a great deal of diverse ecological habitat, unique vistas and residential dwellings, all of which combine to its scenic charm.

12. Protected Resources

The next Table lists protected lands within Reach 2. A total of 68 parcels encompassing 624.42 acres are considered protected from development. *Map II-4* shows their location.

Table 2-1 Protected Lands within Reach 2

<i>Type of Owner</i>	Acreage	# of Parcels
Park District	8.79	1
Churches, Cemeteries	1.52	1
County Owned	115.68	17
Peconic Land Trust	58	3
Peconic Land Trust Easement	47.83	1
Subdivision Park	1.31	1
Schools	0	
County Development Rights	155.51	7
State Owned	0	
Subdivision Open Space	1.77	1
Town Development Rights	134.21	4
Nature Conservancy	0	
Town Owned	101.1	19
Water Utilities	<u>56.12</u>	<u>6</u>
TOTAL	624.42	68

Source: Town of Southold Geographic Information System, August 2002

As mentioned earlier, there is a considerable amount of open land within this Reach. The total amount of publicly owned open space, including underwater lands but excluding agricultural development rights, in Reach 2 is about 335 acres. More than 446 acres of agricultural land within this Reach has been protected against future residential development by the purchase of development rights.

The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold town. It targets all A-C zoned lands larger than 10 acres in size. Most all of this acreage, about 1,160 acres, is in agricultural production. Additional details are provided in *Section II. B. Planning Framework, 7. Open Space Preservation Plan: 1989, 1998*. To be more specific to Reach 2, most of the land between Depot Lane/Duck Pond Road and Henry's Lane in Peconic is targeted for potential preservation. South of Sound View

Avenue, all farmed or wooded lots larger than 10 acres in size have been targeted for potential acquisition. North of Sound View Avenue, the largest undeveloped parcels are the Bittner parcels, which have been purchased and are in the process of being restored to a more natural state. To the west of Horton Lane, a relatively small but cohesive block of farmland also has been targeted for preservation, as has the remaining open space north of North Road and west of Lighthouse Road. All of the aforementioned parcels are under development pressure due to their proximity to other residential development outside the Southold hamlet. The latter two blocks of farmland represent the last buffer between the hamlet center and the outlying residential communities near the soundfront.

13. Development Constraints

There are some constraints to development within Reach 2, but these will not lessen the vulnerability of farmland to residential development pressures.

(i) Public services and facilities

There is a limited but growing public water supply capability within Reach 2. Most individual properties have their own on-site water supplies through private wells. A public water main runs along CR 48 from the east (Greenport) westward to a wellhead and pumping station on the south side of CR48 just east of Ackerly Pond Road (in Reach 7). A branch of the main runs north of CR 48 along Horton Lane up to a well-site on North Road. A second branch runs north to a site on the north side of CR 48 approximately 450 feet west of Kenney's Road. A third branch runs north of CR 48 along Kenney's Road to a well-site located about midway between CR 48 and Sound View Avenue. A fourth well-site has just been installed on the northwest corner of CR 48 and Mill Road in Peconic. The main runs south from this site into Reach 7.

Within the past few years water mains were extended from Horton Lane westward along Sound View Avenue to Peconic Dunes County Park, and north to the Sound. Main extensions were also completed southward on Horton Lane and Kenney's Road to CR 48 as well as along Old North Road to Lighthouse Road and northward on that road. (Source: October 15, 2002 Personal communication, Michael Frank, SCWA)

The provision of public water to unserved portions of this Reach will depend largely on existing patterns of development, the level of need and water supply policy as set forth by the Town Board. Presently, it is not cost-effective to run water supply mains into agricultural areas. In some residential communities, the establishment of water filtration districts may be a more financially feasible way of providing potable water.

There are no public wastewater treatment facilities within Reach 2. Individual properties have their own on-site wastewater treatment systems, typically septic tanks with cesspools or leaching fields.

The lack of public water supply and wastewater treatment services poses a constraint principally for the properties zoned RR and commercial or industrial. The lack of these services means that water-intensive operations and industrial processes requiring secondary or tertiary treatment of wastewater prior to discharge (whether to surface waters or back to the ground) cannot locate within this Reach unless site-specific facilities are built to accommodate the need. The expense of building small-scale

versions of these facilities has been a significant deterrent. However, future technological advances and cost reductions may change this situation.

(ii) Flooding

The potential for flooding in Reach 2 is greatest in the vicinity of Goldsmith Inlet, Kenney’s Beach and McCabe’s Beach. The bluffs that stretch along the shoreline of Reach 2 east from Duck Pond Point move inland at Goldsmith Inlet and return to the shoreline at Lily Pond extending on to Horton Point. Localized flooding occurs along the low shoreline areas between these points. At Goldsmith Inlet, flooding can extend inland from the Long Island Sound shoreline into low-lying areas around the Inlet. This can extend beyond Mill Road and Sound View Avenue. Between Great Pond and Horton Lane, flooding can extend back into the dunes, affecting property along Leeton Drive, West Drive, Lake Drive, Kenney’s Road, Dogwood Lane, and North Sea Drive. Flooding also extends to low lying areas around Great Pond and Lily Pond. Flood areas are indicated on the *Flood Insurance Rate Maps*, which are prepared by the Federal Emergency Management Agency.

Normally the potential for flood damage or lack of access due to flooding during storms might act as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make development of some low-lying properties more attractive by requiring raised construction above the 10 foot contour. As seasonal cottages are winterized and expanded into year-round dwellings, they also are raised on stilts or mounded earth. However, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems in the near future for emergency services personnel as the year-round population increases. The Town needs to develop a *Flood Hazard Mitigation Plan* to inventory potential troublespots and solutions.

(iii) Erosion

Beaches, backed in part by bluffs and in part by dunes, are the dominant coastal landforms in this Reach. The bluffs average 40 to 60 feet high from Duck Pond Point for a distance of about 7,500 feet eastward. About 2,000 feet of bulkheading has been built within this same stretch of shoreline. The bluffs drop in height to about 20 to 40 feet, then turn inland just west of Goldsmith Inlet, where they continue running eastward until Horton Point where they turn seaward again.

Within this latter stretch of shoreline, the area known as Kenney’s Beach is probably a bay-mouth barrier landform which formed during the Holocene Period across the embayment between the headlands of Duck Pond Point and Horton Point. The characteristics of the coastal landforms in Reach 2 are described in more detail below. Predominate drift direction (of sand) is from west to east, but temporary reversals can occur during northeasterly storms, which are common in this part of country particularly during the fall and winter months.

Reach 2: Inventory of Coastal Landforms

Beach:

Location The beach runs along the entire coastline of Reach 2 with the exception of a small stretch near Great Pond where the beach in front of an existing concrete seawall is very narrow.

Width 26-150+ feet; the widest portion of beach is located directly west (updrift) of the Goldsmith jetty. The narrowest stretch of beach is located directly east (downdrift) of the groin near Kenney's Beach.

Composition Mostly sand and gravel.

Bluffs:

Location Only the western half of Reach 2 contains bluff formations. The highest bluffs are in the extreme western portion of this area.

Height 10-100 feet

Dunes:

Location The Peconic Dunes region runs along 1.5 miles of coastline, between Goldsmith Inlet and Horton Lane and is over 1600 feet wide in some locations. Primary and secondary dune formations have developed within this area.

Tidal

Wetlands: Small saltwater wetlands border the eastern edge of the Goldsmith Inlet. Further out, on the eastern side of the inlet near Great Pond lie clusters of small freshwater wetlands.

Range in Annual Shoreline Erosion(e)/Accretion(a):

During the period: 1884-1955

Between Duck Pond Point and bluffs west of Goldsmith Inlet

(e) 1.00 feet

(a) 2.00 feet

Between bluffs west of Goldsmith Inlet to Horton Point

(e) 0 to 2.5 feet

(a) 0 feet

During the period: 1964 to 1998:

Between Duck Pond Point and Goldsmith Inlet jetty fillet

(e) 0.5 to 2.5 feet

(a) 0 feet

Between Goldsmith Inlet to Horton Point*

(e) 0.5 to almost 4.0 feet

(a) 0 feet

*These rates should not be taken as an indicator of current erosion rates from 1998 to the present.

Average erosion for Kenney's Beach prior to 1955 was about 1.4 feet per year.
Average erosion for Kenney's Beach from 1964 to 1998 was about 2 feet per year.

Town of Southold, 1989 and 1998

Much of the shoreline in Reach 2 is unprotected. Details of coastal protection structures within Reach 2 are outlined below.

Reach 2: Inventory of Erosion and Protection Structures

Total Waterfront Length: 43,200 linear feet (l.f.)
Total Bulkheaded 12.5%

Coastline

Length 29,600 l.f.
Bulkheaded 15.5%
Stone groins 3
Wood/metal groins 15
Jetties 1

Creeks, Inlets

Length 13,600 l.f.
Goldsmiths Inlet 2.9% bulkheaded
Great Pond 8.8% bulkheaded

Town of Southold, 1989 and 1998

There are many factors affecting erosion, and they can be grouped into 5 broad categories: sea level rise, sediment supply, geology, sea energy, and human impacts. Jetties, groins and bulkheads are all human impacts. Topography, shoreline orientation and composition are geology. Storms, tides, waves, etc. are the energy mechanisms that create the changes. These all affect the Reach, but erosion above, and beyond that which could be expected to result from the natural processes operating in this Reach. These are examined below.

There are natural coastal processes operating between Duck Pond Point and Horton Point whereby the beaches and bluffs are eroded through the ongoing tidal, wind, wave and storm forces. With rising sea levels, the long term trend is toward shoreline erosion. In addition, there are man-made structures that have an additional impact on the natural processes. These structures include groins, groin fields, jetties and bulkheads.

The entire Reach is affected by erosion, but in some areas human impacts may have accelerated it. At the western edge of the Reach, bulkheading along the base of the bluffs between Duck Pond Point and Goldsmith Inlet disturbs the natural supply of sand to the beaches located further east of the point. Normally, as bluffs naturally erode, they provide a steady source of sand and sediment for downdrift

beach nourishment. Bulkheading the bluff toes has resulted in some unquantifiable impacts to the beaches to the west of Goldsmith jetty.

Erosion has been more severe in the central portion of the Reach, particularly between Goldsmith Jetty and Kenney's Beach. Significant public properties owned by Suffolk County and the Town, along with over thirty private properties, have been severely degraded as a result of alteration of littoral drift patterns. Several homes have had to be removed or moved back from the shorefront due to this severe erosion.

Horton Point, at the eastern end of Reach 2, also is experiencing bluff erosion. The Horton Point bluff is highly subject to storm damage, similar to other headland areas on Long Island that are exposed to a long fetch. Horton Point protrudes far enough into Long Island Sound to provide protection from most storms to the shoreline to the immediate west. The angle of the Point makes waves diffract around it, weakening their energy before they break on the neighboring shoreline. The projection of Horton Point in a seaward direction results in wave refraction and focusing around the headland, resulting in a greater wave energy reaching the fronting beaches. Despite the increased wave action at the point, the large glacial erratics scattered on the beach help to reduce the potential for accelerated erosion. (Communication: Fred Anders, NYSDOS, June 28, 2001)

Since 1979 the Town and the Kenney's Beach Civic Association (the KBCA) have sought technical assistance from Suffolk County and several state agencies to better understand and mitigate the erosion that is taking place within this Reach. A number of studies have been commissioned. The first study, by Greenman-Pedersen Associates, P.C. (circa 1981) did not definitively determine the cause of erosion at Kenney's Beach.

In meetings between the KBCA, the Southold Town Board and the New York Sea Grant Extension staff, various alternatives were identified to reduce the erosion problems east of the Goldsmith Inlet, including:

- bypassing sand by truck from the west to the problem areas located east of the jetty;
- bypassing sand around the jetty by removing portions of the jetty itself;
- creating additional groins to the east; and
- nourishing the beaches to the east by dredging material offshore or trucking in suitable material from upland sources.

(Possess, 1985 and Tanski, 1986)

In 1987, NYSDEC conducted a reconnaissance survey of coastal erosion occurring between Duck Pond Point and Horton Point. The purpose of the survey was limited to identifying the problem areas and determining the feasibility of various erosion protection measures. The NYSDEC findings corroborated the Town and local concerns and recommended that both structural and non-structural approaches be investigated for solving the shoreline erosion problems. With support from the State Assembly, the Commissioner of NYSDEC proposed a \$50,000 item in the 1987/88 budget to conduct a detailed study of the Goldsmith Inlet vicinity. However, this was defeated and no further action has been taken by NYSDEC. The Town has since sought support from the Suffolk County legislature.

A subsequent study, by Aubrey Consulting (1998-99) determined that the eastward extent of erosion at Kenney's Beach was a result of the combined effect of the Goldsmith jetty and private groins. The Aubrey study also indicated that sediment had begun to bypass the jetty after 1976.

The Aubrey analysis of the historical rate and nature of shoreline change indicates that the shoreline between Duck Pond Point and Goldsmith Inlet has been eroding about 0.5 ft/yr on average. East of Goldsmith's, along the barrier shoreline, the erosion rate was slightly greater, approximately 1.0 ft/yr, up until 1964. Subsequently, erosion rates increased locally to as much as 15 ft/yr, but have since decreased. The average erosion rate from 1964 to 1998 has been approximately 2 ft/yr over the entire beach. Erosion rates from 1998 to the present remain to be determined. In response to the accelerated erosion rate, private property owners eastward of the Goldsmith jetty have constructed various shore protection structures within a 1.5 mile stretch of shoreline. The Goldsmith jetty was built in 1964 by New York State and Suffolk County. While the purpose of the jetty is not certain, it appears the principal purpose was to fulfill a Suffolk County plan for a marina. But the marina was never built and the inlet is not navigable. A secondary purpose may have been shore stabilization of the public lands to the west, which would have also afforded erosion protection to Peconic Shores properties. Regardless of its purpose(s), the marina was not built and the jetty remained in place, and sand has accumulated on the updrift side (to the west).

The shoreline west of the jetties has accreted sand up to the jetty tip. At present we are not sure if sand is now bypassing to the downdrift shoreline or if it is being deflected offshore by the jetty. Some or all of it might have gone to the beach, in which case the accelerated erosion would have stopped. However, at other inlets we find some of the sand goes offshore where it accumulates on the bottom. If that is the case here, then there would have still been accelerated erosion to the east. Based on the need for dredging of the inlet, it appears that some of the sand returned to the beach, and the rate of erosion to the east has declined. It is possible, but not proven, that given the condition of the jetty today, there may be 100% bypassing of the structure – and thus no accelerated erosion to the east – but to state that conclusively would require an update of the Aubrey report.

The low dunes in this Reach do not store sufficient sand to compensate for accelerated erosion. The problem is most severe between Goldsmith Inlet and Kenney's Beach, where several groins not only further disrupt the littoral drift, but may cause sand to be lost offshore. The Bittner and Lockman groins were installed after the construction of the jetty. The data from the Aubrey study indicates that these structures, as well as the Bittner bulkhead and the Lockman seawall, must be considered when studying erosion problems within this portion of the Reach.

This stretch of shoreline remains a high priority for remedial action within the Town of Southold. In 1995, a grant was awarded to the Town to begin developing a strategy for mitigating erosion problems along the entire Reach shoreline. The final report (Town of Southold Erosion Management Plan, January 1996) identified Kenney's Beach as the most significant erosion site in the Town. Following completion of this report, a small grant was awarded by the Department of State to conduct a workshop to examine options for addressing the problem. Several erosion experts, along with representatives from government and natural resource agencies and the public, met for two days to view the site and

assess the problem in light of the available information. The experts recommended a combination of actions: specifically, shortening the jetty, nourishing the beach and adding hard shore protection in key spots, if necessary.

After the workshop, an implementation committee was formed to report to the Town Board. However, because of the extent of developed waterfront properties that could be affected and the geophysical complexity of the situation, the committee determined that additional data should be collected before selecting a final solution. Using funding provided by State Senator Ken LaValle, through a legislative member item, and by the Department of State from the Environmental Protection Fund, Local Waterfront Revitalization Grant program, the Town undertook five distinct studies. The studies explored the following issues:

- a cost-benefit analysis of various options or solutions,
- an environmental survey of existing species and their habitat,
- an analysis of historical shoreline changes,
- a monitoring of current shoreline conditions,
- a geophysical exploration to locate offshore sources of sand suitable for beach nourishment.

The studies were designed to provide technical information that could be used to develop a plan of action to mitigate the erosion.

Preliminary findings indicate that the final solution could include a combination of beach nourishment, sand bypassing and property acquisition. Sand bypassing may or may not involve shortening the Goldsmith jetty. And, property acquisition may include removal of hard structures.

In 2003, the Town Board decided to conduct modeling studies on the jetty and look at alternatives of shortening, removing or leaving the jetty in its present condition. This project is beginning shortly

In the end, the primary constraint of coastal erosion processes on development is that small waterfront lots will become less desirable as their vulnerability increases. In certain portions of this Reach, the length of shoreline is offered by a lot may become less important than the buildable depth of that lot. Barring major shifts in federal flood insurance policy, new construction will continue to take place on the waterfront. In addition, the increasing cost of storm-related insurance claims has caused many private insurance companies to discontinue offering new policies within the coastal zone of Long Island. The remaining companies are charging a premium for their policies. It remains to be seen if the difficulty or expense of obtaining insurance will pose any barrier to continued development of the waterfront.

Finally, the Coastal Erosion Hazard Area within this Reach runs roughly parallel to the shoreline within 200 feet of the water's edge. With the exception of the Santorini (Beachcomber Motel), there are few structures within the CEHA between Duck Pond Point and Bridge Lane. From Bridge Lane to Goldsmith Inlet, one finds more structures near or within the CEHA. Between the Inlet and West Drive (immediately east of Peconic Dunes Camp), the CEHA moves inland for almost 400 feet. The CEHA line moves shoreward between West Drive and the Lockman groin/sea wall, to the line formed

by the bulkheading installed by the residents of the homes in this stretch of shoreline. At Kenney's Beach, the CEHA line moves landward again to almost 300 feet from the shoreline for almost the entire length of North Sea Drive. Most of the residences on North Sea Drive are within the CEHA. After McCabe's Beach, the CEHA line moves seaward gradually to within 200 feet of the shoreline until it reaches Horton Point. The bluff line reappears in this part of the Reach, and most of the residences lie outside of the CEHA.

The substance and importance of the CEHA are explained in *Section II.I.2.(v)(b)Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 2, three distinct land use situations have been identified within the Reach:

- existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below. Underutilized sites are identified on [Map II-J-2](#), located at the end of this chapter.

(i) Areas of existing stable uses

The residential areas around Goldsmith Inlet, Kenney's Beach and McCabe's Beach are areas of existing stable uses. Change within these areas probably will be limited to residential infill development and redevelopment or expansion of older seasonal dwellings. If public water is provided to these residential enclaves, the level of infill and the degree of rehabilitation and expansion is likely to increase due to the prime quality of these coastal neighborhoods.

The square block of land surrounding the Town's landfill is likely to continue to be developed with industrial uses, although the capping of the landfill itself may see the introduction of new uses to that portion of the property. The Town has not made any commitment as to how the landfill property (outside of the recycling and collection center) would be used.

(ii) Areas subject to development pressure

Much of Reach 2 is subject to residential development pressure. As vacant, infill lots within established residential neighborhoods are developed, the conversion of adjoining farmland to subdivisions can be expected to accelerate. The pressure is likely to be felt most strongly in the vicinity of Sound View Avenue because of its great aesthetic character and its closeness both to public beaches and the hamlet of Southold.

From the Peconic area westward to Cutchogue, where the groundwater is more heavily impacted by nitrates and pesticides, the trend seems to be towards large homesites of five or more acres. If this trend

continues, it will have a negative impact on adjoining farms as the homesites begin to impinge on the fields and the private driveways begin to present physical barriers to the movement of tractors and other farm equipment across the fields. Although more than 289 acres of farmland within this Reach are protected, this amount represents just twenty percent of the total agricultural acreage here. The Town takes this threat very seriously. All of the agreeable land within this Reach has been targeted for preservation in the *Community Preservation Project Plan*.

(iii) Underutilized sites

The Town of Southold has identified four underutilized recreational areas within Reach 2. These are all existing waterfront recreational facilities. Four are in public ownership: Goldsmith Inlet County Park, Peconic Dunes County Park; and the two Town beaches: Kenney's Beach and McCabe's Beach. Each of these sites would benefit from improved facilities.

The County parks suffer from a lack of adequate infrastructure funding more than anything else. The Town is working closely with the County Department of Parks to coordinate efforts to obtain funding to enhance the recreational opportunities and the facilities available at these parks.

The Town beaches are very good, but would benefit from more landscaping and additional park facilities. The parking lot at each of the beaches is large, poorly designed and drained and bereft of any landscaping or park furniture. The guard rails surrounding the lots and separating the beach from the lots are utilitarian, but not aesthetic. With appropriate funding, much could be done to enhance the existing value of these beaches.

(iv) Areas of Special Concern

The Town of Southold has identified five areas of special concern within Reach 2. These are examined in more detail below.

• ***Long Island Sound shoreline – Goldsmith Inlet to Kenney's Beach***

The primary issues of concern here are erosion and environmental protection. The Town's main focus here is to identify the degree to which man-made structures located updrift of this stretch of shoreline are aggravating the naturally-occurring rate of erosion. Once that is determined with some degree of certainty, the Town is committed to finding reasonable and feasible ways of redressing the existing problem, and to finding constructive ways to prevent further erosion of the same magnitude. This will, of necessity, include closer scrutiny of applications to rebuild structures seaward of either the mean high tide mark or the CEHA line. Where possible, all structures should be pulled landward.

With regard to environmental protection, the Town's main focus is to protect the locally and regionally unique landforms and habitats found within this Reach. This means finding ways to protect the dunes and to protect the beach and wetland habitats (and their respective wildlife components) from destruction or degradation.

• ***Goldsmith Inlet***

The primary issues of concern here are erosion, environmental protection, flooding and the potentially negative impact of further infill development. With regard to erosion, the degree to

which the jetty may be responsible for aggravating the rate of erosion on the shoreline to the east is of utmost concern. The ongoing studies, described earlier in this section, indicate the degree of the Town's commitment to redressing this problem to the extent that is practical.

The environmental issues center around protection of wildlife habitat around the inlet and the maintenance of good water quality within the inlet. The environmental issues are affected by two parallel factors: the management of stormwater runoff (a major component of the flooding problem) and the degree of infill development that may take place in the future. The flooding problem has different components. One is the fact that some of the existing residences around the inlet are inappropriately sited on low-lying land in close proximity to wetlands and the inlet itself. The Town should not be encouraging the development of land that normally is flooded during storms due to wind-driven waves or a deluge of rainwater. Further, where the site can be developed safely, care should be taken not to alter the course of natural drainage swales. Although federal flood insurance regulations are intended to protect development from future flood damage, they have the downside of encouraging development of marginal properties. The net cost to the public of this policy can be considerable since public property (roads and utilities) and public services (emergency, fire, police, highway) must be maintained under challenging conditions, sometimes at great expense.

In addition to flooding, the fragility of the ecosystem around and within the inlet is affected by the actions of property owners. The clearing of the wetland and coastal vegetation on public property by private property owners desiring to improve their waterviews is evident around the inlet. The introduction of water- and fertilizer-intensive landscapes within the inlet's watershed is considered to be ecologically distressing both to the native vegetation around the inlet and the water quality within the inlet.

- ***Peconic Dunes County Park***

The primary issues of concern here are habitat protection and improvement of the park infrastructure. With regard to protection of the habitat, the park's current manager is acutely aware of both the ecological sensitivity of the site and the potential recreational potential of that site even with its environmental constraints. However, the acute lack of funding to upgrade or expand the existing facilities, much less add new features, means that this park's potential is not being realized.

- ***County Route 48 Corridor***

The primary issues of concern here are the loss of agricultural land to residential development and the potential for inappropriate development to be introduced to the commercial zones that abut this highway. As mentioned earlier, only 20% of the agricultural land within this Reach has been preserved. With the exception of the landfill area, there is not a considerable amount of land zoned for commercial uses, but the function of CR 48 as a bypass to the more congested SR 25 corridor is dependent on keeping the road free of excess travel destinations. The Town commissioned a consultant to study the zoning within this corridor with an eye towards maintaining its open space and congestion free character. It then rezoned key properties along this Route. An important component of this effort to maintain the character of the corridor is that of its scenic value. This is described in *Section II. B. The Planning Framework. 9. Transportation Planning: 1992-2002.*

- **Oregon Road vista**

The primary issue of concern here is the loss of character as new residential second home development impinges on the edges of the farm fields. In addition to detracting from the vista, new residential development acts as a deterrent to agricultural practices where private roads are used to prevent farmers from moving farm machinery across fields. As mentioned in *Sections 10 and 11* above, and in Reach 1 earlier, the Oregon Road vista is unique on many levels. Maintaining its character deserves special care and attention.

2. Key issues

As a result of the preceding Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 2. These issues are discussed below. Opportunities to tackle these issues are reviewed later in *Section K.* and *V.*

(i) Agricultural protection

Reach 2, along with Reaches 1 and 8, contains a significant portion of the town's prime agricultural soils. With about 1,387 acres of farmland within its boundaries, protection of the land and the industry is of primary importance to the Town. Only 20 percent of that acreage is protected from residential development. The Town's goal is to retain large blocks of farmland. This goal is still possible within Reach 2 provided the Town acts quickly to forestall the introduction of residential subdivisions in the midst of large tracts of active farmland. Residential subdivisions in this Reach, as with most of the reaches, pose a design challenge since most of the subdividable properties are long and narrow. Since these lots typically run northeasterly from a road up to the waterfront, a subdivision, even that of a cluster design, often has the unfortunate result of permanently breaking up blocks of farmland.

(ii) Harbor management issues

Due to the lack of sheltered harbors within this Reach, there are no harbor management issues of concern.

(iii) Public access and recreation

The existing combination of public access and recreational opportunities is varied and substantial. However, given the potential population growth and the trend of increased participation in leisure activities by residents and tourists, the need for more access and opportunities is expected to escalate. The existing sites have undeveloped potential, which can be enhanced through careful design and improvement. Further, additional land is available with which to enhance existing facilities.

(iv) Protection of habitats and wetlands

Reach 2 features locally unique and important landforms, wetlands and coastal beach habitats. These are concentrated around Goldsmith Inlet, Peconic Dunes, Great Pond and along the shoreline. Significant protection can be provided to this habitat through judicious acquisition of key parcels and careful stewardship of those properties after they are opened to the public. The Town also needs to find ways to mitigate the environmental degradation of these habitats and wetlands that may ensue as vacant lots within existing residential communities are developed or as existing structures are rebuilt or

expanded. The restoration of wetland habitat around privately held ponds, e.g. Lily Pond, also should be explored, perhaps in conjunction with the property owners.

(v) Protection of water quality

As mentioned in the previous paragraph, the Town needs to mitigate the impact of existing and proposed development on the environment. One aspect of this is the need to reduce the flow of pollutants to the surface waters of Goldsmith Inlet, Autumn Pond, Great Pond and Lily Pond, not to mention the wetlands and drainage swales that feed these water bodies. Two types of pollutant sources are of great concern: that of stormwater runoff from public and private property and that of poorly-sited or malfunctioning on-site wastewater treatment systems. Stormwater runoff must be dealt with not just from roads, but from impermeable surfaces on private property. For instance, roof runoff typically is channeled by property owners down their driveway into the road instead of into on-site leaching basins or dry-wells. Much of the road runoff in this Reach is piped to low areas adjacent to wetlands and water bodies, but it is not necessarily filtered of pollutants. Wastewater treatment is a major problem where the lots are non-conforming in size, particularly if the lots are on the water's edge. As the value of waterfront continues to increase (be this sound, lake or pond front), the pressure to upgrade and expand existing structures on undersized lots may result in increased levels of pollution to surface and ground waters. Finally, landscaping practices that rely on heavy applications of fertilizers and pesticides can be a contributing pollution factor, particularly adjacent to water or drainage swales. In recognition of the existing and potential threat to water quality, the Town recognizes the need for Watershed Plans for threatened areas, particularly that of Goldsmith Inlet.

(vi) Flooding and erosion

Flooding within Reach 2 is primarily a function of low-lying shorefront and inlet areas within reach of storm driven wave action. Even with compliance with federal flood insurance regulations, these areas will remain vulnerable to the extreme wave action and beach erosion that takes place during severe nor'easters. It is estimated that more than half of the waterfront structures within this Reach lies wholly or partially within the Coastal Erosion Hazard Area. As these residences become endangered, some will be pulled back from the shoreline. However, in certain parts of the Reach, the lots are too small to enable property owners to relocate their residences farther from the water. In the absence of public acquisition of waterfront for the purposes of public access, the Town can only ensure that future subdivision lots are designed with sufficient depth to situate houses well landward of the Coastal Erosion Hazard line and the flood zone. The Town needs to develop a *Flood Hazard Mitigation Plan* to inventory potential trouble spots and solutions.

(vii) Protection of scenic resources

Reach 2 features a wide variety of scenic components, some of them unique to the Reach. The predominant vista is the open, agricultural landscape adjacent to CR 48. Until very recently, most residential development has been tucked away in wooded areas at the fringe of agricultural tracts, or in the dunes. In contrast, the shoreline in this Reach features both dramatic bluffs and low rolling dunes fronted by rock or sand beaches. Many of these varied, scenic components can be viewed from local roads and from the public parks along the shoreline. Two of the Town's SeaView Trails (Oregon Avenue and Sound View Avenue) take advantage of these very different and beautiful scenic vistas.

Protection of these resources will require a combination of preservation efforts to ensure the continuance of the agricultural industry and to protect the unique ecological habitats in this Reach. Presently most residential development respects the existing terrain and habitat. However, there are abuses whereby the terrain is completely reshaped, the native habitat is removed and it is replaced with sod and other non-native ornamental plant species. Suburban landscaping of this sort not only destroys ecological habitat, it tends to require intensive applications of fertilizers and pesticides, which are detrimental to ground and surface water quality. If this trend continues, it may become necessary for the Town to adopt restrictions against wanton clearing of indigenous habitat near sensitive coastal habitats in order to protect habitat and water quality, never mind scenic vistas.

REACH 3: HORTON POINT TO ROCKY POINT

A. INVENTORY AND ANALYSIS

1. Location

Reach 3 runs from Horton Point in Southold eastward to Rocky Point in East Marion along Long Island Sound. The western boundary of the Reach runs from Long Island Sound south along Lighthouse Road and Youngs Avenue to County Route 48. The southern edge runs along CR 48, which becomes NY Route 25 in Greenport, until it reaches Rocky Point Road which runs north up to the Sound. Reaches 5 and 6 and the Incorporated Village of Greenport abut the south side of this Reach.

2. Land use and development

The land use pattern within Reach 3 is described below and illustrated on *Map II-5*.

Low and medium density residential development are the predominant land uses in Reach 3. With few exceptions, most of the waterfront in this Reach is fairly intensely developed. The lot sizes in this Reach average between 20,000 and 40,000 square feet, reflecting the fact that most of the lots were created prior to 1986, when the Town's base zoning was changed to two acres. (Prior to 1986, the base zoning had been one acre, and previous to that as low as 12,500 square feet.) Between Horton Lane and Sound Road in Greenport, the shoreline in this portion of Reach 3 is almost completely developed. Ironically, or perhaps unfortunately, this section of the Reach also is probably the most vulnerable shoreline within the Town. Since the roadbed of County Route 48 is more or less immovable, as the shoreline erodes, some of the homesites in this area literally shrink and expand with the changing forces of nature on the beach. All of the soundfront lots in this part of the Reach back onto either Sound View Avenue or CR 48.

South of Sound View Avenue, the residential development is a mix of older and newer homes placed along the edges of farm fields, mostly located on conforming lots. The one exception to this is the tight grouping of homes located west of Town Beach between Goldin Avenue and Clarks Road. Further to the east, beyond Inlet Point Park there are two additional areas of residential development. The first lies northwest of the Village of Greenport. The second lies in East Marion, just east of the Islands End Golf Course. The former consists of an established older community that is expanding with the construction of several new residences on a new street. Lot sizes here range from less than 10,000 square feet to nearly two acres. The second area is a clustered development where the lots are about half an acre in size. This subdivision is located on the bluffs and in the wooded area behind the bluffs. The lots are buffered from SR 25 by a private road and an open field that currently is farmed.

The Reach also contains a mix of other land uses including recreational, agricultural, seasonal residential, resorts and commercial uses. Recreational land is limited, consisting mainly of Town Beach (located on the narrow strip of land between Long Island Sound and Hashomomuck Pond), Suffolk County's Inlet Point Park (to the west of Sound Road), 67 Steps (at the foot of Sound Road) and Islands End Golf Course (west of Pebble Beach). These are discussed in detail below in *Subsection 5. Existing waterfront access and recreation sites*.

Agricultural land in this Reach is being lost steadily to residential development. Only three small blocks of active farmland remain; on the east side of Youngs Avenue, south of Sound View Avenue, between Sound View Avenue, the North Road and CR 48 and on the west side of Rocky Point Road. Of the 137 acres left in production, only 27 acres around Youngs Avenue are protected.

Seasonal residential resorts are probably the most notable commercial land use within this Reach, starting with the North Fork Beach Motel and Condominium to the west of Town Beach, the Sound View Restaurant and Motel (located at the mid-point of the Reach) and the Sunset Motel, opposite San Simeon Nursing Home. A new motel has been proposed on the site to the west of the Sunset Motel. Further east lie small cabins at the Oak Farm Cottages and beside the Hellenic Snack Bar. There is an active proposal to upgrade the Hellenic cabins.

There are several other commercial properties within this Reach, starting at Youngs Avenue and CR 48. A strip of commercial development runs from Youngs Avenue eastward towards Boisseau Avenue. The land uses here are mixed: a generator repair and sales shop, an automotive repair garage, a propane gas distributor with accessory retail sales, a strip retail mall (containing two retail stores, a physical therapy center, an eating establishment, and a take-out restaurant), another automotive repair garage and a furniture store. The remaining commercial uses are a real estate office (at Goldin Avenue), a bed and breakfast located in a former restaurant (at Sound Drive), and two popular restaurants located next to the golf course on SR 25).

The largest contiguous block of undeveloped land (more than 136 acres) left within this Reach is known as Brecknock Hall, after the historic mansion sited on the property. Approval for a 350-unit condominium, known as *The Breakers at Lands End*, has been valid since 1989. However, the changing real estate market resulted in a proposal to amend this plan to create a life or continuing care retirement facility. This latter proposal, referred to as *Peconic Landing at Southold*, calls for 250 condominium units along with a separate building containing apartments, dining and recreational facilities. A small nursing home also will be constructed on the site to provide 24 hour health care for the residents, as may be required. Conditional approval was granted to *Peconic Landing*, in August of 1998. This site is presently under construction and nearing completion.

The land area fronting Long Island Sound is predominantly bluffs, rising in places to slightly over 100 feet in elevation. The highest bluffs are located at the eastern and western ends of the Reach, at Rocky Point and Horton Point. The shoreline elevation drops down to nearly sea-level at Hashamomuck Pond. Whatever low dunes or bluffs may have existed at this low point have long since been obliterated by either nature or man. Residential use dominates the land area fronting the Long Island Sound shoreline, followed by resort development. The little remaining undeveloped land along the Sound shoreline is generally in a naturally vegetated state.

With the exception of a few large lots, most of the vacant, developable land that remains within Reach 3 consists of infill plots of two acres or less that are scattered throughout the existing residential development within the Reach. Underutilized sites within the Reach are limited to the waterfront recreational facilities. The nature of these parcels is discussed below in *Subsection 5. Existing waterfront access and recreation sites.*

3. Water-dependent/water-enhanced uses and water uses

The water-dependent uses in Reach 3 are limited to waterfront parks and beaches. These include Southold Town Beach, the undeveloped Inlet Point County Park, and 67 Steps Town Beach (also known as Sound Road Beach). These facilities, indicated on *Map II-J-3*, located at the end of this chapter, are discussed in detail below in *Subsection 5. Existing waterfront access and recreation sites*.

The water-enhanced uses within Reach 3 include two resort motels, one proposed motel and other seasonal residential developments.

(i) Recreational boating

There are no marinas or major maritime activities within Reach 3. The exposed and rocky nature of this stretch of shoreline precludes most boating activity other than fishing, cruising and sailing. Although a small boat launching ramp is located on the west side of Town Beach, its use is limited to small, lightweight craft mostly under 20 feet in length.

(ii) Commercial fishing

Commercial and recreational fishing occurs in the waters of Long Island Sound. Neither the State nor the Town keeps records on harvests by Reach.

(iii) Commercial and recreational shellfishing

Commercial shellfishing occurs in the waters of Long Island Sound.

(iv) Aquaculture

There are no known mariculture operations operating within this stretch of shoreline.

However, during the years 1996 through 1998, a company known as Mariculture Technologies, Inc. attempted to obtain permission to build and operate a summer flounder fish hatchery on waterfront property owned by the Village of Greenport. The proposal involved the drilling of a well under the Soundfront bluff in order to pump large volumes of salt water into indoor tanks to hatch and nurture fingerlings. The nitrogen-rich wastewater from the tanks was to be dumped into the Sound via the existing sewage treatment effluent pipe that services the Greenport Municipal Sewage Treatment Plant, which is located to the south, in Moores' Woods. The Village's property seems to have been especially attractive to this company for two reasons: the willingness of the Village to provide electricity at Village rates, which are two-thirds lower than that available to the rest of Long Island through the Long Island Power Authority, and the willingness of the Village to lease the 15 acres for a long period of time. The combination of low electrical rates and minimal land costs meant that the company's long-term investment and operating costs could be held to a minimum. However, there were drawbacks: the property is zoned for two-acre residential development, it is located next to a county park and it lacks waterside off-loading facilities whereby the fingerlings could be shipped from the tanks to outdoor holding pens. The fingerlings would have had to be transported from the site by truck to a waterfront dock in either Greenport Harbor or on Gardiners Bay. The holding pens are located offshore, due southwest of Plum Island. For financial and regulatory reasons, the company has put the land-based phase of its operations on hold. At present, it continues to purchase fingerlings from hatcheries elsewhere in the Northeast and grow and harvest them from the holding pens at Plum Gut. The grow-out facilities are discussed further in the section of this chapter titled *Reach 5*.

(v) Navigation and dredging

With the exception of the deep but rocky nearshore areas, the Long Island Sound in Reach 3 is open water. Marine charts show large submerged and partly submerged rocks within 500 to 600 yards of the shore, remnants of the glacial formation of Long Island. There are no navigation markers in this Reach. No dredging takes place in this Reach.

4. Existing Zoning

The land area in Reach 3 is zoned primarily residential, with a mix of classifications including R-80, R-40, Resort Residential (RR), and Hamlet-Density Residential (HD). There is only one block of Agricultural-Conservation (AC) zoning and it is located between Youngs Avenue and west of Clark Road. Unfortunately, land within the AC district is being lost to residential development. As with most R-40 districts, much of the older residential development is sited on lots of less than 40,000 square feet. Most of the remaining undeveloped lands found in Reach 3 are zoned R-80, with the exception of the land lying between Youngs Avenue and Clark Road (mentioned earlier), which is zoned AC.

The entire shoreline is zoned either R-80 or R-40, with two exceptions. One is a nearly 3,400 foot stretch of shoreline that is zoned RR and which lies to the east and west of CR 48's intersection with Chapel Lane. The other is a 136-acre property with nearly 2,500 feet of shoreline. Referred to earlier as *Peconic Landing at Southold*, this site is zoned HD, a designation that permits four dwelling units to the acre provided public water and sewage treatment facilities are available. The site is now being used as a life care facility with a density that is between two and three units to the acre.

The Island's End Golf & Country Club, which is due east of the *Peconic Landing at Southold* (Brecknock Hall) property, is located on three separate, leased properties totaling about 117 acres, all of which are zoned R-80. Country clubs and golf clubs are special exception uses under the existing zoning.

There are some Limited Business (LB) and General Business (B) zoning districts within Reach 3. The B district lies on the north side of CR 48 between Youngs Avenue and Boisseau Avenue. This district is only about 200 feet deep with the exception of the propane distribution operation which property extends to a depth of about 348 feet at its deepest point. Only three B zoned properties in this stretch are undeveloped. The only other business located between here and Greenport (other than the restaurants and motels in the intervening RR district) is a real estate agency that is considered pre-existing non-conforming since it is in an R-40 zone.

There are about 16 acres of LB zoned properties on SR 25, north of Greenport Village. The Shady Lady Bed and Breakfast site (formerly known as Porky's Restaurant) includes about 4 acres of land. Twelve acres of LB zoned land are located a few hundred feet to the east at the southwest corner of the *Peconic Landing at Southold* (Brecknock Hall) property. The mansion and an historic barn are located within the LB district. (It should be noted that while twelve acres of LB zoned land is part of the *Peconic Landing at Southold* property, the site plan amendment does not include any proposed development for this part of the property.) Further to the east, there is one LB zoned parcel of 1.5 acres, which is the site of the Hellenic Snack Bar and Cabins. Skippers Restaurant,

located a couple of hundred feet to the west is zoned R-80, thus being a pre-existing non-conforming use. (See [Map II-6](#) for details on the zoning)

5. Existing waterfront access and recreation sites

There are a number of public access sites along the Long Island Sound shoreline in Reach 3. The location of these are indicated on [Map II-11, Parks and Recreation](#) and the facilities available at these sites are discussed below.

Suffolk County

- ***Inlet Point County Park***

This park is composed of nearly 50 acres of undeveloped nature preserve. The site includes a large freshwater pond, known as Inlet Pond, which is located within 200 feet of the mean high water mark. The park provides nearly 1700 feet of beachfront access to Long Island Sound. It offers stunning views of the shoreline west to Horton Point and east to Rocky Point. On a clear day, the Connecticut shoreline is visible almost to New London. However due to the lack of facilities, such as restrooms, lifeguards and parking, this site is used almost exclusively by Town residents for nature walks and fishing.

Unfortunately, this park suffers from the same illegal dumping activities that plague two other two adjacent sites: Clarks Beach and the Village of Greenport's 15-acre property. These latter two sites are easily accessed from CR 48 by an un-gated dirt road. All three of these properties are surrounded by woodland which blocks the view from CR 48 and the few nearby residences. Further, the properties are largely unsupervised: all factors contributing to the dumping problem. A recent site inspection revealed that all-terrain vehicles are disturbing the beach and the dune vegetation between the pond and the beach. The County park was purchased in four separate parcels, two very recently. The park contains two older residences that are located on CR 48. One of the residences is being rented to a tenant: The Long Island Wine Council. The County is preparing plans for the educational use of the other residence as an interpretive and operations center.

Town of Southold

- ***Southold Town Beach (Hashamomuck Beach), North Road, Southold***

This 6-acre Town site is a very popular bathing beach on Long Island Sound. This site has nearly 2,000 feet of shoreline, but less than 300 feet of depth between CR 48 and the mean high water mark. Approximately 100 to 150 cars can be accommodated in the parking lot, which is accessible to Town residents by permit and to visitors by a per-day fee. Lifeguards, restrooms, a playground, benches and a handicapped accessible gazebo are available here. During the off-season the beach is used by bird watchers, walkers, and surf-casters. There is a small boat launching ramp at its extreme westerly end. Its use is limited to small, light craft under 20 feet in length.

- ***67 Steps, Sound Road, Greenport***

This one-acre Town beach is located at the end of Sound Drive on Long Island Sound. This small beach has less than 150 feet of shoreline, but it abuts the Sound Drive road end, which adds another 50 feet for a total of 200 feet of shoreline. At its terminus, just behind the bluff face, Sound Drive provides parking capacity for approximately 10 to 15 cars.

There is a stairway down the bluff face to the beach, hence the name. No facilities are provided here. The beach has more pebbles and rocks than sand, and the nearshore is quite rocky. While the beach does not lend itself to swimming or boating, it does offer great scenic views of the Town and Connecticut shorelines and surfcasting opportunities.

- ***Clarks Beach, Greenport***

This small 1.1 acre site lies directly on Long Island Sound. It lies between the Village property and Inlet Point County Park. This beach is technically land-locked. Access to it is over the Village property. This site is located directly east (and downcurrent) of the outfall pipe for the Incorporated Village of Greenport's Sewage Treatment Plant and since this plant only provides secondary treatment, this beach is not suited for either shellfishing or swimming. This site also suffers, along with Village and County properties, from illegal dumping, soil excavation and erosion, the later principally due to the impacts of motorbikes and All Terrain Vehicles (ATVs). There are no facilities of any sort provided here.

6. Inland recreation facilities

The Islands End Golf and Country Club encompasses about 117 acres of leased land. Most of the club grounds are located inland with the clubhouse located adjacent to CR 48. However, the golf course contains nearly 850 feet of soundfront shoreline. Although this is a membership club, non-members are permitted to access the greens for a fee as space becomes available. This golf course is the only course in the Town of Southold with views of Long Island Sound.

This facility is unusual in that it is located on three separate parcels in two separate ownerships. All of the parcels are leased by the corporate shareholders of the Island End Golf and Country Club. The Club includes a driving range, a putting practice green, a practice sand trap, a small pro-shop, a small restaurant that is open during the season only, and assorted equipment storage sheds.

7. New opportunities for public access and recreation provision

This Reach offers more than 4,000 feet of publicly owned shoreline. However, a portion of that shoreline cannot be used for swimming due to the nearshore location of Greenport Village's sewage outfall pipe and the lack of tertiary treatment of this sewage.

In the absence of upgrading the sewage treatment plant, there are several sizeable blocks of undeveloped residentially-zoned land between Sound Road in Greenport and Rocky Point Road in East Marion that might provide more suitable public access to the water. However, unless the Town moves to acquire portions of these sites, existing and pending residential subdivision proposals for these properties will most likely foreclose any possibility of this waterfront being accessed by anyone other than the future subdivision residents of those properties. Given the extent of the County's investment in Inlet Point Park, the purchase of additional waterfront in this Reach may well be redundant and excessive. Public monies might be better spent to either upgrade the sewage treatment plant or relocate the outfall pipe so that existing public waterfront properties could be more fully utilized

The Town's property on the east side of the Sixty-Seven Steps (on Sound Drive) is undeveloped. Access to it is partially blocked by metal guard rails at the foot of the bluff. The site could accommodate additional forms of public access and usage, such as an overlook trail. However,

careful thought would be needed as to the design of the parking area, the trail and the landscaping at the road end. Current usage of the site has resulted in serious erosion to the bluff face both at the road end (adjacent to the stairs) and above the road (adjacent to the bluff).

In the case of the Islands End Golf Course, which is sited on leased land, the waterfront is not utilized by club members other than golfers enjoying the vista from the greens. The conversion of this course to residential development should be discouraged because this is a unique and heavily used recreational facility. In the future, as pressure for waterfront access increases, the Town should explore all potential conservation options including working with the shareholders of the golf course to save it from being a development and zoning it for recreational use only. The Town also should explore the possibility of providing safe and unobtrusive public access to the soundfront over this property.

8. Natural resources

Reach 3 features some locally important wetlands and habitats, but to a much lesser extent than in either Reach 2 to the west or Reach 6 to the south. These features are described below.

(i) Wetlands

The wetlands within Reach 3 are predominantly freshwater. They are concentrated north of North Road, on the east side of Mt. Beulah Avenue in the clustered subdivision known as Chardonay Estates, around Inlet Point County Park, and on the Brecknock Hall property. The largest of these, a wooded wetland, lies within the Chardonay Subdivision south of Sound View Avenue and east of Mt. Beulah Avenue. Unusual due to its large size, shallow depth, perched nature and relatively undisturbed state, this wetland lies within the clustered open space for the subdivision.

Inlet Pond, a largely freshwater pond, is located in Inlet Point County Park within two hundred feet of Long Island Sound, and is surrounded by freshwater wetland species. However, due to its close proximity to the Sound, the pond and its wetlands are subjected to salt spray and washovers during severe storms. Further inland, this park contains scattered wooded wetlands and Red Maple swamps.

The wetlands on the Brecknock Hall property originally were slated for almost complete alteration by a 350-unit condominium site plan dating back to 1989. The 1998 conditionally-approved amendment to this site plan, Peconic Landing, offered considerably more protection to the existing wetlands. When constructed, the new stormwater retention and filtration basins will be enhanced and augmented with freshwater wetland species. The New York State Department of Environmental Conservation has worked closely with the project sponsors on this revised site plan, so as to protect the existing wetlands from any encroachment, erosion, invasion by non- native species and pollution by stormwater runoff.

A few isolated wetlands can be found on individual lots along the Long Island Sound shoreline. For the most part, these appear to have been altered to some degree by dint of their close proximity to residences, driveways and lawns.

(ii) Significant Coastal Fish and Wildlife Habitats

There are no state-designated SCFWHs within Reach 3.

(iii) Water quality

There are two state-designated surface water quality classifications in Reach 3. Long Island Sound is designated as high quality SA waters, except for a 300-acre section adjacent (downdrift) to the Village of Greenport's Sewage Treatment Plant outfall pipe. This 300 acre area was included on the NYSDEC's 1996 *Priority Waterbodies Problem List*. It first appeared on the *Water Problem List* in 1993. As a result, shellfishing in this area is prohibited. Water quality problems in around the Greenport Sewage Treatment outfall have been identified as having a medium resolution potential in the *Priority Waterbodies List*.

Within the County Park, Inlet Pond is designated SD waters.

There are several direct stormwater discharge sites within Reach 3. These include the storm drains from CR 48 at Town Beach and by the Sound View Restaurant.

9. Historic resources

(i) State and National Registers of Historic Places

Presently, there are no listings on the State and National Registers of Historic Places within Reach 3.

(ii) Local historic resources

Within Reach 3 there are 30 structures of local significance. The date of construction of these structures ranges from 1670 through to 1915, with more than two thirds of them dating back to the 1800s. Most are residences: only two have been converted to business uses.

Most of the historic structures within this Reach can be found along the original Kings Highway, which turns northward (from SR 25 or Main Road in Reach 6, along what is now known as Boisseau Avenue) to the current day CR 48 and continues along that road until it becomes SR 25 again, in Greenport. Portions of the CR 48 roadbed in this Reach are still concrete, although this will not remain so for much longer since the County has plans to cover the roadbed with asphalt so as to widen the travel lanes.

One of the residences, known historically as the Miss Grace Floyd House, is a designated Town Landmark. Located on the north side of SR 25, opposite Sterling Cemetery, just north of the Incorporated Village of Greenport, the Colonial/Victorian residence dates back to the early 1700s, but was added to and modified around 1900.

Directly west of the Grace Floyd House is Brecknock Hall, a unique Italianate mansion. Constructed between 1850 and 1857, this mansion is made of stone, most of which was mined from the surrounding estate, some 145 acres. The building commands a small knoll, which overlooks the head of Sterling Creek. When built it probably offered its inhabitants distant waterviews of that harbor. The original owner was David Floyd, grandson of General William Floyd, the only Long Islander to sign the Declaration of Independence. David Floyd was involved in shipping, whaling, banking and real estate.

Sound View Avenue, in the westernmost part of Reach 3, contains a number of residences that reflect an era in the Town's history when wealthy summer residents designed waterfront estates. Two estates bear mentioning here: the Cosden and Marshall/Booth Estates. Constructed during 1915-16, these estates are adjacent to one another, and are located in the vicinity of Mt. Beulah Avenue. The estates were unique in terms of style of architecture, size, the sweeping views of the soundfront, and the extent of landscape design on the surrounding grounds. The roadbed of Sound View Avenue actually was moved back from the shoreline and re-landscaped so as to afford more privacy for the mansions. Sound View Avenue was a relatively new road at that time. It was not shown on the Beers Comstock Atlas of 1873. Recently, the Town's Landmark Preservation Committee recommended that the land and structures of these estates be granted distinction as a Local Landmark District. Opposition from a few property owners within the proposed district derailed this attempt. Nevertheless, the lands around these estates retain a uniqueness that should be protected.

Reach 3 also contains a notable remnant of Southold Town's nautical history: the life saving station at Rocky Point. During the 1800s, shipwrecks were a common occurrence on the shores of Long Island Sound due to the presence of underwater rocks, the prevailing winds and the lack of sheltered harbors. In response to this situation, men were paid to watch for foundering ships from strategically located life saving stations. When a ship foundered, the life savers would be called in to save the ship's passengers and crew using large rowboats. On the north shore of Long Island, there were only two such stations: one of which was located at Rocky Point, East Marion. The Rocky Point Station was built in 1896 by the U.S. Life Saving Service (USLSS) according to regulation design. The station was in operation from 1846 to 1915 when the USLSS became part of the U.S. Coast Guard. It remained in service up until about 1946. The government sold the building in 1951. The new owner converted the station into a private residence, which it still is today. A boat or "Liberty Shack," built of salvaged lumber, also survives, although it was moved to the rear of the property away from the water's edge. (Source: *Wrecks And Rescues on Long Island: The Story of the U.S. Life Saving Service. Van R. Field. 1997.*)

10. Archaeological resources

A considerable portion of Reach 3 is considered archeologically sensitive. See [Map II-17](#). Aboriginal findings have been noted in two places: Inlet Point County Park and the Brecknock Hall property.

Suffolk County investigated Inlet Point at the time of its purchase in the early 1980s. The cultural resource survey report revealed evidence of aboriginal activity on the southeast side of the fresh water pond in the park. Although a barrier beach now separates the pond from Long Island Sound, the name "Inlet Pond" suggests that this beach may have been breached in the past. Primary quartz flakes were found near the surface on the northwest corner of the pond, suggesting that aboriginal activity may have occurred in the vicinity. (Source: A.T. Kearney, 1989, p3-93.)

Archeological surveys undertaken at the proposed site of *Peconic Landing at Southold*, (hereafter referred to as Brecknock Hall), unearthed several locations containing prehistoric artifacts. The Brecknock Hall site contains two fresh water kettle ponds. Stage 2 testing took place on the high ground west of the northernmost pond, which overlooks Long Island Sound. Preliminary findings indicate that this particular spot may contain sufficient amounts and types of aboriginal artifacts to

merit inclusion in the New York State and National Register of Historic Places. (Source: Stage II, Archaeological Survey of the Continuing Care Retirement Community, Peconic Landing at Southold, Greenport, Town of Southold. Greenhouse Consultants, NY, NY, December 1998.) The findings of this and further studies currently are being reviewed by the New York State Office of Parks, Recreation and Historic Preservation.

11. Scenic resources

Reach 3's landscape when viewed from CR 48 consists mostly of low and medium residential development. The impact of this residential development has been lessened by the fairly extensive tree coverage behind the bluff face and alongside the roads, with the major exception of the soundfront, directly to the east and west of Town Beach. In this stretch of roadway, the sandy nature of the soils and the extensive degree of residential development on narrow lots has resulted in a vista dominated more by the residences than the landscaping, whether native or cultivated.

However, the 2000 foot long stretch of CR 48 that runs alongside Town Beach offers the traveler one of only two places within the Town where the Long Island Sound can be seen from the road while underway. Most travelers on CR 48 don't realize the close proximity of Hashamomuck Pond on the south side of CR 48 in this exact same stretch because that view has been obliterated by both seasonal and year-round residential development crowded onto undersized lots.

The remaining agricultural land in Reach 3 is concentrated to the west of Clarks Road, and south of Sound View Avenue and North Road. The open farm vista seen from Youngs Avenue, which is the only remaining Town-owned concrete road in this Reach that has escaped resurfacing with asphalt, is the last such vista left in this Reach.

The scenic vistas of Sound View Avenue continue from Horton Lane to the west to where it terminates at CR 48 by Hashomomuck Pond. The wooded portions of Sound View Avenue are particularly beautiful in the vicinity of the grounds of the original Cosden/Marshall/Booth Estates near Mt. Beulah Avenue, which were described in more detail in *Sub-Section 9. Historic Resources*. This stretch of Sound View Avenue is one of the few remaining places within Southold where mature trees have not been pruned around overhead transmission lines and here they still form an arching canopy over the road. However, these trees are rapidly nearing the end of their lifespan. Since replacement trees have not been planted, this vista will soon disappear. It is perhaps ironic that one of the loveliest parts of Sound View is man-made. During the year 1915, the roadbed of Sound View Avenue was pulled back further from the shoreline in order to accommodate the landscape plans of the Cosden and Booth estates. Pictures from that time show an open landscape with small staked trees.

The greatest scenic vistas of Reach 3 arguably are not found along its roads, but rather along its shoreline. This shoreline features undulating bluffs fronted by rocky beaches in the west and east of the Reach. The bluffs provide a distinct edge to the landscape. They contrast dramatically with the low beach shoreline at Town Beach and in the vicinity of the Soundview Inn. Due to the degree of the curved, concave configuration of the shoreline in this particular Reach, the views of this shoreline that are found at most of the high points in this Reach are nothing short of stunning. On a clear day, the Connecticut headlands are clearly visible across the Sound almost as far as New London.

Inlet Point Park is another important scenic component within Reach 3. The pond in this park is surrounded by high wooded bluffs and ringed with wetlands and a narrow beach. Aside from Peconic Dunes Park and the Bittner property in Reach 2, this park offers the visitor perhaps the last truly untouched stretch of soundfront bluffs and ecosystem left in the Town of Southold.

12. Protected Resources

Table 3.1 below, lists protected lands within Reach 3. A total of 24 parcels encompassing 234.4 acres are considered to be protected from development. *Map II-4* shows their location.

Table 3.1 Protected Lands within Reach 3

Type of Owner	Acreage	# of Parcels
Park District	0	
Churches, Cemeteries	0	
County Owned	55.65	8
Peconic Land Trust	0	
Subdivision Park	0	
Schools	0	
County Development Rights	0	
State Owned	0	
Subdivision Open Space	149.21	8
Town Development Rights	19.39	1
Nature Conservancy	0	
Town Owned	10.15	7
Museums	0	
Village Owned	0	
Water Utilities	0	
TOTALS	234.4	24

Source: Town of Southold Geological Information System, August 2002

As noted earlier in *Subsection 5. Existing waterfront access and recreation sites*, there are four publicly owned waterfront properties within this Reach. Although these waterfront properties encompass only 57 acres of land, they provide nearly four thousand feet of shoreline for public access. There are only 37 acres of protected agricultural land within this Reach, all of it on the east side of Youngs' Avenue, between CR 48 and the North Road. It's interesting to note that most of the protected acreage is in private ownership.

Other open lands include a 17.3 acre well field owned by Suffolk County Water Authority, which is adjacent to the golf course and the Hellenic Snack Bar. Since a portion of this property is leased and used for a parking area, it was not included under protected lands.

The Town's *Community Preservation Project Plan (CPPP)*, adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold Town. It targets all A-C zoned lands larger than 10 acres in size. Most of this acreage is in agricultural production. Additional details

are provided in *Section II.B. Planning Framework, 7. Open Space Preservation Plan*. However, to be more specific to Reach 3, the remaining un-subdivided farmland west of Hashomomuck has been targeted for preservation. The few remaining undeveloped tracts left within the remainder of this Reach also have been targeted for preservation, including the property containing the Village sewage treatment outfall pipe. The land between Sound Drive in Greenport and Pebble Beach in East Marion also has been targeted for preservation. The properties comprising the Land's End Golf Course also are targeted for protection because the leasing arrangement does not foreclose future development. Finally, the last remaining farmland in this part of the Reach in East Marion has also been targeted for preservation.

13. Development Constraints

There are few constraints to development within Reach 3.

(i) Public services and facilities

There is substantial public water coverage within this Reach. A public water main runs along most of development that abuts the entire length of CR 48 and SR 25 throughout this Reach, although it does not extend further east than the Pebble Beach subdivision in East Marion. The two most heavily settled subdivisions within this Reach, between Inlet Pond Park and Sound Drive, are provided with public water. Elsewhere, private onsite wells are the source of potable water.

There are no public wastewater treatment facilities within Reach 3. However, the Village of Greenport has extended sewer services to *Peconic Landing at Southold*, a continuing care retirement community that was constructed on the Brecknock Hall property and the Sunset Motel. Elsewhere individual properties have their own on-site wastewater treatment systems.

(ii) Flooding

The potential for flooding in Reach 3 is found to be principally on CR 48 between Sound View Avenue and Chapel Lane, notably in the vicinity of Town Beach and the Sound View Inn, and around Inlet Pond County Park. Flooding in the first two areas carries with it enormous potential for property damage due to the large numbers of homes and the motel that was constructed here.

Inlet Pond contains no development so flooding here poses only environmental and ecological problems. The bluffs that stretch along the shoreline of Reach 3 east from Horton Point move inland in these areas, thereby facilitating flooding during storms and extreme tides. Extensive flooding can extend inland from the Long Island Sound shoreline into low-lying areas around the Hashamomuck Pond and throughout the interior areas of Reach 6. Flood areas are indicated on [*Map II-19*](#).

Normally the potential for flood damage or lack of access due to flooding during storms might act as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make development of some low-lying or vulnerable properties more attractive by requiring raised construction above the 10 foot contour. As seasonal cottages are winterized and/or expanded into year-round dwellings, they also are raised on stilts or earthen berms. However, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems in the near future for emergency services personnel as the year-round

population increases. The Town needs to develop a *Flood Hazard Mitigation Plan* (FHMP) to inventory potential trouble spots and solutions.

(iii) Erosion

Beaches backed by bluffs are the dominant coastal landforms in Reach 3. The bluffs are at their highest to the west around Horton Point and between Inlet Point to Rocky Point in the east. The beaches are generally stable and very rocky. Low points or breaks in the bluffs are evident at Town Beach, by the Soundview Inn and at Inlet Pond. The characteristics of the coastal landforms in Reach 3 are described below. Predominate drift direction is from west to east, but waves from large storms often come from the northeast and move sand from east to west.

Reach 3: Inventory of Coastal Landforms

Beach:

Location A beach runs along the entire coastline of Reach 3.

Width 5-100 ft. The beach is quite narrow in the central portion of this sub-area, becoming wider toward the eastern and western borders.

Composition Mostly stone, gravel and large rock including boulders.

Bluffs:

Location There are two distinct and separate stretches of bluffs found along the eastern end of this Reach. In addition, a small stretch (3200 feet) of bluff is present just west of Inlet Pond.

Height 11-100 feet; both ends of this Reach have bluffs rising up to 100 ft. However, the stretch of bluff directly west of Inlet Pond rises between 11 and 50 feet.

Dunes: None exist in this Reach.

Tidal

wetlands: Freshwater wetlands at *Peconic Landing at Southold* (Brecknock Hall) and Inlet Pond may be impacted by salt-water during storms and extreme tides

Annual Shoreline Erosion(e)/Accretion Rate(a):

(e) 1.0 feet

(a) 0.4 feet

Town of Southold, 1989

Much of the shoreline in Reach 3 is unprotected. Details of coastal protection structures within Reach 3 are outlined below.

Reach 3: Inventory of Erosion and Protection Structures

Total Waterfront Length: 54,800 linear feet (l.f.)
Total Bulkheaded 6.56%

Coastline
Length 36,400 l.f.
Bulkheaded 20.3%
Stone groins 38
Wood/metal groins 3
Jetties 0

Creeks, Inlets
None

Town of Southold, 1989

Conditions along Reach 3 are variable. While some portions of this shoreline are stable, other portions are dynamic, even bordering on unstable, with erosion causing damage to several houses. At Horton Point, the bluff is high, and the shoreline has smoothed out over the past 60 years. Although some erosion has occurred, there has been no property damage due to the fact that most homes are not located at the bluff edge. However, between Horton Point and Town Beach, there are a series of shoreline protective structures at the toe of the bluffs. Various types of structures and materials have been used in this 3,000-foot length of shoreline, but observation suggests they either have been ineffectual or have increased erosion. Town Beach has been eroding steadily and further to the east, near the Sound View Motel, the shoreline has experienced severe erosion. Many structures in this portion of the Reach are effectively cantilevered over the beach and the water on pilings. The December 1994 storm led to the condemnation of two houses in this portion of the Reach.

The bluffs re-emerge to the west of Town Beach and continue to Inlet Point. Inlet Pond itself sits between the bluffs and Long Island Sound. Exceptionally high tides can result in salt water washing over the beach at Inlet Point. This area also experiences bluff erosion. Illegal use of off-road vehicles use has denuded some areas of vegetation allowing for a higher rate of stormwater runoff over the face of the bluffs in this area. It is recommended that access to this park be more effectively controlled to prevent further degradation.

Finally, the Coastal Erosion Hazard Area within Reach 3 runs roughly parallel to the shoreline for a distance of between 150 and 200 feet of the water's edge from Horton Point to about Mt. Beulah Avenue. From Mt. Beulah to Town Beach, the depth of the Hazard Area drops to less than 150 feet, the depth of the lots decreases and the number of houses located near or within the CEHA increases. The number of shoreline protective structures at the bluff toe or at structural foundations also increases in number until about 500 feet west of Goldin Avenue. At this point, the shoreline curves in and the CEHA meets up with Sound View Avenue and CR 48, between 250 and 300 feet inland. From here on to Town Beach the erosive process is clearly evident. Whatever shoreline

protective structures may have been erected here through the years, have crumbled in the face of wave action. Town Beach and the adjacent roadbed have been known to be completely flooded during severe northeasters. The houses in this area literally cling to their piling foundations. A glance at the tax map shows the degree to which many of these lots have been eroded. Almost all of the seaward portions of the lots are underwater, and in many cases the mean high water mark reaches half the depth of the lots. Nevertheless, the availability of federal flood insurance has resulted in the reconstruction and construction of new residences on some of the most vulnerable lots.

From the east side of Town Beach on towards the first promontory on Hashomomuck Beach, the CEHA line moves within 150 feet of the water's edge. The bluff line reappears here. Most of the homes within this small area lie just behind the CEHA but near the slight promontory, shoreline structures begin to appear at the bluff toes. Midway between Bayberry Way and Albertson Lane, the shoreline curves back nearly all the way to CR 48. Nearly ten houses within this curve lie within the CEHA. The shoreline widens again as it moves eastward until a few hundred feet west of Sound View Inn and Restaurant. Here again, the shoreline and the CEHA line curve in towards CR 48, leaving four or five residences and the restaurant and motel almost wholly within the CEHA.

From this point onward to Rocky Point, the shoreline is considerably less developed. The CEHA line lies mostly between 150 to 220 feet from the water's edge except at Inlet Pond where due to the low elevation of the beach, the line moves landward about 400 feet. Most of the residences in the easternmost portion of Reach 3 lie outside the CEHA, although the landscaped areas and shoreline protective structures frequently lie within it.

The substance and importance of the CEHA are explained in *Section II. I. 2.(v) (b) Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

The comprehensive Inventory and Analysis of Reach 3: Horton Point to Rocky Point, the Town of Southold identified three distinct land use situations within the Reach:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below. Underutilized sites are identified on [Map II-J-3](#). From this analysis the Town of Southold has identified a series of areas of special concern which require greater attention in the LWRP. The location of these special areas of concern are also identified on [Map II-J-3](#).

(i) Areas of existing stable uses

The residential areas along the bluffs of Long Island Sound and local roads throughout Reach 3 have been identified by the Town of Southold as areas of existing stable uses. Change within these areas probably will be limited to infill development.

(ii) Areas subject to development pressure

Much of Reach 3 can be categorized as being subject to development pressure. There are a few approved, but mostly undeveloped subdivisions. The remaining farmland in the western section of Reach 3 and the Islands End Golf and Country Club are currently zoned for residential development. There is concern that this farmland and open space could be converted into residential use, thus altering the character of the Reach. The Islands End Golf and Country Club is of particular concern because there are such a limited number of recreational amenities of this type within the Town of Southold

(iii) Underutilized sites

The Town of Southold has identified five underutilized areas within Reach 3. These include the four existing waterfront recreational facilities: Town Beach, 67 Steps at Sound Drive, Clarks' Beach and Inlet Pond County Park.

The first three sites are owned by the Town. Town Beach has been a focus of the Town's Parks, Beaches and Recreation Committee for several years. A number of landscaping and structural improvements have been made to the facilities on the site in recent years. It's gazebo is handicapped accessible, thereby opening up the use of the beach to a wider audience. 67 Steps has been the focus of immediate neighborhood concern over littering and vandalism. The Town has been working with the community to improve surveillance and maintenance. Clarks' Beach suffers from its location. Access is over a dirt road that runs through property owned by the Village. There are no facilities there, and the remoteness of the site discourages the average person from using this beach. Additionally, the proximity of the outfall pipe for the Village's sewage treatment plant makes this beach less than desirable for swimming or scuba diving.

The last property, Inlet Pond Park, is owned by the County. Two additional parcels were recently purchased by the County to add to the holdings of this park. The Town has taken an active role in working with the County Department of Parks to develop programs in the structures on these parcels. This park is essentially an untapped resource that has enormous potential.

The fifth site is a key portion of a privately owned property that is proposed to be developed as a Retirement Community with an assisted-care facility. Approximately 12 acres of business zoned land surrounds the unique mansion known as Brecknock Hall. The Hall has potential uses which have yet to be explored by the current owners, but which have been studied by the Brecknock Hall Preservation Society. The Society is composed of concerned local residents who recognize the historic and architectural value of the mansion to the Township. The Society's members have expressed a willingness to work with existing or future property owners to obtain funds to convert the mansion into a much need community arts center.

(iv) Areas of Special Concern

The Town of Southold has identified four areas of special concern within Reach 3. These areas typically feature natural or cultural resources that need protecting, provide development or redevelopment opportunities or where existing development could benefit from improvements to revitalize the area. These are examined in more detail below.

Long Island Sound shoreline - Horton Point to Town Beach

The primary three issues of concern here are erosion, protection of the shoreline and management of stormwater runoff from CR 48. The severity of the erosion in Reach 3 follows closely behind that found in Reach 2. Although this Reach has not been studied extensively, the introduction of man-made shoreline structures may be having a detrimental effect downdrift: the same problem which plagues Reach 2 downdrift of the Goldsmith Jetty and the Bittner and Lockman groins.

The seriousness of the erosion situation in Reach 3 is aggravated by a combination of factors: the shallowness of some of the residential lots, the location of Sound View Avenue and CR 48 relative to the shoreline and the natural coastal processes at work in this Reach. Many residences along the Reach are sandwiched between the road and the water. This is particularly noticeable in specific places: such as: on Sound View Avenue just west of Town Beach, on CR 48 just east of Town Beach, on CR 48 just west of its intersection with Albertson Lane, and finally, on CR 48 by the Sound View Motel and to the west. In these aforementioned places, there often is insufficient depth to begin with. Not only is there no place to pull a house back from the beach or bluff edge, but there is no place to relocate the septic system. Sewage treatment is not available in this portion of the Reach. In all cases, unless the roadbed were to be pulled back from the shoreline, the property owners basically have little or no recourse to coastal storm damage. Federal flood insurance policies will result in raised structures as these homes are renovated or rebuilt.

The third issue of concern in this part of the Reach has to do with the direct discharge of stormwater runoff from CR 48 and parts of Sound View Avenue directly into Long Island Sound at Town Beach. The discharge pipe runs right under the main section of the beach and ends within a few yards of the mean high water mark. Coastal storms have exposed this pipe on several occasions. The concern here is with aesthetics as well as water quality immediately after rainstorms. Stormwater drainage from CR 48 further east is also discharged directly to the beach. The County Department of Public Works is trying to eliminate this pipe but a lack of vacant land and a high groundwater table are major obstacles.

• ***Town Beach***

This is a major Town recreational facility. Its size and location require that it be the focus of an ongoing program to enhance its recreational value. The Town has invested a significant portion of its limited resources to develop this beach. As mentioned in the prior paragraph, the Town is greatly concerned about the direct discharge of stormwater that takes place at this beach.

• ***Clarks Beach/Inlet Pond County Park***

There are three issues of concern with regard to these properties: water quality, erosion and habitat protection. The greatest determinant of the water quality at these beaches is the location of the Village of Greenport's Sewage Treatment plant's outfall pipe directly updrift and near shore.

The outfall itself would not be a problem except that the water being disposed does not meet tertiary treatment standards. The Town has no control over the operation or the regulation of the treatment plant, which is under the purview of the Village of Greenport and the State of New York. Both the Town and the County properties are seriously underutilized as beach properties principally for this reason.

The other issues of concern, that of erosion of the bluff and loss of habitat due to illegal dumping and all terrain vehicles traversing the properties, are related primarily to the lack of a coordinated plan for the use and supervision of the parks. While in the past year the Town has initiated a dialogue with the Suffolk County Department of Parks to deal with these issues, they nevertheless remain a concern.

- ***Brecknock Hall***

This unusual mansion represents both a unique period and a prominent family in Southold's history. Its preservation is considered of paramount importance to the local citizenry, some of which have formed the non-profit Brecknock Hall Preservation Society. The Society has funded roof repairs to the structure and the current owners, *Peconic Landing at Southold* have indicated that they will work with the community to preserve the Hall. The Town Board recently changed the commercial zoning around the mansion from limited business to two-acre residential. The State Office of Parks, Recreation and Historic Preservation has notified the Town that the Hall and the supporting buildings on the estate are eligible for listing in the *State and National Historic Register*.

- ***Islands End Golf Club***

The primary concern with this property is the uniqueness of the recreational resource, the need it meets and the fact that the Club does not own the lands on which the course runs over. As mentioned earlier, the course is located on three separate properties, which are held by two separate owners. In order to ensure that the Island's End Golf & Country Club remains in this recreational use, the Town should explore all avenues that would afford protection to this site.

- ***County Route 48 Corridor***

CR 48 presently functions as a bypass to the more congested SR 25, which meanders along the south side of the Town. The road is a four lane divided highway that is intersected primarily by the Town's major north-west roads. Presently there is a very limited amount of commercial and residential development within the Corridor. The issues of concern here are the loss of agricultural land to residential development, intensification of strip commercial development in the business zones on this road, the resultant loss of scenic qualities of the road and a projected increase in traffic congestion.

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 3 that should be examined in the LWRP. Opportunities to tackle these issues have been considered in the Inventory and Analysis and are discussed in *Sections K and V*.

(i) Agricultural protection

With the exception of the former Dickerson Farm on the east side of Young's Avenue and Sepnoski's Farm just west of Rocky Point Road, agriculture within this Reach is on the decline. The lands of the former farm have been protected, but the latter farm is not. Both farms anchor small blocks of farmland which act as edges to their respective hamlets. Those edges should be buttressed by the protection of additional adjoining acreage in order to provide useable blocks of agricultural land. Of the approximately 210 acres of active farmland that remain, less than half (89.5 acres) are protected.

(ii) Harbor management issues

Because of the open nature of this Reach and the lack of sheltered harbors, there are no harbor management issues in Reach 3.

(iii) Public access and recreation

The existing combination of public access and recreational opportunities is sizeable in area but limited in scope. With the exception of Town Beach, much of the public recreational property in this Reach needs improved facilities and management. Given the potential population growth within the Town and the projected trend in increased participation in leisure activities by residents and tourists, the need for more access and opportunities is expected to increase. The existing sites have undeveloped potential which can be enhanced through careful design and construction. However, the quality of these sites will depend on the resolution of water quality issues that are in the control of other agencies: namely the State of New York and the Village of Greenport.

(iv) Protection of habitats and wetlands

Reach 3 features locally important wetlands and habitats. These are concentrated around Inlet Pond County Park and along the Long Island Sound shoreline. Significant protection can be provided to this habitat through careful stewardship and with the cooperation of the Village and the County.

(v) Protection of water quality

As mentioned earlier in this text, the quality of the sewer wastewater discharge near Clarks' Beach is of major concern. Additional concerns have to do with the discharge of stormwater runoff from CR 48 directly onto Town Beach and the potential leakage of septic tank contents into the water from the homes located on undersized lots along the shoreline

(vi) Flooding and erosion

Within Reach 3, flooding is of concern primarily at Town Beach where the low topography and lack of dunes or bluffs permits storm-driven waves to wash over the beach and the adjacent roadbed of CR 48. A Flood Hazard Mitigation Plan could address some of the problems that are caused by flooding and survey potential solutions.

Erosion issues are of concern in a number of places; primarily immediately west of Town Beach, and in the portion of the beginning a few hundred feet west of Sound View Motel and continuing on to the entire frontage of the motel complex.

At Inlet Point, the careless use of all-terrain vehicles has damaged fragile beach and bluff vegetation. The loss of vegetative habitat poses a threat to coastal wildlife. It also accelerates the erosion processes normally at work along a coast.

Where erosion from natural processes is threatening waterfront properties and residences, the Town needs to review its policy of permitting variances to construct or reconstruct on vulnerable undersized lots. At some point, public acquisition of the land may be preferable to continued investment of both private and public monies.

(vii) Protection of Scenic Resources

Reach 3 features a variety of scenic components. It is a mixed landscape which starts with fairly open farm vistas which gives way to one of only two open views of the sound from the road, then changes to low and medium residential development located behind or on the bluffs overlooking the Long Island Sound. The residential development is alternatively open to view or screened by indigenous woodland vegetation for much of the eastern half of the Reach.

The shoreline within Reach 3 features bluffs fronted by beaches. The steep bluffs provide a distinct edge to the landscape. This Reach contains many truly stunning vistas and many of these scenic components can be viewed from local roads and from the public parks along the shoreline. However, littering, illegal dumping and trammeling of the beach vegetation by all-terrain vehicles have exacted a toll on these resources. The County has agreed to fence the western border of this park, thereby protecting it from unauthorized access of the Village property to the west. The Town is working with the County to provide access to one of the two residences in this park to environmental groups for their use. It is hoped that their presence will reduce vandalism and dumping in this park.

REACH 4: ROCKY POINT TO ORIENT POINT

A. INVENTORY AND ANALYSIS

1. Location

Reach 4 runs easterly from Rocky Point to Orient Point, a distance of approximately 8 miles along Long Island Sound. The southern extent of Reach 4 runs along NYS Route 25, with land to the south of this road located in Reach 5. The western boundary of the Reach runs south along Rocky Point Road to SR 25. The eastern boundary of the Reach is the Orient Point County Park. The Reach contains the entire portion of the Orient Point County Park. Plum Island, located to the northeast of Orient Point, is discussed in Reach 5.

There are a number of small inland water bodies in this Reach of which Munn Lake is the largest and the only one that is named.

It is worth noting here that in Reach 4, the land mass of the North Fork takes a more pronounced easterly turn. The effect of this turn and the lack of a protective headland, such as found at Rocky or Horton Point, makes this stretch of shoreline particularly vulnerable to storm-driven wave action from the northeast.

2. Land use and development

The land use pattern within Reach 4 is illustrated on [Map II-5](#) and described below.

Reach 4 is primarily a mix of residential and agricultural land uses. The land area fronting the Long Island Sound is a mix of residential and agricultural uses interspersed with areas of undeveloped shrub and woodland. Unfortunately, the amount of land in agricultural production has been declining in this Reach as new residential lots are created and developed. Agricultural uses in Reach 4 are concentrated to the east of the Orient causeway, but the land is no longer found in consolidated blocks. Many of the farm fields are located between the residential development along NY Route 25 and the waterfront lots on the Sound. Approximately 199 acres of agricultural land remains in this Reach, of which 91 acres (46%) are protected from further development.

The residential development is generally of low and medium density housing. The residences are concentrated around Rocky Point, Terry Point, along Petty's Bight and just west of Orient Point. While a good portion of this development is on lots of larger than one acre, there are a substantial number of lots in the half-acre or smaller range. The smaller lots are typically found along SR 25, along Rocky Point Road and Stars Road, both in East Marion, along Youngs Street (in Orient) and in the Town's second and third easternmost subdivisions in from the Point. These subdivisions predate one acre zoning and their lot sizes range from 12,500 square feet to slightly over an acre.

There are three publicly owned shoreline recreational areas within Reach 4. These are discussed below in *Subsection 5. Existing waterfront access and recreation sites*. There is also a small, grass landing strip, known as Rose's Airfield, located in the far eastern portion of Reach 4 near Petty's Bight.

The land area fronting Long Island Sound is composed predominantly of low bluffs, rising to a peak in the Terry Point/Brown's Hills vicinity to over 70 feet in elevation. The bluffs located at the western end of the Reach from Rocky Point to the west side of Dam Pond range between 57

and 25 feet in height. The bluff line reappears eastward of Truman Beach, near Terry Point, and continue on to Petty's Bight. In this stretch of shoreline, the bluff elevations fluctuate between 25 to 73 feet. In Petty's Bight, the elevation begins to taper off, and the bluffs lose height, eventually flattening out to 5 to 10 feet in height at Orient Point County Park.

It is worth noting that while the usual mix of small seasonal, and larger year-round homes is found in Reach 4, some of the development in certain portions of this Reach are unique to the Town. First, in several places, deep residential lots run from SR 25 north clear to the Sound. Second, most of the roads in Reach 4 are private. As a result, there are almost no connecting roads between subdivisions or residential communities, even those within sight of one another. All traffic must return to SR 25, thereby contributing to its congestion. Third, some of the residential communities, particularly those around Terry Point, Munn Lake and in Brown's Hills, clearly started as large estates that were subdivided into smaller building sites. The roads in these enclaves are very basic, some no more than unpaved driveways. Fourth, the hilly terrain of Terry Point and Brown's Hills has more or less been respected, the end result being that each house enjoys unique tree-top views of the waters of Dam Pond, Orient Harbor and the Long Island Sound. This situation is unlike that found in more recent subdivisions within the Reach where the terrain was bulldozed to maximize density and facilitate wider, paved roads. Fifth, for the most part, the native vegetation was left untouched through the years as residences were built. However, some of the newer homes reflect the growing trend of constructing houses on elevated mounds, stripping the lot of most trees in order to maximize water views, and installing elaborate grassed landscaped areas. These homes stand out in stark contrast to their more landscape-integrated neighbors. While this trend is evident throughout the Town, it is somewhat more obvious in this Reach.

Although much of the waterfront and road frontage in this Reach is developed, there is a considerable amount of developable land left within Reach 4. Close to half of the subdivision lots in this Reach are vacant. There also are large parcels that have yet to be subdivided and unprotected agricultural land. Most of the property available for development can be found west of Dam Pond, and between Terry Point (specifically around Munn Lake) and along Petty's Bight. Some of the most vulnerable properties in this Reach are discussed in *Subsection B. 1. (ii) Areas subject to development pressure*, below.

The most prominent developable properties within Reach 4 include the five adjoining properties owned by Gazza and Lettieri, which make up most of the southwestern shoreline of Dam Pond. The Gazza and Lettieri properties encompass a critical area approximately 20 acres in size on the peninsula that juts into the southern portion of this pond. Subdivision applications had been pending for more than a decade. These properties collectively define the scenic beauty of the Orient Causeway and Dam Pond, and for that reason, they have been high on the Town's list of priority acquisitions since the 1980s. On November 17, 1999, the Town, in partnership with the Peconic Land Trust and Suffolk County purchased these properties.

Adjoining the Gazza and Lettieri properties, to the north and west, are the uplands surrounding the eastern boundary of Dam Pond. This property encompasses over 95 acres of undeveloped, wooded land, with nearly 2,500 linear feet of Sound shorefront and approximately 9,500 feet of pond front. Originally, this property was proposed to be subdivided into a full density residential development of 34 lots, a proposal which had the potential to cause detrimental environmental and scenic impacts on the Dam Pond area. However, the current owner, Witteveen, worked with the Peconic Land Trust to reduce the potential number of lots by more than two-thirds and to establish

easements with the Trust for the remainder of the land. In addition, this same person has purchased an approved, but unbuilt, adjoining subdivision to the west. This subdivision consists of 19.4 acres and has 760 feet of Sound shoreline. The owner is proposing to reduce the number of waterfront lots and to establish easements with the Trust for 13 acres southward of the waterfront lots. If this owner proceeds with these two proposals to completion, more than 71 acres (greater than 62%) of the total of 114 acres will be preserved from further development.

A large county park incorporates most the point itself. Orient Point County Park is discussed in further detail below in *Subsection 5. Existing waterfront access and recreation sites.*

3. Water-dependent/water-enhanced uses and water uses

The water-dependent uses in Reach 4 are limited to waterfront parks, beaches, and fishing access. These include the Orient-East Marion Park District beach and parking lot at Truman's Beach, the adjacent NYSDEC fishing access site, and the Orient Point County Park. The location of these facilities are indicated on *Map II-J-4* located at the end of this chapter. They are discussed in more detail in *Subsection 5. Existing waterfront access and recreation sites.*

Water-enhanced uses within Reach 4 consist primarily of seasonal residences and one horse boarding stable which is open during the summer months. A summer pony club usually operates from this farm.

(i) Recreational boating

There are no marinas or mooring facilities in Reach 4 due to its open, exposed nature and lack of sheltered harbors or inlets. Although limited mooring and anchoring activity in the Long Island Sound has been reported by the Bay Constable, the unprotected nature of this rocky and open shoreline is such that few boats are moored offshore within this Reach. The town does not require mooring permits on the Sound. Boating activity generally consists of cruising, sailing and fishing. There is a small boat launch at the NYSDEC site adjacent to Trumans Beach. Its use is limited to small, lightweight craft around 20 feet in length.

(ii) Commercial fishing

Commercial and recreational fishing take place in the waters of the Long Island Sound. Plum Gut is located between Orient Point and Plum Island in Reaches 4 and 5. The Gut is a naturally deep channel separating Long Island Sound and Gardiners Bay. Large volumes of water pass through here during tidal changes, making for a very turbulent system. It is a popular site for recreation, commercial and charter boat fishing. Trap net and lobster fisheries are also important here. Neither the Town nor the State keeps records on fishing harvests by Reach.

(iii) Commercial and recreational shellfishing

Shellfishing in Reach 4 is principally limited to Dam Pond, which is considered to be a fair to good shellfish area. It is harvested by both commercial and recreational shellfishers.

(iv) Aquaculture

There are no aquaculture operations within this Reach. However, there are fingerling grow-out facilities on the southeastern edge of Plum Gut. These facilities are discussed in Reach 5, where the pens are located. The harvested fish are processed for shipping in facilities located within the Village of Greenport, which is outside the scope of this inventory.

(v) Navigation and dredging

With the exception of the nearshore areas, the Long Island Sound in Reach 4 is open water. Even more than in Reach 3, water depths here increase sharply as one moves from the beach seaward. There are many large submerged rocks in the nearshore, remnants of the glacial formation of Long Island. The marine chart notes rocks, shoals and underwater obstructions. Boating in this Reach, as with Reach 3, demands careful reading of the charts and the waters. There is one buoy marking the Orient Shoal just off of Truman Beach. The Orient Point Lighthouse marks the point and the channel to Plum Gut with lights and a fog horn. The Lighthouse is discussed in further detail in *Subsection 9. Historic resources*, below.

4. Existing Zoning

The land area in Reach 4 is zoned almost completely for low density residential development (see *Map II-6*). The predominant classifications are R-80 and R-40. All agricultural lands in this Reach are zoned R-80. In Orient there is one lot with a multi-family residence on it that is zoned Hamlet Density.

There is almost no commercial zoning within this Reach. In East Marion, there is no business district to speak of. Although there are three properties zoned Hamlet Business, the grand total acreage of these lots is only 1.637 acres. Two of the three properties (a war memorial and the East Marion Volunteer Fire Department station) are essentially in quasi-public ownership. The third lot is only .75 acre in area, and it contains a structure that has been used as a coffee shop.

In Orient, there is one small parcel on SR 25, opposite Platt Road, which is zoned General Business (B). Approximately half an acre in area, it has long been occupied by a gas station and a fuel oil business.

While there are no marinas or maritime uses within Reach 4, there is one small area of M-II zoning at the foot of Lands End Lane near Orient Point. This 1.7-acre parcel was formerly used as a privately-run rental boat business, with a small ramp and bait shop. This use was abandoned in the 1970s for a variety of reasons, most having to do with the unsuitability of the site for a marina. Although the zone remains, the site lacks shelter from wind and wave action. Erosion has obliterated most traces of the boat ramp on the beach. In recent years, a large residence was constructed on the property.

There are very few non-conforming uses known to exist within Reach 4. One site, on Rocky Point Road, was previously zoned Light Industrial, but is now zoned R-80. It contains industrial/storage structures, which appear to be in use, although the nature of the use is not known. Previously the site was used for fuel storage and a commercial laundry.

5. Existing waterfront access and recreation sites

There are a number of public access sites along the Long Island Sound shoreline in Reach 4. The location of these are indicated on *Map II-11* and the facilities available at these sites are discussed below.

New York State

- *Oysterponds Waterway Access Site and Boat Launching Ramp*
This site is a 1.8-acre parcel with 276 feet of shoreline. It is a very popular and locally important surfcasting site. There is ample paved parking (24 car with trailer spaces and 6

car only spaces) and an interpretive sign which lists the latest State regulations on minimum size requirements for fish taken in the surrounding waters. However, the launching ramp is suitable only for lightweight craft in the 20 foot range and only during high tides. No sanitary facilities are provided here. Located west of Petty's Bight, the open nature of this beach provides sweeping vistas of the shoreline westward to Rocky Point and eastward to Terry Point.

Suffolk County

- ***Orient Point County Park***

This park encompasses the extreme eastern end of the Town, comprising 48.6 acres of shrub and beach lands. It offers a degree of shoreline access that is unparalleled within the Town: 4,893 feet of frontage facing Long Island Sound, Plum Gut and Gardiners Bay. Excellent views of Plum Island, Gardiner's Island and the South Fork are available from this park, not to mention Connecticut.

This park provides an unpaved and overgrown area for approximately 20 cars located near SR 25. An unmarked and sporadically-maintained trail meanders to the beach on both sides of the point. The rocky, pebble beach provides excellent opportunities for fishing, hiking and nature watching. However, there are no restrooms or interpretive facilities at this park. Swimming is not encouraged as the shoreline is steep and unguarded.

There are two out-parcels within this park. One is a residence, the sole developed lot of a subdivision plat on the south side of the Point, and a reminder of how close the Town came to losing the Point to residential development. The other parcel is less than a quarter of an acre in size and is located directly behind the point itself. Owned by the federal government, it hosts a cable shed and sign marking an underground cable which provides service to the government labs on Plum Island. (Plum Island is discussed in Reach 5.)

Although this park is owned by the County, it is the site of habitat restoration project that was obtained by Southold Town through the Long Island Sound Study. The \$325,000 grant is enabling the restoration of warm season grass habitats within the park. The restoration process encompassed 30 acres of open marsh and was completed in 2001.

Town of Southold

- ***Dam Pond***

The Pond is not a true pond, but rather a narrow-necked inlet off Orient Harbor, to the south, in Reach 5. The Pond encompasses 56.7 acres of underwater land, all of it surrounded by private property. The Town owns 42.2 acres of the Pond's underwater land in the western part, by the inlet entrance. The eastern underwater holdings are privately owned. The private holdings consist of five parcels containing a total of about 14.5 acres. Most of the uplands surrounding the pond are in private ownership except for 35.3 acres purchased by the Town and the County. However, most of the pond can be viewed from SR 25 and the shoulder of SR 25.

- ***Rocky Point Road end***

As detailed in *Reach 3, Subsection 9. Historic resources*, the life-saving station located on the west side of this road has been converted to a residence. The public's access to the beach from this road end has been restricted by the placement of a guard rail and six-foot

high chain link fencing across the width of the road. Although the fencing is torn, the overgrown nature of the site indicates that few people are accessing the beach here. The paving extends to the edge of a low bluff, which probably was altered to facilitate access by the lifeboat crews during the 1800s. Parking is permitted by Town permit. Although there are no designated parking spots, it is estimated that approximately 10 cars could be parked within the road end. Steps or tiered landings would be needed to facilitate access to the beach. As of 1999, the Town was proceeding with plans to install drainage and a staircase down the face of the bluff to the beach at the end of this road.

- *Youngs Street road end*
This road end ends abruptly on the seaward side of the bluff face. There is a guard rail that prevents cars but not people from traversing onto the beach. There are no facilities at this site, and parking is permitted by Town permit only.
- *Ryder Landing*
Originally designated as a road access for the Ryder Farm subdivision, this unpaved property was recently sold by the Town to an adjoining property owner. This property has been merged with the adjoining site and will not result in the construction of another waterfront residence. The residents of the subdivision supported this action because they retain access to the water over a private beach 1,625 feet further to the east. There was immediate community opposition to developing Ryder Landing as a separate public beach.
- *Lands End Road road end*
This road end provides 100 feet of shoreline access. The road itself services only the beach, and as such, is unnecessarily wide, reflecting a time in the not-too-distant past when the Town's Highway Regulations required new residential subdivision streets to be 35 feet in width. Parking is by Town permit only, and no facilities are provided here. This part of the shoreline has experienced erosion within the last ten years. Aerial photographs from 1993 reveal a paved parking area about 100' wide by 60' deep, perched on the edge of the bluff. Today, less than 30 feet of that parking lot is left. As a result, the guard rail was moved back from the shoreline to the end of the roadway (where the 35' roadbed meets the parking lot).

Orient - East Marion Park District*

- *Trumans Beach, Main Road, East Marion*
This 9-acre site is located on the north side of SR 25, abutting the east-side of the State property mentioned earlier. Formerly leased to the Orient-East Marion Park District by the Stephenson's Beach, Inc., this property was purchased in December of 1988 with 1986 *Environmental Quality Bond Act* monies. It contains nearly 1,100 feet of pebble beach and some wetlands behind the beach. The District provides a picnic area adjacent to the beach, which is a very popular surf-casting site. This site has the parking capacity for about 50 cars. The beach is open only to Orient and East Marion residents with permits. Portable toilets are placed on the site during peak use during the summer months.

Aside from the parking lot, the remainder of the site is undeveloped. The easternmost portion of the property along the water's edge and adjacent to SR 25 (between the present roadbed and the abandoned road bed) provides wetland habitat and breeding area for piping plover, least and common terns, osprey, clapper rail, egret, teal, and black duck, among

other species. The district owns additional property on the south side of SR 25. These holdings are discussed in Reach 5.

*An in depth discussion of the territorial jurisdiction and operations of park districts within the Town can be found in Section II. D Public Access and Recreation.

6. Inland recreation facilities

Zimmer's farm runs a summer pony club and horse boarding stable. Also, Charlie Rose's airfield provides a gently sloping mowed grass field for small planes. There are no other commercial inland recreational facilities within this Reach.

However, there are 22.9 acres of school district properties within this Reach, some of which are used for recreation. The East Marion School District, which was absorbed into the Oysterponds School District, still owns 10.3 acres of property on SR 25, midway between Stars Road and Kayleigh's Court. A tennis court and small mowed field are serviced by a substantial, but unpaved parking area, which abuts SR 25. In Orient, the Oysterponds Elementary School has a small playground and playing fields. Currently, the Town is working with the combined East Marion-Orient school districts to finance and construct expanded recreational facilities in memory of the recently deceased School Superintendent.

7. New opportunities for public access and recreation provision

There are relatively few public roads within this Reach. Almost none offer public access to the waterfront. Most of the subdivisions provide access to the shoreline for their residents via private walkways to the beach. Due to the degree and pattern of existing residential development within this Reach, it is not practical to expect that additional public access to the water can be obtained unless Munn Lake and other properties were to be acquired. The few remaining properties that run from SR 25 to the water may have greater value as agricultural land than as additional public access.

Existing public access to Dam Pond is extensive and well used. The recent public acquisition of an additional 35.3 acres of land on the west side will improve the level of access. In the *Community Preservation Program Plan* the town has targeted the properties on the eastern shore of Dam Pond and on the barrier beach between the Pond and the Long Island Sound, as well as properties within Petty's Blight.

The establishment of additional boat launching sites in Reach 4 is of dubious value due to the exposed nature of the rocky shoreline and the turbulence of the waters. But fishing and public access to the water at Orient Point County Park could be improved with the introduction of more facilities and parking.

8. Natural resources

Reach 4 contains significant coastal natural resources. The largest grouping of these resources is concentrated around the Orient Causeway and at Orient Point.

(i) Wetlands

The most significant of the wetlands in this Reach lies between Dam Pond and Truman Beach north of SR 25. This stretch of road within the Reach is referred to locally as "the Orient Causeway" due to its narrow configuration as it snakes between bountiful wetlands and marshes to

the north and south. The bulk of the wetlands are found around Dam Pond, which is owned by the Town and five private owners. The Town-owned portion of the pond encompasses 42.2 acres of underwater land. The wetlands in Reach 4 include the littoral zone and mudflats in Dam Pond, and the adjacent intertidal and high marsh areas. The northern end of Dam Pond is bordered by a pebbly barrier beach, which protects it from Long Island Sound; the remainder is fringed by intertidal marsh vegetation which is dominated by Smooth Cordgrass (*Spartina alterniflora*).

Further east, where SR 25 curves closer to the shoreline at Truman Beach, lies the second largest grouping of wetlands in this Reach. The wetland system on the north side of SR 25 within Reach 4 is part of a larger ecosystem that extends to the south side of SR 25 into Reach 5. These wetlands are owned by the Orient-East Marion Park District. Their holdings in this Reach are estimated to be about 10 acres. Limited pockets of high marsh occur adjacent to the intertidal marsh and border the Orient Causeway.

Munn Pond is bordered almost entirely by woods, except for the side facing towards Long Island Sound. Munn Pond is estimated to be approximately 3.5 acres in area. Situated behind a barrier beach about 150 to 200 feet deep, not unlike that found at Inlet Pond in Reach 3 and Dam Pond in Reach 4, and surrounded by private property, the lake is not visible from a public road. Since it is not accessible to the public, little is known about it.

The Nature Conservancy owns 16 acres of land on the west side of the Grand View Estates subdivision. This property is low-lying land, which contains wetlands. The land was given to the Conservancy as part of a limited development of this former farm into four waterfront lots.

All the other wetlands within this Reach are on private property and not easily assessable, hence little is known about them. From aerial photographs, most appear to be bordered by woody vegetation except on farmed lots where some remnants of wetland vegetation still exist. Within the subdivision of Grandview Estates, there is no buffer between the landscaping of a residence and the wetland that bears the dual designation of drainage area and park. This subdivision does not meet today's environmental requirements, which prohibit the use of natural wetland for the purpose of stormwater runoff disposal.

(ii) Significant Coastal Fish and Wildlife Habitats

There are two designated Significant Coastal Fish and Wildlife Habitats (SCFWH) in Reach 4. These are the Dam Pond component of the Orient Harbor SCFWH and the Plum Gut SCFWH. Their location is illustrated on [Map II-14](#) Significant Coastal Fish and Wildlife Habitats, Ecological Complexes and Critical Natural Resource Areas. Since both of these SCFWHs are predominantly located in Reach 5, the detailed discussion of the main features of these important habitats is contained in *Section V. Subsection 8(ii)*.

(iii) Water quality

There are two state-designated surface water quality classifications in Reach 4. Long Island Sound is designated as high quality SA waters, as is Dam Pond. Munn Pond, however, is designated SD waters.

Eastern Long Island Sound and Dam Pond are certified for shellfishing. Plum Gut also is certified for shellfishing, although there is a localized uncertified area southwest of Plum Island, between the Plum Island Lighthouse, the U.S. Coast Guard "MS" buoy and the southern tip of Plum Island.

The area is uncertified because of the outfall pipe from the U.S. Department of Agriculture facility on Plum Island.

A major source of water pollution within Reach 4 is direct discharge of stormwater runoff from the State highway onto Dam Pond and surrounding wetlands. In some portions of the Reach, particularly east of the Causeway, farm fields drain southward, often flooding SR 25 during heavy rains. This problem is discussed in greater detail in Reach 5, where most of this water is discharged.

9. Historic resources

Reach 4 contains a wealth of historic resources. Approximately 80 structures and sites within the Reach are designated in the Society for the Preservation of Long Island Antiquities inventory.

(i) State and National Registers of Historic Places

There is one property listed on the *State and National Registers of Historic Places* within Reach 4.

• Terry-Mulford House

The Terry Mulford House was listed on the *National Register of Historic Places* in July 1984. Situated on a six-acre, mostly wooded plot, this house was built sometime in the late seventeenth century. Closely linked with the earliest settlement of the hamlet of Orient, the property is still bounded by open space, surrounded by farmland, woodland and wetlands. The house is in private ownership.

The principal structure on the property is a two and a half story shingled New England saltbox dating back to the late 17th century. A rear lean-to is estimated to be circa –1700. A side wing was added in the early 1800s. This wing was altered when a third wing was added in the early 1900s. The facade of the structure is distinguished by a gabled-roofed entrance vestibule with a multi-light transom and double wooden doors. The interior of the saltbox has undergone many alterations since its construction, although many historic features remain.

The Terry Mulford House is architecturally significant as one of the few surviving examples of an early settlement period house on Long Island. It is historically significant for its long and continuing association with the history and development of Orient. It is believed to be the only remaining house of the original seven built in the hamlet of Orient and the oldest house in Orient outside of the Orient Historic District, which is located in Reach 5. The structure exhibits several characteristic features of first period construction on Long Island, including exposed and chamfered framing, central chimney plan, and the addition of a rear lean-to. With its various additions, the house reflects the traditional colonial vernacular practice of adding wings to the original structure as the family grew and prospered. The wings, containing relatively intact circa 1900 interiors, enhance the architectural significance of the structure and illustrate the long continuum of the property's history.

(ii) Local Historic Resources

As mentioned earlier, more than 80 structures, mostly residences, within this Reach are of local historic significance. Two distinct communities are found here: East Marion and Oysterponds. In East Marion, twenty one residences on the north side of SR 25 between Rocky Point Road and Dam Pond are noted in the SPLIA inventory. These residences range in construction dates from 1757 to 1949, with most being built during the first half of the 1800s. The East Marion Post Office

was built in 1949, and it holds the distinction of being the only U.S. post office specifically designed to be a war memorial. It honors East Marion veterans of World War II and subsequent wars.

The Causeway and its original seawall are listed in the SPLIA inventory. Built in 1898, the road and wall established a second territorial link to Oysterponds. Prior to that time, the sand and gravel barrier beach (Truman's Beach) north of Dam Pond was the territorial route from East Marion to Oysterponds.

From the east side of Dam Pond to Orient Point another 56 historic structures are noted in the inventory. The dates of construction range from 1665 through 1915. Some of the homes have remained in the same family since the time they were built.

Another locally significant site in Reach 4 is the Brown's Hill Burying Ground. Located within the residences on Brown's Hill, this cemetery is an early seventeenth century site where the first English settlers of the Orient area were buried. The Brown's Hill area is also distinctive for its collection of portions of historic homes that were moved here by preservation minded people who salvaged and restored them. The Terry Hill area contains many architecturally interesting summer homes that were built during the period of 1900 – 1920.

Reach 4 contains a well-known nautical landmark. The Orient Point Light, visible for 17 miles and known as the "Coffee Pot," was built in 1899. It marks the western end of Plum Gut and it stands at one end of Oyster Pond Reef, a group of rocks submerged under some 10 feet of water, which extends nearly one third of the way across the Gut. The lighthouse's historical integrity is virtually intact: thus it is considered a comparatively unaltered example of late 19th century American lighthouse technology. Yet, in 1970, the "Coffee Pot" was slated for demolition by the Coast Guard. The light had been automated in 1966. But, the exposed location had damaged the structure to the point where it listed 5 degrees. Local opposition to the demolition led to its restoration: a fact that was stressed by one author as being evidence of "The place of the lighthouse in the region's historical awareness..." (Source: Harlan Hamilton. *Lights and Legends*. 1987)

10. Archaeological resources

There are a number of archaeological sites throughout Reach 4, particularly around the freshwater marshes and wetlands. Many of these sites were documented by Latham and others. These are noted in the SPLIA inventory. [Map II-17 Archeological and Historical Resources](#) reveals how extensive this resource is.

11. Scenic resources

Reach 4 presents the traveler with a varied landscape: a mix of low and medium residential development that is occasionally interspersed by agricultural uses, and undeveloped woodland. Most seasonal residential development is concentrated along and behind the bluffs of the Long Island Sound. The visual impact of much of this residential development is lessened by extensive tree coverage, particularly behind the bluffs.

As mentioned earlier, many of the older historical residences in Reach 4 can be found along SR 25, a reflection of SR 25's historic, colonial beginnings as *The Kings Highway*. Unfortunately, there are few vistas of agricultural land left in this Reach, most having been blocked by residences, barns and new subdivision roads.

The shoreline features low bluffs fronted by the pebble and rock beaches typical of eastern Long Island Sound. While the bluffs provide a distinct edge to the landscape, they are not as dramatic as those of Reaches 1, 2 and 3 to the west. The bluffs contrast dramatically with the low beach shoreline at Trumans Beach.

Reach 4 contains two of the signature vistas of Southold Town: the Orient Causeway and Orient Point. It shares these attributes with Reach 5. (Additional description of Scenic resources can be found in *Subsection 11. of Section J, Reach 5.*)

Along the Causeway, Dam Pond and Trumans Beach are perhaps the most important scenic components of this Reach as seen by the public. On entering the Orient Causeway, the westbound traveler is treated to one of the most stunning views available from a State highway anywhere. The vista to the north is of Dam Pond, its wetlands and marshes, the unspoiled woodland bordering it and in the distance, the barrier beach protecting it from Long Island Sound. The view to the south lies in Reach 5, thus is discussed in that section. For reasons noted above, the entire roadway of SR 25 within Reach 4 is a focus of the Town’s Scenic Byways Corridor Management Plan. It also is designated as a Town Sea View Trail. Trumans Beach also offers excellent scenic views of Long Island Sound, clear across to Connecticut.

Orient Point County Park features a long nature walk leading through old-field, successional growth. The park offers close-up views of the Orient Point Lighthouse, Plum Gut, and Plum Island. On a clear day, views can be had across Long Island Sound and Gardiners Bay, towards Connecticut, Rhode Island, Gardiners Island, and the South Fork out to Montauk Point.

12. Protected resources

Table 4.1 below lists protected lands within Reach 4. A total of 37 parcels encompassing 364.98 acres are considered protected from development. *Map II-4* shows their location.

Table 4.1 Protected Lands within Reach 4

Type of Owner	Acreage	# of Parcels
Park District	9.03	1
Churches, Cemeteries	1.69	1
County Owned	53.17	6
Peconic Land Trust	85.69	2
Subdivision Park	0	
Schools	12.84	1
County Development Rights	55.69	3
State Owned	6.58	4
Subdivision Open Space	10.09	1
Town Development Rights	50.6	2
Nature Conservancy	16.34	1
Town Owned*	41.89	12

Type of Owner	Acreage	# of Parcels
Museums	0	
Village Owned	0	
Water Utilities	<u>21.37</u>	<u>3</u>
TOTALS	364.98	37

* includes Dam Pond properties

Source: Town of Southold Geographic Information System, August 2002

There is a fair amount of protected open space within Reach 4. Protected agricultural acreage totals 92 acres, 46 percent of the total acreage still in agricultural production. Privately held open space (parks and drainage areas), including that owned by The Nature Conservancy, homeowner associations and private conservators, is estimated to be between 27 and 30 acres. The SCWA owns about 20.2 acres, which are used for community water supplies, but this acreage is not included in the tally of protected land because part of the acreage is leased to a neighboring restaurant for a parking field.

The total shoreline that is accessible to the public is estimated to be more than 6,419 feet, by far the most of any Reach within the Town.

The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold Town. It targets all A-C zoned lands larger than 10 acres in size. Most all of this land (more than 100 acres) is in agricultural production. Additional details are provided in *Section II. B. Planning Framework, 8. Open Space Preservation Plan: 1989, 1998.*

Within Reach 4, the Plan targets the remaining agricultural lands east of the Orient Causeway. It also targets all potentially buildable property around Dam Pond. Further, at Terry Point, the Munn Pond property also is recommended for acquisition.

13. Development constraints

There are a number of development constraints within Reach 4.

(i) Public services and facilities

Historically, public water has not been available within Reach 4. Most individual properties have their own on-site water supplies through private wells. Due to the high groundwater table and the shallow depth to groundwater, salt water intrusion is an ongoing concern particularly for low-lying and shorefront lots in this Reach. The hydrogeology in this Reach precludes extensive underground fresh-water supplies. Well depth, location and water quality are factors under the jurisdiction of the Suffolk County Department of Health Services. The SCDHS's policies regarding individual wells within Southold Town is explained and analyzed elsewhere in this document, specifically in *Section C. Land Use and Development, 2. Public services and facilities* and in *Section E. Natural Resources, 10. Groundwater resources.*

There is only one community well in Reach 4. Located in Brown's Hills, it services 25 mostly seasonal homes. This well was installed under orders from the Suffolk County Department of

Health Services in response to poor water quality. Through an agreement with the SCDHA, the Suffolk County Water Authority contracts with a company to maintain under-the-sink Reverse Osmosis units. The SCWA maintains the well and distribution system as well as testing water on a quarterly basis (Source: Steve Jones, CEO, Suffolk County Water Authority, August 01, 2002)

Since its acquisition of the Greenport Village Water Company, the Suffolk County Water Authority has explored the possibility of providing water within this Reach. A well site was purchased just east of Rocky Point Road, at the western edge of the Reach. However, the shallow water table within this Reach and the low residential density has led the SCWA to abandon any major plans either to establish new wellfields.

There are no public wastewater treatment facilities within Reach 4. Individual properties have their own on-site wastewater treatment systems consisting of cesspools and leaching tanks. Due to the age of much of the residential development within the Reach, the cesspools of waterfront lots may be located close to either the shoreline or the groundwater table (maybe both). This situation presents a potentially significant source of pollution to the surface and ground waters of Reach 4.

(ii) Flooding

The potential for flooding in Reach 4 is high in the vicinity of Dam Pond and Truman Beach mostly due to the low elevation of the beach, the lack of a bluff and its location within the center of the embayment between Rocky Point and Terry Point. It is not uncommon for SR 25 in this part of the Orient Causeway to be flooded during heavy rainstorms. During sustained storms such as northeasters, high or wind-driven tides have been known to make the Causeway impassable (except to amphibious vehicles) for several hours. Although a concrete seawall dating from the early 1900s still protects the old road bed to the north, its value is compromised due to two breaks in the wall at the entrances to the Oysterponds Fishing Ramp and the Orient-East Marion Park District beach. There is one residence that was built on the beach near the Old Main Road that is regularly surrounded by flood waters during severe storms.

Flood areas are indicated on Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms acts as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make development of some low-lying properties more attractive by requiring the first floor of new construction to be raised to a height that is one foot higher than the base flood elevation of the site. As seasonal cottages are winterized and expanded into year-round dwellings, they also are raised on stilts or mounded earth; however, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems for emergency services personnel in the near future, particularly as the year-round population increases.

The Town needs to develop a Flood Hazard Mitigation Plan to inventory potential troublespots and solutions.

(iii) Erosion

Beaches backed by bluffs are the dominant coastal landforms in Reach 4. The steepest bluffs extend east from Rocky Point. This very rocky area has been fairly stable in recent years. Gradually, the bluffs give way to a low barrier formation in a smooth embayment that includes Truman Beach. From Terry Point to Mulford Point, the shoreline is rocky and backed by a steep,

wooded, but slightly lower bluff line. From Mulford Point east to Orient Point, along the embayment known as Pettys Bight, the bluff line becomes shallower, steeper and lower. Here, the terrain behind the bluff face is typically flat and bordered by a relatively thin edge of vegetation, reflecting the fairly recent use of much of this land in farming. The visual effect from the shoreline is not unlike that of a plateau. As mentioned in the very beginning of this section, the northeast angle of the North Fork takes a more easterly bend in Reach 4. The predominate drift of water current in this Reach is from west to east, but waves from large storms often come from the northeast and move sand from east to west.

Reach 4: Inventory of Coastal Landforms

Beach:

Location There is a continuous beach spanning the coastline of Reach 4. At Dam Pond, the beach is actually a barrier beach, behind which are tidal wetlands.

Width 0-75 feet; the widest beach is located at the tip of Orient Point. The narrowest segment is located off the Orient Causeway.

Composition Mostly sand and gravel.

Bluffs:

Location A continuous bluff exists to the west of Dam Pond in East Marion. In addition, a bluff two miles long is located between Youngs Street and Ryder Farm Lane in Orient.

Height 10-100 feet. The highest bluffs in this Reach lie within a two mile stretch known as Brown Hill between Terry and Mulford points, located directly north of the Village of Orient.

Tidal Wetlands: Small areas of saltwater tidal marsh border Dam Pond and the Orient Causeway behind Truman Beach.

Annual Shoreline Erosion(e)

Accretion Rate(a):

1 foot(e)

0.4 ft.(a)

Town of Southold, 1989

Much of the shoreline in Reach 4 is unprotected. However, in recent years, some property owners have been granted variances to place swimming pools near the edge of the bluff. To protect these investments, shoreline protection bulkheads have been installed at the bluff toe or on the beach. This practice of allowing swimming pools near the bluff should not be encouraged. Details of coastal protection structures within Reach 4 are outlined below.

Reach 4: Inventory of Erosion and Protection Structures

Total Waterfront Length	54,800 l.f.
Total Bulkheaded	6.56%

Coastline

Length	40,800 l.f.
Bulkheaded	8.8%
Stone groins	14
Wood/metal groins	0
Jetties	0

Creeks, Inlets

Length	14,000 l.f.
Dam Pond	None

Town of Southold, 1989

Most of the residences within Reach 4 lie on or behind the Coastal Erosion Hazard Area line. Barring major shifts in federal flood insurance policy, new construction will continue to take place on the waterfront. On the other hand, the increasing cost of storm-related insurance claims has caused many private insurance companies to discontinue offering new policies within the coastal zone of Long Island. The remaining companies are charging a premium for their policies. It remains to be seen if the difficulty or expense of obtaining insurance will pose any barrier to continued development of the waterfront.

After walking the shoreline and comparing the 1993 aerials with the 1988 aerials, it is evident that the Petty's Bight shoreline has experienced severe erosion. Although no erosion problems were reported for 30 to 40 years, the five major storms in the 1990s had an impact which is still evident today. For example, as mentioned earlier, aerial photographs from 1988 show a paved parking area about 100' wide by 60' deep perched on the edge of the bluff at the terminus of Lands End Road. Today there is less than 30 feet of parking lot left. The guard rail was moved back from the shoreline to the end of the roadway (where the 35' roadbed meets the parking lot.) Cars can no longer park in the lot. The edge of the parking lot is crumbling and gullies mark the rush of stormwater from the road onto the beach. The two drains at the foot of the road no longer function.

Aerial photographs also provide dramatic documentation of the degree to which the shape of Orient Point itself changes as a result of storm wave action. This part of the Reach is particularly dynamic and should be respected.

Finally, the Coastal Erosion Hazard Area within Reach 4 runs roughly parallel to the shoreline within 100 to 300 feet of the water's edge, with the major exceptions of Dam Pond and Munn Pond, where the CEHA moves landward behind the barrier beach. At Trumans Beach, the CEHA for Reach 4 and the CEHA for Reach 5 merge at SR 25. Most residences within Reach 4 are well landward of the CEHA with the exception of Aquaview Drive where a number of residences and other structures on or at the bottom of the bluff face lie within the CEHA.

The substance and importance of CEHA are explained in *Section II.I.2.(v)(b) Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 4: Rocky Point to Orient Point, the Town of Southold has identified three distinct land use situations within the Reach:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below. Underutilized sites are identified on [Map II-J-4](#). From this analysis the Town of Southold has identified a series of areas of special concern which require greater attention in the LWRP. The location of these areas of special concern are also identified on [Map II-J-4](#).

(i) Areas of existing stable uses

The residential areas along the bluffs of Long Island Sound and local roads throughout Reach 4 have been identified by the Town of Southold as being existing stable uses. Change within these areas probably will be limited to infill development of vacant lots within approved subdivisions and expansion of smaller seasonal structures into larger, year-round dwellings. There is potential for a considerable growth in population within Orient due to the large number of vacant subdivision lots.

(ii) Areas subject to development pressure

Much of the remaining unprotected land within Reach 4 can be categorized as subject to development pressure. There are several larger properties that have yet to be subdivided, principally the agricultural lands throughout Reach 4 and the undeveloped lands on the west side of Dam Pond. Because of its great scenic beauty, Dam Pond is thought to be particularly vulnerable to development pressure. The most prominent developable properties within the Dam Pond, include the five adjoining properties owned by Gazza and Lettieri, which makes up most of the southwestern shoreline of Dam Pond. The Gazza and Lettieri properties encompass a critical area approximately 20 acres in size on the peninsula that juts into the southern portion of this pond. These properties were acquired by the Town in partnership with the Peconic Land Trust and Suffolk County on November 17, 1999.

Adjoining the Gazza and Lettieri properties to the north and west lie other property worthy of public acquisition. These properties include more than 114 acres of land, with 3,250 linear feet of Sound shorefront and approximately 9,500 feet of pond front. The present owner is working with the Peconic Land Trust to greatly reduce the potential number of residential lots by placing easements on more than 62% of the land. In the event this proposal does not become reality, the Town included these parcels on its list of properties that may be acquired under the *Community Preservation Project Plan*.

The third site of concern is the 21- acre parcel that runs from SR 25 to the Sound, just east of Terry Point. This parcel encompasses most of Munn Lake, a largely untouched lake containing about 3.5

acres of underwater land. Situated behind a barrier beach with a width of about 150 to 200 feet, Munn Lake or Pond is almost entirely wooded around its shoreline.

(iii) Underutilized sites

The Town of Southold has identified six underutilized areas within Reach 4: the two parks at Trumans Beach, the Orient Point County Park and the East Marion School District property. A review of the use and provision of the parking and other facilities at these sites might result in more effective use of these properties.

(iv) Areas of Special Concern

The Town of Southold has identified four areas of special concern within Reach 4 where natural or cultural resources need protecting, where development or redevelopment opportunities should be seized, or where existing development could benefit from improvements to revitalize the area. These are examined in more detail below.

- ***Long Island Sound shoreline - Trumans Beach***

Erosion of the shoreline and flooding is of concern within this Reach, particularly along Trumans Beach. The beach parallels the Causeway. Although the Causeway is protected by seawalls and rip rap, the barrier beach plays a role as well. Prior to the construction of the Causeway in 1898, historical records show that this beach was breached at least eight times within 200 years during northeasters and hurricanes, each time cutting Orient off from the rest of the island.

- ***Long Island Sound shoreline - Pettys Bight***

Bluff and beach erosion is of concern in this stretch of the Reach principally because of its potential to impact existing residences near the edge of the bluff. If the lessons of Reach 1 and 2 are valid, the introduction of more shoreline protection structures may aggravate the problem instead of improving it. The Town should not grant variances to permit construction of any structures whether they be residences or pools within 100 feet of the bluff edge.

- ***Dam Pond and adjoining upland***

The habitat and scenic beauty of this Pond may still be threatened by pending residential development proposals. The view of Dam Pond from SR 25 is one of the Town's signature vistas. The acquisition of certain key properties has been a Town priority since the late 1980s.

- ***Trumans Beach***

This embayment behind the Orient Shoals is the site of two public access points, both of which were described in detail earlier in *Subsection 5. Existing waterfront access and recreation sites*. Both public access areas would benefit from improved facilities (such as interpretive material, sanitary facilities and park furniture) and better maintenance (both parking areas are excessively paved, lack drainage, and are devoid of buffering landscaping).

- ***Orient Point County Park***
Situated in a prime location at the eastern gateway to Southold Town for travelers arriving by ferry, this park offers magnificent views, but lacks the most rudimentary park facilities. It is underutilized by dint of its lack of facilities and basic trail maintenance.
- ***NY Route 25 Corridor***
Within Reach 4, this road is the only east-west highway. It is the sole source of access to and from the Reach. It serves as a lifeline today, as it did in the colonial era. Almost the entire stretch of this road within this Reach is historic. There are three issues of concern in this corridor: loss of scenic character and beauty, speeding and traffic congestion.

The scenic vistas from this road used to be expansive as well as varied. Much of this road within this Reach has been examined for inclusion in the Scenic Byways Program. However, there has been a slow, but steady loss of scenic resources within this Reach. First, as farms were abandoned, they became old fields or residential developments. The open vista from SR 25 has slowly shifting from a mostly open into a mostly wooded and residential landscape. Except where farm fields met the roadbed, much of SR 25 in Reach 4 used to have canopied tree cover over it. Almost all of this tree canopy has been lost in recent years as a result of severe tree trimming by the utility companies (LILCO and LIPA) and resurfacing of the roadbed by the State Department of Transportation. In an effort to reduce storm damage to overhead wires, nearly every branch within a few feet of a wire or pole has been removed. LILCO's replacement company, LIPA, has retained much of the same personnel, which continues to advocate removal of trees near overhead lines. The Town has taken the initiative in redressing this situation by requesting cooperation from both the State Department of Transportation and LIPA. A pilot program of replanting trees was undertaken in Orient and East Marion during 2001. It is hoped that this will become a permanent program of replanting trees throughout the SR 25 corridor.

Resurfacing of SR 25 took place during the early 1990s in response to complaints by residents of the noise from traffic on SR 25. At that time, SR 25 was a concrete slab road. The road bed featured coarse concrete embedded with shells and pebbles from local beaches. The resurfacing project not only covered the concrete with asphalt, it widened the travel lanes from 10 feet to 12 or 14 feet. In some places, shoulders were either introduced or widened, thus necessitating the removal of several trees.

Finally, the Orient Causeway, one of the State's most stunning scenic highways has become increasingly cluttered with telephone poles. At first, poles were located on one side of the road, then on both sides. Today, the vista of the Causeway, with its sweep of water and marsh habitat, is marred by the poles and the many thick, black wires hanging from them.

With each successive road "improvement" such as resurfacing the concrete with asphalt and widening the travel lanes and removing trees to add shoulder lanes, the speed at which vehicles could safely travel increased. Residents in the area regularly complain about the high degree of speeding as well as the congestion. The road is particularly impacted during the peak travel times in the summer months. This concern is discussed in greater detail in Reach 5.

2. Key Issues

After reviewing the Inventory and Analysis, a number of key issues within Reach 4 were identified for examination in the LWRP. Opportunities to tackle these issues were identified in the Inventory and Analysis. They are also discussed in *Sections K* and *V*.

(i) Agricultural protection

Loss of agricultural land is likely to increase unless the Town steps in to protect the remaining acreage. All of the land still in agricultural production that exceeds 10 acres in size has been targeted for acquisition in the *Community Preservation Project Plan*, a total of about 107 acres. Nine of these parcels have undeveloped soundfront. The existing acquisitions should be buttressed by the preservation of the adjoining farms wherever possible.

(ii) Harbor management issues

Because of the open nature of this Reach and the lack of sheltered harbors, there are no harbor management issues in Reach 4.

(iii) Public access and recreation

The existing combination of public access and recreational opportunities within Reach 4 is sizeable in area, but limited in scope. Much of the residential development within this Reach has either private or community access to the Sound. Although this Reach contains more linear feet of publicly accessible shoreline than any other Reach in Southold, much of it is underutilized due to lack of facilities and management. Given the potential population growth within the Town and the projected trend in increased participation in leisure activities by residents and tourists, the need for more access and opportunities is expected to grow. The existing sites have undeveloped potential which can be enhanced through careful design and construction.

That said, there is one public access site that seems to be over-developed relative to both its actual use and its potential. This is the State property at Truman Beach. The site hosts no sanitary facilities, yet provides 30 parking spaces, 24 of which are reserved for cars with trailers. Given the fact that the boat ramp is usable only high tides and only by smaller boats, this site is not heavily used for the purpose for which it was designed. Although the site was acquired for the express purpose of providing fishing access, the State should consider a partnership with the Town and the Orient-East Marion Park District to increase the potential use of this whole stretch of beach.

(iv) Protection of habitats and wetlands

Reach 4 features two State designated Significant Coastal Fish and Wildlife Habitats: one at Dam Pond and the other at Plum Gut. Protection of these habitats is of prime concern. Fortunately, neither of these habitats are facing severe threats. Since both of these habitats are mostly located within Reach 5, the reader is referred to Reach 5 for further discussion of the key issues.

(v) Protection of water quality

Impairments from stormwater runoff and malfunctioning on-site wastewater treatment systems are a concern within Reach 4, as with all Reaches within the Town. The impact of existing and proposed residential development on the coastal environment should be mitigated throughout this Reach. As mentioned earlier, in *I. Opportunities for land use changes (iv) Areas of Special Concern*, the water quality of Dam Pond particularly needs to be protected from stormwater runoff and from the introduction of septic wastes due to the limited flow of water in and out of the Pond. All of the stormwater runoff from SR 25 is channeled directly onto marshes and wetlands

alongside the road. Due to the high groundwater table in this Reach and the multitude of natural habitat, the filtration of stormwater runoff should be high priority.

The Town also needs to reassess its own policies with regard to the design, development and use of public road ends, particularly with regard to the direct discharge of stormwater runoff down the bluff face or beaches at the road ends. Standards also are needed for private waterfront to prevent excess paving over of subdivision park properties.

(vi) Flooding and erosion

Due to its low elevation and low protection from storm-driven waves and winds, flooding of the Orient Causeway from Dam Pond to Trumans Beach is inevitable. The primary issue here is protection of life when the degree of flooding cuts Orient off from the rest of the Town. The Orient community is fairly self-sufficient, however. The Orient Fire Department is located eastward of the Causeway, and is able to provide refuge, medical and rescue services in addition to firefighting protection during emergencies. The potential for erosion along the south side of the Causeway is discussed in Reach 5. The erosion potential on the north side of the road is minimal due to the protection offered by the rocky shoreline and beach. Flooding at Orient Point also is a given because of its elevation and vulnerability to open waters. However, the mostly natural state of this property means that flood damages will not be a major concern.

Erosion at Trumans Beach, Pettys Bight, and Orient Point is likely to continue. Presently, most residential structures found along the bluffs are located at or behind the Coastal Erosion Hazard Area line. However, if the rate of erosion should accelerate due to natural causes, a significant number of residences may have to be pulled back from the bluff edge. In the easternmost subdivision of Ryders Landing, the small, shallow lot sizes will preclude pulling back from the shoreline. However, the introduction of shoreline protection structures would not be recommended given the dynamic nature of the shoreline in this area, and the shoreline's exposed nature. Finally, the shape and orientation of Orient Point changes constantly in response to natural processes. Given the turbulent force of water rushing through the Gut with each tide, it is not reasonable to attempt to stabilize that shoreline.

(vii) Protection of scenic resources

Although they have been diminished, Reach 4 still features several prime scenic resources accessible to the public: the woods and marshes of Dam Pond, the rocky shores of Truman Beach with its far-ranging vista westward to Rocky Point, the open sweep of land, sea and sky visible along the Orient Causeway, the panoramic vistas from Orient Point, and the large number of historic structures along SR 25. These resources together form a dramatic and singularly unique gateway to Southold from the east. Protection of these resources is a very high priority to the Town of Southold.

REACH 5: ORIENT POINT TO THE VILLAGE OF GREENPORT LINE AT YOUNGS POINT, INCLUDING PLUM ISLAND

A. INVENTORY AND ANALYSIS

1. Location

The Reach 5 shoreline extends from the County Park at Orient Point to Youngs Point where it meets the eastern boundary of the Village of Greenport. At Youngs Point, the Reach boundary follows the Town/Village boundary where it cuts diagonally across Sterling Creek to the north side of Bridge Street, where it terminates at the basin's edge. From Bridge Street, the boundary runs westward across the northern boundary of the Village to Moore's Lane, where it meets up with the Reach 6 boundary. At Moore's Lane, the Reach line runs north to CR 48, then eastward along CR 48, which becomes SR 25, which continues on out to Orient. The northern edge of Reach 5 abuts Reaches 3 and 4. At Orient, the line meets Reach 4 at the western edge of the County Park at Orient Point, then runs out to Plum Gut. The shoreline fronts on Gardiners Bay, Long Beach Bay and Orient Harbor.

Reach 5 includes Plum Island, located 1.5 miles from Orient Point and separated from the mainland by Plum Gut. Owned by the federal government, this 847-acre island is not subject to New York State coastal zone management controls. Great and Little Gull islands, both uninhabited, are also within this Reach.

There are several bays, inlets and inland water bodies within Reach 5. Starting at Orient, they are: Hallock Bay, Long Beach Bay, Dam Pond (also in Reach 4), Marion Lake, Spring Pond, Gull Pond and Sterling Creek.

2. Land use and development

The land use pattern within Reach 5 is described below and illustrated on *Map II-5*.

There are three distinct patterns of land development within Reach 5. The predominant land use in the eastern part of the Reach 5 is agriculture. About midway in the Reach lies the historic hamlet of Orient, almost all of which has been designated a National Historic District. On the western side of the Orient Causeway on through to the Village of Greenport the predominant land use is medium density residential followed by a mix of agricultural and commercial uses. These three areas are explored in more detail below.

In the eastern part of the Reach, most of the upland is in agricultural production. However, low density residential development can be found scattered throughout the area, on the edges of farms and along SR 25. The biggest cluster of residential development in this part of the Reach is immediately adjacent to the entrance to the State park. The lots here are non-conforming in size. All the roads are private.

The southern boundary of this part of the Reach encompasses Long Beach Bay, which is bordered on its south by an unusual barrier beach, Long Beach, currently part of Orient Beach State Park. There are extensive wetlands in the southern portion of the Reach where it borders Long Beach Bay and Orient Harbor. These wetlands are discussed in further detail below, in *Subsection 8. Natural Resources* and in *Subsection 12. Protected Resources*. This part of the Reach also contains three commercial waterfront uses. The first is a large terminal site for ferry service to New London,

Connecticut. The second is a marina, which is capable of handling small commercial fishing boats. The marina contains a seafood restaurant. Both sites are located between Orient Point County Park and the Orient Beach State Park. The third site is a smaller marina located on Narrow River. All of these uses are discussed further in *Subsection 3. Existing waterfront access and recreation sites*. Other commercial uses found within this part of the Reach include marine, building and landscape contractors and other tradesmen operating out of their homes. Finally, there is a significant institutional land use located between the Cross Sound Ferry terminal and the Orient-by-the-Sea Marina and Restaurant: the ferry base for access to the Department of Homeland Security's Animal Disease Center on Plum Island.

The hamlet of Orient lies approximately midway within the Reach, on the east side of the Orient Causeway. The Orient hamlet business district contains a handful of commercial and retail businesses, such as a general store, a gift shop, a seasonal ice cream shop and a post office. There is a large museum complex encompassing several of the more historic structures within the hamlet. A large hall provides meeting room for community events. A wharf supplies community access to the harbor and moorings. Everything is within walking distance. Almost all of the streets within the historic district and immediately around it are public roads. Most of the hamlet has been designated a National Historic District. The district is described in further detail in *Subsection 9. Historic Resources*. In order to respond to the growing needs of the Orient community, the fire department recently moved out of the hamlet into a larger station just outside the historic district across the street from the Oysterponds Elementary School .

Between Orient hamlet and the Causeway lie some expansive marsh and farm fields that sweep down to Orient Harbor from SR 25. On the west side of the Causeway the predominant land use is residential, followed by marine commercial, institutional and agricultural. The density of residential development is higher in this part of the Reach, closer to medium and high density. Most of this development is found on the roads south of SR 25, many of which are private.

Other than resort and marine uses, there are almost no commercial land uses within this Reach. A large mostly seasonal waterfront condominium complex and a small roadside motel comprise the resort-related businesses. Three marinas and a yacht brokerage firm, all located on Stirling Basin, comprise the marine businesses. The derelict shell of an abandoned shellfish and fish processing plant sits off Cleaves Point at the foot of Shipyard Lane. There is an antique shop on the Main Road. The one institutional use is the Oysterponds Adult Home, which is a large residence where older persons can live in a residential setting. During 1999, this home was closed and its residents relocated. In 2001 this building was converted to a bed and breakfast facility.

There are a number of shoreline recreational areas within Reach 5. They are described further in *Section 5. Existing waterfront access and recreation sites*, below.

As mentioned earlier, there is substantial agricultural acreage within this Reach, most of which is located eastward of the Orient Causeway. Nearly 593 acres of land are still actively used for farming, of which 256 acres (43%) are protected from development. Of all the Reaches in Southold Town, Reach 5 contains the greatest percentage of protected farmland relative to the total farmed acreage within the Reach. There are still a few families which date back to the early days of the settlement that are farming the land and selling produce from local stands, e.g. Latham and Terry.

As is the case with much of the shoreline on the bay side of Southold Town, the shoreline is a mix of wetlands, sand or pebble beaches indented with inlets and dredged canals. The one major exception is Long Bay Beach, which is discussed in more detail in *Subsections 8 and 12* below.

There is potential for infill and new subdivision development within Reach 5. In the eastern portion of the Reach, the potential for new subdivision development is significant due to the fact that there are several unprotected tracts of farmland for sale, some with stunning water views. In the western portion of the Reach, the potential for new residential development also is high. Most of the potential lies with infill construction on empty lots and with the subdivision of larger lots, which may be partially developed, but are still subdividable. It is expected that the recent extension of public water into East Marion up to the Orient Causeway will facilitate further subdivisions.

There is only one underutilized commercial property. It is the former Long Island Oyster Farm site at the foot of Old Shipyard Lane. It is discussed in further detail in *Subsections 3, 4, 7 and B.* below.

Lot sizes in the eastern part of Reach 5, east of the historic hamlet, tend to be two acres or larger (five in the R-200 district), although there are pre-existing lots on the order of half-an acre or less. The hamlet itself has a density closer to the half to quarter acre. West of the Causeway, the lot sizes tend to be less than half an acre, and in many cases less than a quarter of an acre. Some of the most environmentally sensitive waterfront in this Reach (Marion Lake, Spring Lake and Sandy Beach) is the most intensively developed with many (if not most) lots being less than a quarter of an acre in area. Most of the subdivisions in this portion of the Reach (from Marion Lake to Greenport Village) are older subdivisions on private roads, many of which are unpaved. There are no connecting roads between these subdivisions, so all east-west traffic must return to SR 25.

The westernmost part of Reach 5 is closely identified with the Village of Greenport due to its close proximity. Located north of the Village proper, this part of Reach 5 is almost completely developed with older year-round housing on small lots ranging in size from less than a quarter of an acre to about half an acre. This part of the Reach also has land used for affordable housing and condominiums. There are several subdividable lots remaining within this area.

Reach 5 contains the largest amount of land in use as cemeteries than any other Reach. A total of 63.77 acres of land are known to be in use as cemeteries. The two largest cemeteries, Sterling and St. Agnes, total nearly 36 acres and are located on the east bank and watershed of Sterling Creek. A third, the East Marion Cemetery, is located on high ground north of Marion Lake. It has a commanding view of the lake and Gardiners Bay.

Plum Island, as mentioned earlier, is a federally owned island, thus is not within the purview of State and local regulations. However, since the island is of historical interest and the use of the island for a restricted-access research laboratory has a discernable impact on the Town, it will be discussed in this document.

From 1659 to 1898, Plum Island was inhabited. Its homesteaders farmed and raised animals to support themselves. In 1827, a lighthouse was erected at the head of Plum Gut Harbor. This lighthouse was rebuilt in 1869, and although not operational today, it is still standing. In 1898, the federal government purchased the entire island for the purpose of erecting a coastal defense fort: one of a chain of manned, fortified islands that guarded the entrances to the harbors of New York

City, New Haven and Providence from the time of the Spanish-American War through World Wars I and II. Many of the structures on the island date back to this military use. The lighthouse and the island's military history are described in further detail in *Subsection 9. Historic Resources*, below.

In 1956, the U. S. Department of Agriculture opened an animal disease research laboratory on the island. In 2003 jurisdiction over this facility was turned over to the United States Department of Homeland Security (USDHS). The facility is known as the Plum Island Animal Disease Center (PIADC). This research facility studies highly contagious animal diseases. The structures on the island are designed to prevent release of disease vectors into the environment. Wastewater is treated at the tertiary level. Access is only by water or, if necessary, by helicopter. Access to the island is restricted to employees and visitors that have received security clearance from the USDHS. All materials, animals, supplies and employees are transported to the facility via government boats docked at the mainland base near Orient Point.

3. Water-dependent/water-enhanced uses and water uses

The water-dependent and water-enhanced uses in Reach 5 are concentrated near Orient Point, and in Orient Harbor, Gull Pond and Sterling Creek. The water-dependent uses include several marinas, public boat launching ramps, public waterfront parks, two ferry terminals, and an abandoned shellfish processing plant. The location of these facilities are indicated on *Map II-J-5*, located at the end of this chapter. They are described in greater detail below.

(i) Recreational boating

Reach 5 contains 10 marinas with a total of 641 slips (about 27 percent of the Townwide total). Five of the marinas are commercial operations offering slips and other marine services. One is located near Orient Point, one is located on Narrow River within Hallock Bay and three are located within Sterling Creek. The three operations within Sterling Creek together provide close to 400 slips and most of the boating services within this Reach.

There are additional docking services for commercial as well as recreational boats within Sterling Creek. However, since they are outside the Town's LWRP boundaries and are reviewed in the Greenport Village LWRP, they are not discussed here. Sterling Creek is located within both the Town of Southold and the Village of Greenport. It hosts one of the largest concentrations of recreational boating activity within the Town. The other five marinas are owned by property owner's associations that are affiliated with neighboring subdivisions. These marinas essentially provide dockage space for the residents of the property owner's association. They are not operated for profit.

The location of the marinas in Reach 5 are indicated on *Map II-J-5*. The facilities and services that they provide are discussed below. The commercial operations are discussed separately from those of the property owners associations. The marinas are discussed in the order they appear along the shoreline from east to west. A discussion of the problems related to Bay mooring can be found in *Section II-D. Public Access and Recreation*.

- ***Orient-by-the-Sea***

Orient-by-the-Sea is the easternmost marina in the Town. Located near Orient Point on a 4.1-acre site, the marina has 90 slips, of which about half are estimated to be occupied by commercial fishing boats. The hard surface, boat launch ramp on the site can be used by the public for a fee. A range of boater amenities is available, including showers, restrooms,

ice, electricity, full repair service, and fueling. It does not have a pumpout station. Limited winter wet storage is available. In addition to the marina, upland uses include a seafood restaurant and bar with outside deck seating overlooking Gardiners Bay.

- ***Narrow River Marina***

This marina is located at the foot of Narrow River 32 off Hallock Bay. It is a small recreational marina with about 65 slips. While some amenities are provided, there are no major repair, fueling, or pumpout services available here. Some on-site upland winter storage is available. Access to Narrow River Marina is marked by private navigational aids through Long Beach Bay. Because of the importance of the shellfishing resource in Long Beach Bay, no boats at this marina are permitted to have heads; therefore, the craft are smaller boats (less than 25 feet in length).

- ***Brewers Yacht Yard***

Brewers Yacht Yard in Sterling Creek provides 150 slips and a wide range of services, including a laundry, showers, an outdoor swimming pool, and the full range of engine and sail repair services, pumpout facilities, and winter upland storage for motor and sail boats. The channel into Sterling Basin is about 8 feet, which allows Brewers to handle larger craft. While Brewers handles boats ranging in size from 18 to 55 feet, it has a specialized niche: sailing vessels in the 30 to 50 foot range. Consequently, although no fuel is available, the yard provides a range of customer services unique to cruising sailboats. For instance, the pumpout station is portable, enabling marina personnel to service individual boats at their slips. Other on-site uses include a restaurant, offering both lunch and fine dining, and for transients, van service to Greenport Village. It also operates a yacht brokerage service for sailboats. This Yard has one of the most extensive upland winter storage sites in the Town. Its size and layout permit outdoor storage of large motor yachts as well as sailboats in the 50 foot range.

Brewers is one of the larger and newer marinas in Town, encompassing 9.6 acres of upland and underwater holdings. One of several yards operating under the Brewer name in the Northeast U.S, it is the only one on Long Island. The Greenport Yard is regularly visited by other Brewers customers cruising Long Island waters because anyone whose home port is in one Brewers Yard is entitled to dock for free in another. It also has an adjunct marina, which is described separately under the name *Brewers Marina*.

- ***Stirling Harbor Shipyard and Marina***

Stirling Harbor Shipyard and Marina is located 540 feet northwest of Brewers Yacht Yard. This marina covers 8.5 acres of upland and underwater land. Its capacity ranges from 180 to 200 slips, depending on size. The marina handles boats ranging in size from 23 to 100 feet. This yard's niche, however, is the cruising yacht in the 80 to 100 foot range. The marina provides a wide range of amenities and services, including full-service engine repair, a pumpout station, upland winter storage, wet storage, and fueling. Other upland uses include a laundry, showers, and a restaurant with water views. Transient slips are available. Taxi service to Greenport Village is provided via the marina's own antique Checker Cab. The marina's owner also operates a yacht brokerage service for luxury yachts. In 2002 this marina was purchased by Brewers yacht yard.

This marina is unique in its design. Although parking lots surround the docks, the cars are not visible from the docks due to the extensive landscaping that buffers the view. The landscaping that borders the docking area stabilizes the relatively steep slope of the bank between the bulkhead and the parking lot. It also acts as a drainage swale, filtering stormwater runoff from the parking areas before it reaches the boat basin.

- ***Brewers Marina***
Located at the head of Sterling Creek, with access from Champlin Place, this marina provides 32 slips. It is under the same ownership as Brewers Yacht Yard. However, it does not provide much in the way of on-site amenities or services, other than water and electricity. However, dock renters can access the Yacht Yard's other facilities, described earlier.

Some of the docks for the Brewers and Stirling Harbor marinas lie within the boundaries of the Village of Greenport.

As mentioned previously, there are several private marinas within this Reach which provide boating access to the residents of their respective subdivisions, homeowner associations or clubs. They are described here, from east to west:

- ***Orient Yacht Club***
Where Village Lane begins to run parallel to Orient Harbor there is a shipping pier which extends into the harbor. Owned by the Orient Wharf Company, a local enterprise, the pier dates back to the 1700s. The Orient Yacht Club is a non-profit membership club that rents space at the pier and provides slips for about 50 craft on floating docks off the pier. The Club also offers some transient slips and access to harbor moorings. A few boater amenities are provided such as water, electricity, restrooms and a snack bar. These are located in the Yacht Club building situated on the end of the pier. There are no major repair, fueling, winter storage, or pumpout services.
- ***Gardiners Bay Estates***
Located at the entrance to Spring Pond, this small marina services the private subdivision that owns the Pond. Dockage for about 10 boats is provided.
- ***Cleaves Point***
Located westward of Old Shipyard Lane, this small marina services the owners of the owners of the condominiums at Cleaves Point. Dockage is provided for about 25 boats.
- ***Crescent Beach Association***
Located at the foot of Maple Lane, this small marina provides dockage for the Association members of the Crescent Beach colony. Dockage is provided for about 10 boats.
- ***Summit Estates***
Located westward of Old Shipyard Lane, this private subdivision provides dockage for fewer than 10 boats.

(All slip estimations are approximate since these numbers fluctuate from year to year depending on need.) As with most private marinas, these marinas have dockage. Some provide a launching

area, and water or electricity, but otherwise do not provide any other services. In addition to the above, there are also private homeowners' docks throughout this Reach. The greatest number are located within Orient Harbor and within Gull Pond.

There are about 67 Town-registered moorings within Reach 5. Narrow River contains (15) and Gull Pond (26). There also are moorings at Long Beach Bay (15) and Little Bay (11). The number of moorings fluctuates from year to year, but the general trend has been upward. (Source: Town Trustees: 1999).

In Narrow River, both the moorings and on-shore/off-shore stakes are located near the Town boat ramp off Narrow River Road. Typically the length of moored craft in Narrow River is less than 25 feet, with most ranging between 15 and 19 feet. The Narrow River mooring area has been operating at its capacity. There have been as many as 36 stakes and 10 names on the waiting list. In 1999, the number of stakes was down to 29.

Perhaps the most congested waterbody in the Town is Gull Pond Inlet. The Inlet itself encompasses about 29 acres in area, not including two dredged canals at its head. The dredged canals, known as Fordham Canal and Dawn Lagoon, were created as part of filed subdivision maps from the 1970s. There are 70 building lots fronting on the Inlet and its associated canals. Most of the lots are built and most of these lots have private docks, which handle an estimated 80 to 90 boats. In addition, Gull Pond Inlet has a total of 26-29 Trustee-issued moorings. Boat sizes range from 5 to 35 feet, making Gull Pond one of the few creeks in Town handling boats over 25 feet in length. In 1995, six of the moored craft were over 24 feet in length.

At the west side of the entrance to Gull Pond is Klipp Marine Park, which is owned by the Town and described in further detail in *Subsection 5. Existing waterfront access and recreation sites*, below. This park contains a heavily used boat ramp. A second Town-owned ramp exists at Sandy Beach Road on the east side of Sterling Basin and a third ramp is at Narrow River Road.

Moorings located within the Peconic Bay are not regulated by the Town at present. About 50 of them are concentrated within Orient Harbor, and about 30 of them are concentrated near the entrance to Sterling Basin. A discussion of the problems related to bay moorings can be found in *Section II. D. Public Access and Recreation*.

(ii) Commercial fishing

Commercial and recreational fishing takes place in the coastal waters of Long Island Sound, Gardiners Bay and the Peconic Estuary. Neither the State nor the Town keeps records on the harvest by Reach.

The docks and facilities at Orient by the Sea Marina are used by local commercial fishing boats and several charter fishing boats. The *Baymen's Dock*, located on Sterling Creek and discussed in more detail below, in *Subsection 5. Existing waterfront access and recreation sites*, is mostly reserved for use by local baymen.

The commercial fishing and shellfishing operation located on Old Shipyard Lane (across from Cleaves Point) was formerly known as the Long Island Oyster Company. It has been closed for several years. The entire site, (buildings, marina and bulkheads) is in a serious state of disrepair. This site is discussed further in *Subsection 7. New opportunities for public access and recreation provision* and in *Section B. Summary and Conclusions*. within this discussion of Reach 5.

(iii) Commercial and recreational shellfishing

Some of the most productive shellfish beds in the Town of Southold are located in Reach 5, within the Long Beach Bay complex specifically the nearshore waters of Orient Harbor, between Youngs Point and Long Beach Point. Most of the Long Beach Bay complex is open to shellfishing year-round. However, Little Bay, the uppermost or eastern reach of Long Beach (known locally as Hallock's Bay) is closed May 1 to October 31. Narrow River is closed year-round. There is also a section of Orient Harbor, north of the Orient Yacht Club that is closed from May 15 to October 31.

In recent years, the Town has initiated scallop seeding programs within sections of Long Beach Bay. The seeding programs are funded by the Town and the New York State Department of Environmental Conservation. Seeding typically consists of adding 100,000 scallops per year to bolster native populations.

(iv) Aquaculture

There is one aquaculture operation located off the southwest coast of Plum Island. The operation consists of pens moored near the edge of Plum Gut. Operated by Mariculture Technologies, Inc., the pens are used to grow summer flounder, which are shipped here from hatcheries elsewhere in the Northeastern U.S. The fish are fed daily by caretakers operating from a base facility located on Carpenter Street, within the Village of Greenport. When ready for harvesting, the fish are taken from the holding pens and transported to the Greenport facility for processing and shipping to market.

This facility is the first open-water fish farm to be located within the Town of Southold, and in New York State. It began operation in 1997 with support by federal grants designed to encourage the development of pilot fish farms. The Company's progress is being monitored by the New York State Department of Environmental Conservation (NYSDEC). To date, they have received a permit for Phase 1 of six projected phases. Phase 1 calls for the production of 56,000 summer flounder. The strong currents typical of Plum Gut have resulted in fish mortality within the holding or grow-out pens. In an effort to reduce mortality, the hatchlings were being taught to swim against the current at the hatchery. Permits for Phase 2 (125,000 fish per year) will not be issued until the goals of Phase 1 are met to the satisfaction of the NYSDEC. (Source: Karen Chytalo, New York State Department of Environmental Conservation, Marine Resources HQS, East Setauket May and August 1999). By August 2002, this facility was inactive. Efforts to renegotiate the lease and reapply for permits are underway. (Chytalo, August 2002).

(v) Navigation and Dredging

Reach 5 fronts on three water bodies: Gardiners Bay, Long Beach Bay and Orient Harbor. Gardiners Bay, the largest of the three, encompasses approximately 75 miles of territory and is bordered by the north and south forks of Long Island, Shelter Island and Gardiners Island.

Depths in Gardiners Bay during mean low water generally run about 20-30 feet. The mean tidal range is 2.5 feet. However, the shoreline just south and west of Orient Point (between the Point and the State Park) is relatively shallow, with immediate shoreline depths ranging between two and eight feet. Within Plum Gut, the narrow passage connecting Long Island Sound with Gardiners Bay, the depths can plunge to 180 feet. The gut itself is a turbulent stretch of water with treacherous currents and a mean chop when the wind runs counter to the tide.

Navigation markers within Gardiners Bay include buoys, bells, two light houses (Orient Point Light and Bug Light), and two fog horns. Most of the navigation aids are provided and maintained by the U.S. Coast Guard, with the exception of buoy off the Cross Sound Ferry terminal, the channel entrance to Orient-by-the-Sea Marina and the Bug Light, all of which are privately maintained. The U.S. Department of Homeland Security maintains the channels to the its facilities at Plum Island and at Orient. The harbor entrance at Plum Island is marked and protected by two stone jetties or breakwaters. Management of the harbor itself is under the jurisdiction of USDHS with permits issued by the U.S. Army Corps of Engineers and the State of New York. Unfortunately, the Plum Island Lighthouse, while still standing, is no longer in operation. More information about the Plum Island Lighthouse is provided in *Subsection 9. Historic Resources*, below.

Within Long Beach Bay (Hallock Bay), the average depth to mean low water is shallow, approximately 2-6 feet. An historic, rock-lined channel near Brown's Point that facilitated barge access to the Hallock farm still remains. The channels within Long Beach Bay are narrow and fairly shallow. During low tide, access to the upper reaches of Hallock Bay is best undertaken by skilled boaters only. Within Orient Harbor, the nearshore depths run about 10-15 feet, while the center of the harbor is about 20 feet deep. The entrance to Dam Pond is on the northwestern edge of Orient Harbor. Although the water depth is about nine feet near in this section of the Harbor shoreline, the entrance is not navigable except for small boats, primarily due to the shallowness of the channel and the lack of headroom under the roadbed of SR 25.

From the western part of Orient Harbor clear to Youngs Point and the entrance to Sterling Creek, the channel is quite deep, as much as 80 to 94 feet in parts. The channel from Gardiners Bay to Orient Harbor is marked by the Bug Lighthouse, located at the tip of Long Beach Point. This is a wide and naturally deep channel, with depths of 34-81 feet below mean low water all the way to the Village of Greenport and Sterling Creek. The channel is marked by federal navigation aids, which are maintained by the U.S. Coast Guard. However, the Bug Lighthouse is privately maintained by the East End Marine Seaport and Museum Foundation. More information about the Bug Light is provided in *Subsection 9. Historic Resources*, below.

Only 3.8 acres of Sterling Creek is owned by the Town and under Trustee jurisdiction, the rest being under the ownership and jurisdiction of the Village of Greenport. It is a major harbor on the Peconic Estuary. It is accessed by a federally maintained channel and marked by federal navigation aids. The depth to mean low water in Sterling Creek is about 13 feet in the channel. Sterling Creek is one of three publicly maintained channels in Reach 5. The other two are the channel for the Plum Island Ferry at Orient Point, also federally-maintained, and the channel to Gull Pond which is maintained by the Suffolk County Department of Public Works.

Dredging within Reach 5 takes place primarily in two locations: Sterling Creek and Gull Pond. In 1959, 163,900 cubic yards were removed from the Sterling channel. In 1963, 1976 and 1992, 129,200 cubic yards, 12,000 cubic yards and 4,490 cubic yards, respectively, were removed. Dredge spoil used to be disposed of on adjacent wetlands. It is now used for beach nourishment on the back side of the inlet to the Creek.

Gull Pond has been dredged by Suffolk County about every 10 years. In 1959, 177,200 cubic yards were removed, followed by an additional 28,500 cubic yards in 1960. The Pond was dredged again in 1970 and 1979 when 29,000 cubic yards and 23,300 cubic yards, respectively,

were removed. In 1983 and 1989, only 1,000 cubic yards were removed. In 1996, it was dredged again, and 1,500 cubic yards were removed. Dredged material from Gull Pond typically is used as beach nourishment at Klipp Marine Park and occasionally on the western shore to Youngs Point. By contrast, the entrance to Gull Pond has been dredged almost yearly for the last five years. Dredging at the inlet mouth is expected to continue on an as-needed basis.

Marion Lake is not navigable and is not dredged. Spring Lake is privately dredged on an as-needed basis. Depths within Spring Lake are in the 20 foot range.

(vi) Ferries

There are two separate ferry services operating within this Reach. One is open to the public, the other is not.

Cross Sound Ferry Company, Inc.

The Cross Sound Ferry terminal is located about 2,850 feet southwest of Orient Point. The Cross Sound Ferry Company operates several boats year round, seven days a week, on a run between Orient Point and the City of New London, Connecticut. The smallest boat carries 22 automobiles with the capability of hauling 2 tractor-trailers; the mid-sized boat carries 55 automobiles with the capability of handling 5 to 6 tractor-trailers; and the third vessel has the capacity to haul 90 cars and small tractor-trailers. A fourth vessel was added to the fleet in 1999. It has a capacity to hold 70 cars.

In July of 1995, Cross Sound Ferry instituted a high-speed passenger ferry service via a 121-foot, 350-seat catamaran-style craft. The high-speed service was designed to facilitate travel to gambling casinos located in Connecticut. Passengers are encouraged to drive to Orient, park their car, and walk onto the high-speed boat. At New London, passengers can transfer to a coach bus, which takes them directly to Foxwoods Casino. The casino offers live performances, movies, various types of entertainment facilities, boutique shops, recreation and health facilities, restaurants and hotels in addition to several forms of gambling games.

Presently, there are no other ferry runs to New London from other parts of Long Island, although new runs are under discussion, eg. a service from Glen Cove (in Nassau County) is under consideration. There are several issues of concern related to ferry transportation. They are discussed in detail, later, in *Subsection A. 13. Development constraints* and in *Section B. Summary and Conclusions*.

The Cross Sound Ferry Company terminal consists of three separate parcels of upland totaling 3.7 acres. The Company also owns 3.7 acres of underwater land adjacent to the westernmost two lots. The terminus of SR 25 runs between the two westernmost lots and the eastern lot. The State right-of-way is 100 feet wide at this point. The terminal office, staging area and long-term parking area are located on the two western parcels. The eastern parcel is the site of a seasonal snack bar. The site is used for parking also. Additional site details are provided in *Section B. Summary and Conclusions*, below.

The shoreline in this portion of the Reach is open and exposed to wind and wave action. The docking facilities at this ferry terminal consist of several heavy-duty dolphins which serve to keep the boat properly oriented to a moveable ramp that bridges the gap between the upland and the ferry itself. As noted earlier in this Reach inventory, the beach is relatively shallow at this point.

United States Department of Homeland Security's Plum Island Ferry

The other ferry service located within Reach 5 is that of the Plum Island Ferry. The “mainland” site encompasses nine acres of land adjacent to the western-most boundary of the Cross Sound Ferry terminal site. The boundary of this entire site is enclosed with barbed wire fencing and is monitored by security devices. Inside the compound is an office building, a paved parking area for employees, and a staging area for storing and loading equipment and supplies onto the boats that service the federal laboratory on Plum Island. The bulkheaded dock area is large enough to accommodate several vessels. The docking area is sheltered from Gardiners Bay by extensive bulkheading and it lies entirely within the upland portion of the site.

At Plum Island, there is a small harbor with bulkheading and docks where the ferry and supply boats tie up. The depth in that harbor is about eight feet near the shore. However, the shoreline here is rocky, thus the need for channel markers. This harbor was last dredged in 1972.

4. Existing zoning

Reach 5 is zoned for a wider range of uses than either Reach 3 or 4. East of Dam Pond, at the start of the Orient Causeway, up to the hamlet of Orient, the land is zoned for two acre density (R-80). Except for the farmland, most of the land here is marsh.

Almost all of the historic hamlet of Orient is zoned R-40, one acre density. Inside the hamlet, however, there are a few very small blocks of commercial zoning, specifically: Hamlet Business, Business, and Marine I (M-I). The uses found on these commercially zoned properties include a real estate office, a confectionery shop, the post office, a seasonal ice cream parlor and an equipment storage barn with an office. The Marine-zoned property is used by the Orient Wharf Company, which was described earlier in *Subsection 2. Land use and development*. The total acreage of all the commercial zoning within this portion of the Reach is estimated to be about 24 acres.

There is one nonconforming lot zoned Resort Residential, the site of a former summer boarding house. Most of the hamlet is developed, and most of the uses are conforming. However, almost none of the lots within the R-40 zone of this portion of the Reach meet the minimum acreage requirement of forty thousand square feet.

East of the hamlet, out to the Point, the primary zoning is R-200 (five acres per lot), followed by R-80 (two acres per lot). The R-200 zoning covers the most sensitive and low-lying properties within the Reach, all of which surround Long Beach and Hallock Bay. There are small blocks of R-80 property immediately adjacent to the State Road and the east side of the hamlet of Orient. The R-200 zoning line roughly follows the 10 foot above sea-level, topographical contour line. Much of the property below the 10 foot line is either agricultural land or wetlands. All of the State of New York's tidal wetlands fringing Long Beach Bay lie within the R-200 zoning district.

The only commercial zoning in this part of Reach 5 is Marine I or II. A large block of Marine II (M-II) near Orient Point encompasses five properties that total close to 17 acres of land. The Narrow River Road Marina, which is zoned Marine I, a less intensive commercial district, encompasses 2.1 acres of land.

West of the Causeway, however, we see a greater diversity of zoning. The primary zone in the western part of Reach 5 is Residential Low Density R-40. It is interspersed with various other

residential and commercial designations. There are three seasonal residential properties that are zoned Resort Residential, although one of them has been abandoned. The three marinas on Sterling Creek and the defunct Long Island Oyster Farm facility at Cleaves Point are zoned M-II. There is a large condominium complex and affordable housing development, both zoned Affordable Hamlet Density (AHD) and developed at the half-acre density, located at the southeast corner of SR 25 and Moores Lane. Only one property, at the southeast corner of SR 25 and Main Street, is zoned Residential Office. Presently it is vacant, although a filled concrete foundation remains on the site.

There are only three known non-conforming uses in this part of Reach 5, which is otherwise zoned R-40, AHD and RO. One is a small antique store located in a residence in an R-40 district on SR 25 near Gillette Drive. The other is a gasoline service station located at the northeast corner of Champlin Place and Main Street, which was recently determined to be a legal non-conforming use in an R-40 district by the Zoning Board of Appeals. The third is the satellite docking area owned by Brewers Marina, located at Champlin Place.

Altogether, there are 56 acres of marine zoning (M-I or M-II) within Reach 5: most of its M-II, which is the more intense of the two Marine districts. Reach 5 contains the second largest amount of Marine zoning within the Town after Reach 6, which contains 70.5 acres of Marine zoning.

Finally, unique to Southold, the 847 acres of land comprising Plum Island do not have a zoning designation under the Town Code.

5. Existing waterfront access and recreation sites

Reach 5 provides a number of important waterfront access points and opportunities for recreation, which are examined in detail below. The location of the public access and recreational sites within Reach 5 are indicated on *Map II-11* and their facilities are discussed below. The facilities are categorized by ownership and are listed within each ownership category as they appear on the map, moving from east to west.

New York State

- ***Long Beach Bay State Tidal Wetlands***
During the 1970s and 80s, the State Department of Environmental Conservation undertook a massive project to protect the tidal marsh and wetlands bordering the northern side of Long Beach Bay. At the time, most of the upland in this immediate vicinity was farmed. However, the DEC felt that the tidal resource was too vital to the health of Long Beach Bay and too vulnerable to development pressures to leave in private hands. By the late 1980s, the State had acquired almost all of the prime tidal wetlands: a total of more than 385 acres.
- ***Orient Beach State Park***
This park is located at the eastern end of the Reach on Long Beach Bay and is under the jurisdiction of the State Office of Parks, Recreation & Historic Preservation. The park includes approximately 368 acres of upland in the form of a very long and narrow peninsula that stretches westward from Orient Point, along the south shore of the Town, enclosing Long Beach Bay. There also are approximately 807 acres of state-owned wetland and underwater land associated with the park within the Long Beach Bay area. Much of the park is a nature preserve, which includes a rare maritime forest with red cedar, black-jack oak trees, and prickly-pear cactus. This facility contains a bathing beach, picnic areas, a food concession, fishing areas, and playing fields for various team sports. As a

State park under the jurisdiction of the Long Island State Park Commission, this is the only park within the Town that is open to all residents and visitors alike.

The park is accessible primarily by car, although it is possible to walk and bike there. There is a fee to park the car during the months of May to September. The park has been frequented by as many as 2,000 visitors on a weekend at the height of the summer season. The parking area and potable water supply servicing this facility are limited.

Approximately 200 acres of Orient Beach State Park was designated by the U.S. Department of Interior as a National Natural Landmark in 1980. This area represents one of the finest remaining examples of a sand and gravel spit in the State; illustrating succession from salt marsh to maritime forest. Piping plovers and common and roseate terns nest on the eastern portion of the spit. The spit itself is about 2 and $\frac{3}{4}$ miles long, contains several ponds and shows plant succession from dune vegetation to maritime forest and post oak. The higher ground along the western half of the spit contains dense stands of red cedar, post oak and pitch pine. Rare plants are also evident within this area.

(Source: *Natural Landmark Brief, March 2003*. U.S. Department of the Interior, National Park Service, National Natural Landmarks Program.) Additional information on the National Natural Landmark program can be obtained from the web at <http://www.nature.nps.gov/nnl/index.htm>

In response to pressure by a group of local residents known as the “Friends of Long Beach”, the State Office of Parks, Recreation and Historic Preservation has re-evaluated its restriction against boater access to the park. In 2003, under a pilot access program, limited access by non-motorized boats to a portion of the Long Beach section of the park was permitted by permit only. The agency will continue to evaluate this program and determine if any adjustments are necessary.

- *King Street/Narrow River Road Access, Orient*
This access point is owned by the State Department of Environmental Conservation. Although DEC permits are required to take shellfish, there are no other regulations governing use of this site. A partially fenced area adjacent to the beach serves as a parking field for 8 to 10 cars. There are no facilities of any sort available here, nor is the site maintained.

Town of Southold

- *Narrow River Road Boat Launch Ramp, Orient*
This 1.4-acre Town site is located on the eastern end of Narrow River Road and provides a concrete ramp to Hallock’s Bay. There is unpaved parking capacity for approximately 15 to 25 vehicles with boat trailers. A Town-issued parking permit is required. The site also provides access to the adjacent stick and buoy moorings regulated by the Town Trustees. No facilities are provided here.
- *Narrow River Road End at King Street, Orient*
This road end is used to access Hallock’s Bay for shellfishing and to launch small boats of less than 15 feet in length, such as sailboats, kayaks, etc. There is no ramp, just a clear path to the water over the beach. Past efforts by the Town to improve this site were rejected by neighbors. However, it is a potential site for access improvements, particularly in conjunction with the State, which owns the adjoining property to the east.

- *State Street (locally known as Skippers Lane) Road End, Orient*
This road end offers a sweeping view of Orient Harbor with the Wharf Pier to the far left and the Causeway to the far right. The road end is blocked by a metal guard rail, beyond which lies a bulkheaded area about 100 by 70 feet in area. This site was upgraded in 1998 using State funds from the Environmental Protection Fund. The shoreline abutting the bulkhead is shallow, providing for limited access to the site by boat, principally during high tide. This road end is a designated scenic overlook within the Orient portion of the Seaview Trail.
- *Bay Avenue Road End, East Marion*
This road traverses a small bridge over Marion Lake on its way down the slope towards the shoreline. At its terminus, it offers a sweeping view of Orient Harbor, Bug Light, Gardiners Bay, the South Fork and Shelter Island. There is no drainage; the water shoots right off the end of the asphalt roadbed onto a solid square of concrete that has been poured onto the beach. The concrete structure is so large it acts as a bulkhead. A guardrail prevents cars from falling off the edge of the concrete lip, which is about three feet above the beach. The origin and reason for this concrete slab are not known. It may have been designed as a boat ramp, but it no longer functions as one.
- *Marion Lake, East Marion*
Although the Town owns the bottom of this 26-acre lake, the lake is completely surrounded by private residential lots except where Bay Avenue intersects it. The lake does not have a navigable outlet to Gardiners Bay, although there is a drain under Rabbit Lane. Suffolk County Vector Control has a drainage easement under private property, which allows them to drain excess water out of the lake. The lake is used for swimming and limited boating. In the early days of East Marion, the lake was an important source of ice for the summer months. In recent years the lake has become eutrophic or polluted and it has been invaded by phragmites, thus changing its visual character.
- *East Gillette Drive Road End, East Marion*
There is a small beach at this road end. Parking is permitted by Town permit. No facilities are available here. Storm drainage is in place. This beach is primarily used by the immediate neighborhood.
- *Shipyards Lane Road End, East Marion*
This road end lies between two private bulkheads. There is no drainage and no facilities at this road end. The beach is eroded and not usable either for swimming or boat launching. The two private bulkheads on either side prevent access to the shoreline due to their configuration and extension into the bay.
- *Klipp Marine Park, Manhasset Avenue, Greenport*
This popular 2.6 acre Town park is located at the end of Manhasset Avenue, at the mouth of Gull Pond. The park fronts on the western-most end of Orient Harbor, with over 1,200 feet of shoreline. This park contains a bathing beach with a lifeguard, a playground, picnic area and restrooms. It also has a concrete boat launch ramp, which was constructed with funds provided by the State of New York during the 1970s. The ramp faces onto the sheltered waters of Gull Pond, rather than Orient Harbor. The ramp can be used by boats up to about 25 feet in length. Although the park is accessible to the immediate residential

neighborhood by foot, it also provides an extensive parking field suitable for use by large numbers of cars with boat trailers. A Town-issued parking permit is required.

In 1999-2000, this park underwent rehabilitation to install new restrooms. During 2002 additional proposed renovations will include: improved lighting, installation of guard rails and landscaping between the parking lot and the beach, and better design of the traffic and parking pattern. (Source: Telephone conversation: Councilman Craig Richter, August 2, 2002). This is a heavily-used ramp. In 1995, the State agreed to waive their usual requirement that State residents be granted access, so long as the Sandy Beach Road boat launching ramp remained available to State residents at no (or a reasonable) fee. There is a sign at the site notifying would-be-users of their options. No fee or permit is required at Sandy Beach to either use the ramp or park. Users of the ramp at Klipp Park are not charged a fee to use it, but if they wish to park a vehicle and trailer at the park they need a Town permit.

Gull Pond Inlet is owned by the Town of Southold. It encompasses about 15.8 acres of underwater land. At its head, two private canals (Fordham Canal and Dawn Lagoon) were dredged during the 1960s to create waterfront lots.

- *Manhanset Avenue Road End, Greenport*
This road end has become incorporated into the Klipp Park entrance and beach.
- *Sandy Beach Launch Ramp, Beach Road, Greenport*
This 0.666-acre Town property is located on Sandy Beach Road, bordering the Incorporated Village of Greenport. This site provides 216 feet of shoreline on the Creek. Most of the site, including the wetland vegetation, has been covered with asphalt. There is an asphalt boat ramp on the packed sand slope. It is suitable for small boats around 20 feet in length or smaller. Adjacent to the ramp is a dock that is owned by the Village. The Village also owns the underwater land underneath the dock. By intermunicipal agreement, baymen within the Town and the Village are given first priority to dock here. There is parking capacity for 20 to 40 cars. No parking permits are required. No facilities are provided here other than a street light and electricity. State residents may use this ramp free of charge.

Finally, underwater lands in Long Beach Bay, lying eastward of Peters Neck Point and including Little Bay and Narrow River, were part of the *Andros Patent*, thus are owned by the Town and are under the jurisdiction of the Town Trustees. However, in Gardiners Bay and Orient Harbor, most of the underwater land is under the jurisdiction of the State of New York. There are a substantial number of underwater lots held by Suffolk County and private owners within these areas. Most of the latter holdings are on the west side of Orient Harbor in line with the Shelter Island Town border. For the most part, within about 1,500 feet of the shoreline, ownership has been retained by the State.

6. Inland recreation facilities

There are no inland recreation facilities available within Reach 5.

7. New opportunities for public access and recreation provision

There are a number of opportunities to improve existing public access to the water. Although many of these opportunities are small in scale, collectively they have the potential to meet a portion of the immediate need for access. The most obvious sites worthy of attention are the existing road ends, particularly where those roads abut State wetlands around Long Beach Bay. A prime example of this is the State-owned land located at the western end of Narrow River Road. The property consists of upland and beach land that was acquired to protect the adjacent wetlands. This site is overgrown and poorly maintained. It could be developed with an interpretive board, indigenous landscaping, a gravel parking area, catwalks, and a small boat launch ramp for canoes and kayaks. The Town and the State could work together to integrate the road end into the overall scheme. This site is subject to severe flooding during storm-driven tides, thus its potential level of active use is somewhat limited.

Several of the street ends in Orient could be made more usable and attractive for the immediate neighborhood's use. Given the location of some of these ends, on quiet streets with limited parking, the design of the public access should respect the scale of this small, historic hamlet. Access by pedestrian or bicycles should be emphasized rather than more parking.

As mentioned earlier, the Sandy Beach Boat Launch ramp on Beach Road in Greenport is underutilized and overpaved. The adjacent Bayman's Dock is well-used, but the site's value as a beach and a recreation access point has been seriously undermined by the poor location and design of the boat ramp, and the excessive pavement, which has all but obliterated the beach grass and wetland vegetation fringing the water's edge. Restoration of the wetland and beach vegetation coupled with pulling the parking lot away from the beach would greatly improve the attractiveness and usability of this site. The Town's Transportation Committee earmarked this site for kayak launchings due to its sheltered position behind the sandbar at the entrance to Sterling Basin. The ramp could be redesigned and constructed to reduce its impact on the beachfront.

Finally, the abandoned fish processing site at the foot of Shipyard Lane, at Cleaves Point, has great potential to provide additional public access to the water as a Town marina. The heavy use of the ramp at Gull Pond Inlet suggests a need for more good boating access between Greenport Village and Orient Harbor.

8. Natural resources

Reach 5 contains significant areas of natural resources. These are concentrated in Long Beach Bay and Orient Harbor and provide important shellfishing areas.

(i) Wetlands

Reach 5 contains the largest tidal wetland system on the mainland of Southold. Located around Long Beach Bay, most of them are protected by ownership or easements held by the State of New York. A few pieces are protected by private easements, e.g. The Peconic Land Trust and The Nature Conservancy. A 1972 survey conducted by the Marine Sciences Research Center in Stony Brook showed that the tidal wetlands on the northern shoreline of Long Beach Bay and those within Orient Beach State Park encompassed approximately 370 acres. Saltmeadow cordgrass (*Spartina patens*) and Saltgrass (*Distichlis spicata*) dominate the high marsh vegetation in this wetland system. The high marsh areas are interspersed with lower-lying intertidal marshes and mudflats where Smooth Cordgrass (*Spartina alterniflora*) predominates.

The wetlands along the north side of Long Beach Bay are primarily high marsh zones, edged with narrow bands of intertidal marsh along the bay. Long Beach Bay itself has been classified by NYSDEC as a coastal bar or mudflat. On the west side of the bay, along the Brown's Point peninsula, most of the wetlands are considered high marsh with only narrow bands of intertidal marsh.

The relatively undisturbed and expansive tidal wetlands which border Long Beach Bay have been designated as a SCFWH. These tidal wetlands support one of the largest concentrations of nesting areas for the osprey in the state, and provide feeding and wintering areas for a large number and diversity of migratory waterfowl and wading shorebirds. The resources of this SCFWH are discussed below.

Another smaller tidal wetland system occurs further west, bordering the Orient Causeway and linking with wetland systems in Reach 4 around Dam Pond. This area is approximately 43 acres. The portion of this tidal wetland system contained within Reach 5 consists of high marsh areas adjacent to the Causeway, and expansive low marsh areas interspersed with mudflats extending southerly towards Orient Harbor. Similar to the wetlands surrounding Long Beach Bay, these Orient Harbor wetlands have been designated as Significant Coastal Fish and Wildlife Habitats and are discussed in more detail below. The wetlands and Orient Harbor area support a significant commercial shellfishery, and serve as a spawning area for many estuarine bait-and finfish.

Reach 5 also contains Marion Lake, a fresh-water pond, and Spring Pond, both located in East Marion. Marion Lake was once a source of summer ice, which was cut during the winter and dragged to storage barns by teams of horses. Marion Lake suffers from water pollution which is notably caused by a combination of factors including over development of its shoreline.

Reach 5: Tidal wetlands*

<u>Location</u>	<u>Acres</u>	<u>Dominant Species</u>	<u>Tributary Area</u>
Gull Pond and Sterling Creek	6	Spartina alterniflora	Shelter Island Sound
Dam Pond and Orient Causeway	43	Spartina alterniflora	Shelter Island Sound
Orient Beach State Park	103	Spartina patens Distichlis spicata	Gardiners Bay Gardiners Bay
Long Beach Bay	264	Spartina patens	Gardiners Bay

Source: *Unpublished Draft: Brown Tide Comprehensive Assessment and Management Program*, SCDHS; as edited by J. Bredemeyer, Trustee, Town of Southold, March 1993

(ii) Significant Coastal Fish and Wildlife Habitats

There are four designated SCFWHs within Reach 5. These are:

- Long Beach Bay
- Orient Harbor
- Plum Gut
- Great Gull Island

The middle two habitats both extend into Reach 4. The locations of these SCFWHs are illustrated on [Map II-14](#). The main features of these areas are described below. This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms

(DOS, 2002 and 2005) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website) and subsequent field research for this report.

The habitat documentation for the SCFWHs should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitats by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitats.

• **Long Beach Bay Significant Coastal Fish and Wildlife Habitat**

Long Beach Bay is located on the northeastern fork of Long Island, one mile east of the hamlet of Orient. This approximately 1,300-acre habitat includes Long Beach Bay, the adjacent State-owned tidal salt marsh areas, and Orient Beach State Park, the latter of which is comprised of a long, narrow, sand peninsula protecting the bay area. This area contains a rare example of maritime cedar forest. Most of the open water area of Long Beach Bay is less than 6 feet deep at mean low water. The Long Beach Bay area also includes the eelgrass beds to the south of the peninsula, to a depth of approximately 10 feet along Long Beach and along the northern portion of Orient Beach State Park.

Long Beach Bay and Orient Point Marshes comprise a large and relatively undisturbed coastal estuarine ecosystem. Areas such as this are rare in New York State, and provide habitat for a diversity of fish and wildlife species.

The Long Beach Bay area is one of the largest nesting concentrations of osprey (SC) in New York. Almost all of the nests are located on man-made platforms placed around the perimeter of the bay. A variety of seabirds, shorebirds, and wading birds use this area for feeding or for stopovers during migration. This area is especially significant as a feeding area for herons, egrets, and ibis which nest on nearby Plum Island. Diamondback terrapin are frequently observed in the marsh. Long Beach Bay is also an important waterfowl wintering area within Suffolk County.

The following at-risk bird species also utilize the habitat in this area:

- Roseate tern - casual visitor - endangered.
- Northern harrier – threatened.
- Common tern – threatened.
- Common loon- special concern.
- Sharp-shinned hawk – special concern
- Black skimmer – special concern
- Northern goshawk – special concern

A 1996 *Peconic Estuary Program* study documented a number of eelgrass beds within Long Beach Bay itself, as well as beds of moderate size to the south of Orient Beach and at the bay mouth west of Peters Neck Point. These beds provide important habitat for benthic macrofauna such as the bay scallop. Atlantic ridley (E), green (T), and loggerhead (T) turtles have been documented in the habitat area south of the peninsula.

Fish and wildlife recreational activities in the area important to the residents of Suffolk County include waterfowl hunting, fishing, and birdwatching. Bay scallops are abundant in Long Beach Bay, contributing to a commercial shellfishery of significance in the northeastern United States. Also, the bay is one of the top three areas for clams in the Town of Southold, of significance in Suffolk County.

The *New York Natural Heritage Program* has documented several listed and rare plant species in this area, including scotch lovage (*Ligusticum scoticum*, E), dwarf glasswort (*Salicornia bigelovii*), and seabeach knotweed (*Polygonum glaucum*).

Any activity that would degrade water quality, disrupt tidal patterns, increase sedimentation, or eliminate wetlands would adversely affect the birds and shellfish found in this area. All species of fish and wildlife may be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, waste disposal (including boat wastes) and stormwater and road runoff.

Tidal wetlands habitats, which assist in maintaining water quality, are especially vulnerable to activities that disrupt tidal patterns, and reduce or eliminate tidal connection. Eelgrass beds are also particularly sensitive to water quality degradation. Restoration opportunities for eelgrass may exist in the Long Beach Bay if water quality parameters are appropriate, and should be explored. It is essential that high water quality be maintained in the bay to protect the bay scallop and hard clam fishery.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g. no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Development of harbor facilities and construction of breakwalls or bulkheads would result in the loss of productive areas which support the fish and wildlife resources of Long Beach Bay. Construction of these and other “hard” shoreline structures are particularly detrimental to tidal wetland habitats, which have suffered extensive cumulative losses from bulkheading, and remain susceptible to additional substantial losses as sea level rises where shorelines have been hardened. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Docks may be detrimental to nearshore eelgrass beds because of shading, and review of proposed new docks in the Long Beach Bay area should be conducted with these potential impacts to eelgrass beds in mind.

Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Nesting shorebirds inhabiting Long Beach Bay are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Disruptive recreational activities include boat and personal watercraft landing, off-road vehicle use and picnicking in the vicinity of bird nesting areas. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

- **Orient Harbor Significant Coastal Fish and Wildlife Habitat**

Orient Harbor is located near the eastern end of the north fork of Long Island. This area is approximately 1900 acres in size, consisting primarily of open water area in the harbor, along with an undeveloped tidal wetland area and Dam Pond area on its north shore. Water depths in most of the harbor are generally less than 20 feet below mean low water. The harbor is bordered by much

undeveloped land, including Orient Beach State Park to the east and south, and low-density residential development on the west.

Orient Harbor is generally representative of the Peconic Bays ecosystem, in being a broad expanse of moderately shallow water. This habitat type is unlike the very shallow bays on the south shore of Long Island or the relatively narrow bays on the north shore. The tidal wetlands area adjoining Orient Harbor are an important component of this ecosystem, contributing to the biological productivity of the area. The Harbor supports extensive, healthy eelgrass beds, of statewide importance. Orient Harbor is an important habitat for a variety of fish and wildlife species.

From November through March, Orient Harbor supports wintering waterfowl concentrations of regional significance. Mid-winter aerial surveys of waterfowl abundance for the ten year period 1975-1984 indicate average concentrations of over 500 birds in the area each year (1,825 in peak year); for the 1986-1996 period the annual average concentration of birds was almost 200 (354 in peak year). Species observed included American black duck, mallard, mute swan, merganser, scaup, goldeneye, bufflehead, oldsquaw, and Canada goose. Orient Harbor is also inhabited by several nesting pairs of osprey (SC) during the breeding season, which utilize man-made nesting platforms located in the salt marsh north of the harbor. The potential exists for additional nesting pairs at this site. Diamondback terrapin have been observed here but the extent to which the area is used by this species is not adequately documented.

Any activity that would substantially degrade water quality in Orient Harbor would affect the biological productivity of this area. All species of fish and wildlife would be adversely affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity or sedimentation, stormwater or road runoff, and waste disposal (including boat wastes). It is essential that high water quality be maintained in the area to protect the bay scallop fishery.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g. no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Thermal discharges, depending on time of year, may have variable effects on use of the area by marine species and wintering waterfowl. Installation and operation of water intakes could have a significant impact on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development (e.g., natural beach or salt marsh), may result in the loss of productive areas which support the fish and wildlife resources of Orient Harbor. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values. Docks may be detrimental to nearshore eelgrass beds because of shading, and review of proposed new docks in Orient Harbor should be conducted with these potential impacts to eelgrass beds in mind. Restoration opportunities for eelgrass may exist in the bay if water quality parameters are appropriate, and should be explored.

- **Plum Gut Significant Coastal Fish and Wildlife Habitat**

Plum Gut is an area of open water located between Orient Point and Plum Island. The habitat consists of a deep channel (up to 188 feet at its deepest), approximately one-half mile across, and bordered by steep underwater slopes rising up to the relatively shallow Midway Shoal (less than 20 feet deep). This approximately 500-acre area is the primary opening in the underwater ridge separating Long Island Sound and Gardiners Bay, and is an area of very turbulent tidal exchange.

Plum Gut represents a very unusual physical environment in New York State. The deep, turbulent, waters and shoals combine to produce a productive and diverse habitat for marine fishes. Significant concentrations of many species forage in this area, including striped bass, bluefish, tautog, summer flounder, and scup. Plum Gut is one of two major migration corridors for striped bass, which move into Long Island Sound in spring en route to their breeding grounds, and return to southern overwintering areas during fall. Plum Gut is also thought to be the major corridor for Atlantic Salmon returning to the Connecticut and Pawtucket Rivers in the early spring. As a result of the abundant fisheries resources in the area, Plum Gut is one of the most popular areas in the northeastern United States for recreational fishing, with heavy fishing pressure occurring throughout spring, summer, and fall. Much of this pressure is due to charter boats from Greenport and Montauk Harbor. In addition to sportfishing, the commercial trap net and lobster fisheries in Plum Gut are of regional significance.

The fisheries resources of Plum Gut could be affected by any activities that would substantially alter water currents in the area. Also, installation and operation of water intakes would have a significant impact on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment. The significant human use which this area supports is dependent upon maintaining or enhancing opportunities for compatible recreational and commercial fishing, within the productivity limits of the fisheries resources.

- **Great Gull Island Significant Coastal Fish and Wildlife Habitat**

Great Gull Island is located approximately two miles east of Plum Island along the underwater ridge running between Plum Island and Fishers Island, in the Town of Southold, Suffolk County (7.5' Quadrangle: Plum Island, NY-CT). The fish and wildlife habitat is a relatively small island, approximately 60 acres in size, consisting of exposed rock with low, sparse vegetation. The island is owned by the American Museum of Natural History and primarily used for scientific research and monitoring of colonial waterbirds.

Great Gull Island comprises a relatively small, but valuable, coastal habitat type that provides ideal conditions for roseate tern (E) and common tern (T) nesting. Isolation from predators and human disturbance may be the most important component of the Great Gull Island habitat, distinguishing this area from many other rock islands in Suffolk County.

In addition to these birds, a population of harbor seals have been regularly documented at Great Gull Island during the winter months. The exposed rocks in this area provide an important "haulout" area, which seals use for resting and sunning. This location is one of five major haulouts around Long Island, serving as an activity center for seals feeding in the Great Gull/Plum Island area. Great Gull Island is also documented to be an active seal pupping site.

The island is the site of scientific research and monitoring as part of the Great Gull Island Project

of the American Museum of Natural History. The colony is monitored and studied throughout the breeding season by researchers.

Nesting shorebirds inhabiting Great Gull Island are highly vulnerable to disturbance by humans, especially during the nesting and fledgling period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (*e.g.*, boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (*e.g.*, dogs, cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

Any permanent alteration or human disturbance of the harbor seal haulout area, obstruction of seal migrations, or other disturbances when seals are in the area would have a significant adverse impact on the populations of these species in the Long Island region. Significant underwater noise, from dredging or other activities, could also preclude harbor seals from using the area.

(iii) Water quality

There are three state-designated surface water quality classifications in Reach 5. High quality SA waters are found in Gardiners Bay, Orient Harbor, Long Beach Bay, Little Bay, Sterling Basin, Spring Pond and in the portion of Marion Lake to the northeast of the bridge on Bay Avenue. Gull Pond and the portion of Marion Lake southwest of the bridge on Bay Avenue are designated SC waters, and Narrow River is designated as SD waters. The following areas are included on the NYSDEC Priority Waterbodies List: Shelter Island Sound in the vicinity of Greenport Harbor, Gull Pond, Gardiners Bay in the vicinity of the research lab's sewage treatment plant outfall pipe on Plum Island, and Orient Harbor north of the Orient Harbor Yacht Club.

Shelter Island Sound, in the vicinity of Greenport Harbor and Gull Pond, first appeared on the NYSDEC *Priority Water Problem List* in 1993. It is on the 1996 *Priority Waterbodies List*. This indicated that the designated use of the waterbody, shellfishing, was precluded by the water quality in this vicinity. The waters of the Bay have been impacted by inputs of pollution from the Shelter Island Heights sewage treatment plant, from stormwater runoff and boats. Water quality problems in Shelter Island Sound have been identified as having a high resolution potential in the 1996 *Priority Waterbodies List*.

Gardiners Bay, in the vicinity of the Plum Island sewage treatment outfall, first appeared on the NYSDEC *Priority Water Problem List* in 1993 and is on the 1996 *Priority Waterbodies List*. This indicated that the designated use of the waterbody, shellfishing, was precluded by the water quality in this vicinity. The waters of the Bay have been impacted by inputs of pollution from the sewage treatment plant. Water quality problems in Gardiners Bay have been identified as having a medium resolution potential in the 1996 *Priority Waterbodies List*.

Orient Harbor first appeared on the NYSDEC *Priority Water Problem List* in 1993 and is on the 1996 *Priority Waterbodies List*. This indicated that the designated use of the waterbody, shellfishing, was impaired by the water quality of the Harbor. The waters of the Harbor have been

impacted by inputs of non-point source pollution, particularly from urban runoff. Other pollution inputs come from storm sewers and high concentrations of waterfowl, especially in the sheltered portions of the Creek during the winter months. Water quality problems in portions of the Harbor have been identified as having a medium resolution potential in the 1996 *Priority Waterbodies List*.

According to NYSDEC, Orient Harbor, with the exception of the sections identified above, is essentially free from significant sources of contamination. Long Beach Bay is certified for shellfishing except for Little Bay, which is closed from May 1 through October 31. Most of Orient Harbor is certified for shellfish harvesting, except for the area north of the Orient Yacht Club, which is closed from May 15 through October 31.

Many of the residences in the vicinity of the closed areas are seasonal and are generally located over 50 feet from the mean high water level. All of them are serviced by subsurface septic disposal systems. Although the area surrounding Long Beach Bay and Little Bay is largely undeveloped, waterfowl and wildlife have been found to cause elevated coliform counts tributaries to these bays.

The one marina in Orient Harbor, the Orient Yacht Club, has a pumpout station. The Club's restroom facility drains into self-contained concrete holding tanks that are pumped out weekly. (Source: Clinton Duell, August 14, 2001) There is one marina located on Narrow River on Long Beach Bay. The Narrow River Marina currently has a ban on marine sanitation devices and will not service vessels containing such equipment.

The waters of Dam and Spring ponds flow in and out of Orient Harbor. The majority of the few homes surrounding Dam Pond are located within 150 feet of mean high water. The homes on Spring Pond are generally closer. According to NYSDEC reports, neither pond experiences elevated coliform bacteria levels.

All the major waterbodies in Reach 5 have the potential to be impaired by stormwater runoff. Twenty storm drain outfalls, ranging in size between 3 inch weep holes to 24 inch pipes, enter Orient Harbor and two 12-inch storm drains enter Narrow River. The bulk of the drains are from the State Road, except in Orient village. Stormwater runoff from SR 25 on the Orient Causeway is channeled directly into Orient Harbor via drainage pipes in the seawall. Alternate measures to collect and route stormwater from the road to pre-siltation chambers or leaching fields should be explored to maintain surface water quality.

Potential impacts on water quality in adjacent Town waters can result from water quality issues in areas outside the coastal area of the Town of Southold. These are most pronounced in Reach 5 and 6, both of which are adjacent to Greenport Harbor and Shelter Island Sound. Water quality in these waterbodies is greatly influenced by development located within the Incorporated Village of Greenport and the Town of Shelter Island. The specific problems are discussed below.

The shoreline of Greenport Harbor is almost completely developed. Condominiums, restaurants, shops, marinas, docking facilities, boat yards, ship building and marine contracting yards, and seafood processing facilities are a sampling of the types of uses found along the shoreline. All of the residences and businesses in the Village of Greenport are connected to the Greenport Sewage Treatment Plant, which discharges its secondary level waste into the waters of Long Island Sound off of Clarks Beach in Reach 3. There is no local subsurface disposal of sewage in this area and

therefore, no potential upland sources of sewage contamination. However, there are several storm drainage outfall pipes that discharge directly from Village streets into Greenport Harbor. This stormwater runoff could be a significant source of pollution to the Harbor waters. The reader is referred to the *Local Waterfront Revitalization Program* for the Greenport Village for further details on the location and size of the outfall pipes.

Although most of the open coastal waters in Shelter Island Sound are certified for shellfishing, there is one large permanent closure area surrounding the outfall of the Shelter Island Property Owner's Corporation sewage treatment plant (STP). NYSDEC sets a radius of closure around all STP outfalls as a precautionary measure recommended by the *National Shellfish Sanitation Program* (NSSP) to protect human health. These safety zones typically encompass waters that could potentially be polluted by STP effluent in the event of a plant failure plus a buffer zone. The closure area surrounding the Shelter Island STP extends from the North Ferry dock on Shelter Island westward to Fanning Point, then northward to the Long Island Railroad dock in Greenport, and then southeastward to Chequit Point on Shelter Island.

In addition, there are several other smaller uncertified areas encompassing the numerous marinas located in Greenport Harbor. Similar to closure areas surrounding STP outfalls, NYSDEC also sets restrictions on shellfish harvesting within and around marinas, in response to NSSP recommendations. The period and extent of closure around marinas varies based on the number of boats, time of use and volume of water in the marina (NSSP Manual, 1990). Sterling Creek is also closed to shellfish harvesting.

Reach 5: Shellfish Harvesting - Water Body Classifications:

<i>Water body</i>	<i>Classification</i>	<i>Remarks</i>
Plum Gut	Certified	Localized uncertified area southwest of Plum Island, between the lighthouse, US Coast Guard "MS" buoy and southern tip of island.
Little Bay, Long Beach Bay	Certified	Area adjacent to Narrow River Marina and inside NYSDEC restricted area closed except during 11/1-5/14.
Dam Pond	Certified	
Hallock Bay	Seasonally certified	
Orient Harbor	Certified	Small area of seasonal closure surrounding Orient Yacht Club. Open during 11/1-5/14.
Gardiners Bay	Certified	Small area of seasonal closure within Orient-by-the-Sea boat basin. Open during 11/1-5/14.

Reach 5: Shellfish Harvesting - Water Body Classifications:

Spring Pond	Certified	
Gull Pond	Seasonally certified	Open from 12/15-3/31.
Shelter Island Sound*	Certified	Large uncertified area lying between Greenport and Shelter Island surrounding outfall of Shelter Island Property Owners Corp. Sewage Treatment Plant.
Sterling Basin	Uncertified	

(*including Greenport Harbor)

- Source:
1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, New York, excerpted from Part 4, Title 6, NYCRR.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.

Cornell Cooperative extension undertook an *Open Marsh Water Management Project (OMWM)* as part of the *Peconic Estuary Program's* demonstration/implementation projects. This project restored about 30 acres of tidal wetlands by filling and/or diverting mosquito control ditches to provide a more efficient natural filter of both nutrients and coliform bacteria. This project had dual benefits: restoring habitat areas and improving water quality. One aspect of this project involved installing small dikes within ditches that had been dug by Suffolk County Vector Control to control mosquitoes. Currently mosquito control in Orient and East Marion consist of using ditches to facilitate draining of the marshes. However, pesticides are used in conjunction with this method. Cornell is experimenting with an alternative method that eliminates the need for regular applications of pesticides. Installing dikes keeps the water level on the marsh high enough to allow a certain species of fish to thrive on the mosquito larvae. This method is under study, but shows great promise.

9. Historic resources

Reach 5's history goes back to 1661, when the original settlement was called Oysterponds. It still retains a wealth of documented historic resources, perhaps the greatest concentration of such within the Town of Southold.

(i) State and National Registers of Historic Places

There is one historic district listed on the State and National Registers of Historic Places in Reach 5: that of the original settlement of Oysterponds, now known as Orient.

- *Orient Historic District, Orient*

The Orient Historic District was listed on the National Register of Historic Places in May 1976. The following summary of its importance is extracted from the nomination form (OPRHP, 1976).

Orient Historic District encompasses approximately sixty acres, which comprise the center of both the historical and present community of Orient. The hamlet of Orient retains the atmosphere of a Long Island community of the nineteenth century. This district is bounded on its east and west sides by farmland, on the south by Orient Harbor and Gardiners Bay and on the north by NY Route 25, formerly the King's Highway, which was established in 1661.

Orient Historic District encompasses over one hundred dwellings and public buildings constructed between the late eighteenth and the late nineteenth centuries, all of which continue to be used and occupied. The most common of early Orient houses is the so-called Cape Cod type, a frame dwelling of one and one-half stories sheathed in shingles or clapboard, having a central chimney and moderately-pitched roof. The simple cornices of the earliest houses are nearly level with the tops of the first story windows. Later examples of this style in the district are two full stories in height.

During the nineteenth century, Orient experienced a succession of building styles, and within the district one can see adaptations of Greek Revival, Italianate, and Second Empire styles, as well as numerous examples of the rural vernacular frame architecture common throughout much of Long Island from approximately 1800 to the turn of the century. Orient District is particularly rich in examples of these nineteenth-century architectural styles.

In addition to dwellings, Orient Historic District includes Orient Wharf, the focal point for the community's seafaring activities since it was established at its present site in 1740. The quiet residential streets of Orient are lined with large spreading shade trees, among which is an ancient buttonwood tree at the intersection of NY Route 25 and Youngs Road which was already providing shade by the mid-eighteenth century.

Throughout its history Orient has resisted the incursions of modern development occurring elsewhere in the area. Though modern dwellings dot the historic district, the only concentrations of such structures are in areas peripheral to the district, chiefly along Oysterponds Lane and Navy Street. The community retains its rural atmosphere. Active preservation and restoration efforts by local residents perpetuate the architectural integrity of the district.

Orient Historic District: Distribution of Properties

<u>Street name</u>	<u># of pre-1900 structures</u>
Village Lane	55
King Street	14
Bay Avenue	9
Main Road	12
Oysterponds Lane	2
Skippers Lane	10
Orchard Street	11
Navy Street	3
<u>Willow/Vincent Streets</u>	<u>5</u>
TOTAL:	121

Source: NYS OPRHP, 1976

Orient Historic District: Noteworthy Structures

- *Richard Shaw House (west side lower Village Lane)*
The oldest extant structure in Orient, built ca. 1730. The building is a two story, shingle on frame dwelling, three bays by two bays in dimension, with a central chimney. The house is larger than most early homes of eastern Long Island.
- *Orient Wharf (Orient Harbor)*
The original structure on this site was erected in 1740 by Richard Shaw. A larger wharf of natural stone and rubble measuring twenty-five by one hundred feet was begun in 1829 by Caleb Dyer. The wharf was enlarged to two hundred feet in 1848, and it is this structure which remains in use.
- *Federal House (east side lower Village Lane)*
Erected in 1790, this dwelling is an excellent example of Federal architectural symmetry. This rectangular, hip-roofed frame house of imposing dimensions (six bays by two bays) is two stories high, sheathed in clapboard. Among its outstanding features are: a veranda extending the length of the front elevation, fine detailed cornices, and a balustraded deck across its roof. The house is owned by the Oysterponds Historical Society, which operates it as a museum.
- *George Vail House (east side lower Village Lane)*
This clapboard on frame dwelling built in 1833 is an excellent example of Long Island's rural Greek Revival domestic architecture. The house is a central pavilion flanked by identical wings. Pilasters at the corners of the pavilion and a portico that supports the projecting second story are significant features of this house.
- *Poquatuck Hall (southwest corner, Village & Skipper's Lane)*
This rectangular shingled frame structure with gable roof was built in 1870 as a civic hall. The building continues to serve this purpose, and is a fine example of the vernacular architecture of nineteenth-century Orient.
- *Richard House (east side lower Village Lane)*
A superior example of Orient's mid-nineteenth century frame architecture, this flat-roofed square clapboard structure with attached wing is notable for its two verandas with ornate scroll brackets, its bracketed cornice, and its louvered octagonal cupola.

The Orient Historic District is a living and largely untouched, visual reminder of the rural agricultural and seafaring heritage of eastern Long Island from the late eighteenth through the nineteenth century. Because of its location on Gardiners Bay, Orient's residents turned to the sea for their livelihood, both for fishing and for transporting agricultural produce to urban markets. The moderate prosperity and egalitarian spirit of the inhabitants is reflected in the architecture and uniform scale of its homes and public buildings.

The historic district encompasses over one hundred and thirty structures built prior to 1900 on the streets near the harbor, buildings which document the evolution of Long Island's rural vernacular architecture over a period of one and one-half centuries. Orient is particularly significant for

having retained a sense of timeless architectural harmony throughout its long, active life as a community. Virtually all the homes continue to be occupied. The residents are either summer or year-round residents. Commercial development has been all but excluded, the sole exceptions being a general store and post office. This hardy coastal community and its rural environment are among the last vestiges of a lifestyle that has all but disappeared from much of Long Island.

(ii) Local Historic Resources

Outside of the National Historic district there are many structures that are listed as being of local historical significance. These include a stone mile marker, two lighthouses, a former federal fort and living resources such as the Buttonwood Tree: all of which are described below.

Reach 5 also contains a site recognized by the Natural Heritage Trust.

- *Orient Beach State Park, Orient*

This park was designated in 1929. Located within the North Atlantic Flyway, it is cited by the Natural Heritage Trust because it provides habitat to a rare assemblage of birds and plants. The park contains several structures dating to the 1930s and 1950s which are considered locally significant examples of park buildings.

- *Stone Mile Marker # 2 , Orient Point*

Located at the terminus of SR 25, adjacent to the ferry terminal, this is the easternmost marker of the existing stone markers that was erected under Benjamin Franklin's term as U.S. Postmaster.

- *Plum Island Light, Plum Island*

This lighthouse guards the western edge of Plum Island at the head of Plum Gut Harbor. It is a two and a half story stone building with an octagonal light tower. Built in 1869, it is considered "a well preserved example of the integral dwelling house/light tower type popular during the second half of the 19th century." (Source: *Historic and Natural Districts Inventory Form, PI-3, Society for the Preservation of Long Island Antiquities, March 1988.*) At the time of its construction, the lighthouse was a replacement of an earlier structure dating back to 1827. The light was an extremely powerful one, with a range of 14 miles. In the early 1970s, the Coast Guard decommissioned this lighthouse and replaced it with an electronic light. Perhaps ironically, the lighthouse was declared to be eligible for designation on the National Register of Historic Places in 1973. Presently, the structure is owned by the United States Department of Homeland Security, which is cooperating with the East End Lighthouses nonprofit corporation and the Town on plans for its restoration. In 2001 East End Lighthouses, spearheaded a strong preservation effort to rescue the lighthouse from certain ruins. They successfully lobbied to have \$600,000 to \$700,000 worth of stone weighing more than 12,000 tons from the dismantled Sag Harbor breakwater transferred to Plum Island. At that time, the United States Department of Agriculture (USDA) budgeted 1.5 million dollars for erosion control in its 2002 budget. The project included the placement of the stone at the base of the lighthouse. East End Lighthouses has joined forces with the newly formed Long Island Chapter of the U.S. Lighthouse Society to raise money to renovate the lighthouse and reactivate the light. (Sources: *Newsday*. January 30, 2001, p. A24. February 4, 2001, p. G21. Merle Wiggin, Executive Administrator, Long Island Chapter, U.S. Lighthouse Society: Personal communication August 2002). No work can proceed without an agreement between the Department of Homeland Security and the Town of Southold. These agreements will be addressed when a plan for restoration of the lighthouse is prepared. An architect from the NYS

Office of Historic Preservation of Parks and Recreation is assisting the group to obtain the necessary approvals.

As application has been made to have the lighthouse placed on the National Register of Historic Places. The Coast Guard has agreed to reactivate the light once the lighthouse is restored.

- *Fort Terry, Plum Island*

Plum Island was part of a chain of fortifications that were built in 1898 at the time of the Spanish-American War. The fort included several buildings, including gun emplacements. The fort remained in use through WWI and WWII. After WWII, the fort was inactivated. Many of these structures are considered suitable for listing on the National Register for Historic Places. (Source: *Historic and Natural Districts Inventory Form, PI-4, Society for the Preservation of Long Island Antiquities, March 1988.*) However, due to the island's current use as a biological research laboratory, public access is highly restricted and restoration may not be possible.

- *Bug Light, Long Beach Bar*

This much photographed Victorian structure is a near replica of the original Bug Light built in 1870 and discontinued in 1948. The original structure was destroyed by arsonists on the night of July 4th, 1963. The reconstructed lighthouse, now an important federal aid to navigation, was the first project of the East End Seaport and Marine Foundation. The whole reconstruction project from the beginning until the relighting took only 60 days, making it one of the most unique lighthouse restoration projects in the world. (Source: East End Seaport Museum & Marine Foundation website, (www.eastendlighthouses.org) and Merle Wiggin, 2000).

10. Archaeological resources

There are at least nine known archaeological sites within Reach 5. Much of Reach 5 from the Causeway eastward is archeologically sensitive. [See Map II-17.](#)

11. Scenic resources

Reach 5 is a mostly open landscape dominated by a mix of agricultural uses and undeveloped wetlands and woodland. Low and medium density residential development is concentrated in the hamlets of East Marion and Orient and along SR 25 itself. The most densely developed part of Reach 5 is west of the Orient Causeway, although due to the fact that these homes are located on several private lanes running south to the waterfront, the degree of this density is not evident from SR 25.

Agricultural land is concentrated to the east of the hamlet of Orient. The impact of new residential development near the historic district has been mitigated by the use of traditional building design, and compatible landscaping. Orient Hamlet, particularly the National Historic District, is an important scenic component in Reach 5.

The shoreline in this Reach is a low one, fronted by extensive wetlands and beaches at its eastern end. The wetlands lessen the distinct edge to the landscape that is associated with the beaches. Long Beach Bay is one of Southold's most significant visual resources. The shoreline around Long Beach Bay is largely undeveloped. Bounded by Orient Point State Park to the south and extensive protected wetlands to the north, the pristine shoreline provides unique vistas.

The Orient Point State Park is another scenic component within Reach 5. This park is located on a long and narrow peninsula fronting on both Hallock and Gardiners bays. The park is almost entirely undeveloped and features scenic nature walks overlooking pristine surface waters and marsh. Orient Point State Park may be the most intensely used, publicly owned, scenic resource in Southold Town, especially in the summer when the park may serve as many as 2,000 people in a single day. Due to its geographic location, this park provides uninterrupted panoramic vistas of the open waters of Gardiners Bay, and of Gardiners Island, Shelter Island and Montauk in the distance.

SR 25 forms the northern boundary of Reach 5. This stretch of roadway offers excellent scenic views of Long Island Sound, Orient Harbor and the open countryside of Orient. The part of the roadway referred to as the *Orient Causeway*, offers sweeping scenic views of Dam Pond to the north (Reach 4) and Orient Harbor and Shelter Island. The North Fork Seaview Trail follows SR 25 for its entire length within Reach 5. The Narrow River/Orient Seaview Trail branches off the North Fork Trail at two points: at the State Park and at Narrow River Road. From Narrow River, the trail follows the contour of the dikes behind the marsh to King Street and Village Lane in the heart of the Historic District.

The Cross Sound Ferry terminal and the PIADC ferry terminal do not contribute positively to the scenic resources of the State-designated Scenic byway on which they front. In the former case, the existence of extensive paving, bereft of any landscaping, is the primary cause. The easternmost terminus of SR 25 runs alongside the staging area of the ferry dock, thereby contributing to the “sea” of asphalt that greets the eye. PIADC’s Orient Point facility is located a short distance westward of the Cross Sound terminal. The eight-foot high chain link fencing topped with barbed wire, and the tall lighting stanchions at this site are not positive enhancements to the scenic qualities of the SR 25s byway.

The Town’s concern for the visual aesthetics at the Cross Sound terminal site was expressed clearly in its Scoping Session outline and findings, in which it asked that the company address, as one of the mitigating alternatives, an integrated internal road and landscaping design for the ferry properties and the SR 25 right-of-way. The approved site plan for the easternmost parking area requires the addition of berms and landscaping as well as shielded lighting around the perimeter of the site. However, additional cooperation among the State Department of Transportation, the Town and the ferry company will be required to improve the scenic aspects of the remainder of this site at the terminus of the state road.

12. Protected resources

Table 5.1, below, lists protected lands within Reach 5. A total of 91 parcels encompassing 2,153.04 acres are considered protected from development. *Map II-4* shows the location of these parcels.

Reach 5 contains the most protected land relative to developed land of any Reach within the Town. The bulk of the protected land is located in the eastern part of the Reach starting at the Causeway and continuing around Long Beach, Little and Hallock bays, including the Orient Beach State Park. A considerable amount of this land is wetland or beachfront, almost all of which is protected by the State of New York, as explained earlier, in *Subsection 8. Natural Resources*. The remaining open space is mostly in agricultural production. About 592 acres were still in active farming use, of which 256 acres are protected; about 43%.

Most of the protected acreage is located in the eastern part of the Reach, from the Orient Causeway east. By contrast, there is relatively little protected land in the western part of Reach 5. The largest block of preserved land consists of three cemeteries encompassing 63.77 acres. The only other protected lands in the western part of the Reach include small waterfront parcels owned by homeowner or condominium associations and the Town-owned beachfront on Sterling Basin and Gull Pond Inlet (a total of only 18.3 acres). Altogether Reach 5 incorporates more than 1,100 acres of protected agricultural and wetlands.

Table 5.1 Protected Lands within Reach 5

Type of Ownership	Acreage	# of Parcels
Park District	41.45	3
Churches, Cemeteries	63.75	11
County Owned	.75	1
Peconic Land Trust	15.73	1
Subdivision Park	3.61	2
Schools	0	
Community Development Rights	273.38	5
State Owned	1185.17	5
Subdivision Open Space	5.78	3
Town Development Rights	126.42	5
Nature Conservancy	0	
Town Owned	23.1	21
Museums	0	
Village Owned	0	
Water Utilities	0	
NYS DEC	413.9	34
TOTALS	2153.04	91

Source: Town of Southold Geographic Information System, August 2002

The Town’s *Community Preservation Program Plan* (CPPP), which was adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold Town. It targets all Agricultural-Conservation zoned lands larger than 10 acres in size. Most all of this land (nearly 336 acres) is still in agricultural production. Additional details are provided in *Section II.B. Planning Framework, 8. Open Space Preservation Plan: 1989, 1998.*

The CPPP proposes to add to the preserved areas within Reach 5 by targeting the remainder of the unprotected farmland, even where that land is less than 10 acres in area. A number of these smaller parcels can be found around the Orient historic district, as these are perceived as being key to maintaining its historic character. The few remaining agricultural and waterfront properties left in East Marion were targeted in order to protect the rural and scenic character of East Marion. The key waterfront site in the western part of Reach 5 that is targeted for public acquisition is the site of the Long Island Oyster Company at the foot of Old Shipyard Lane, East Marion. This site was discussed in detail earlier in this *Subsection 7. New Opportunities for public access and recreation provision* and *Subsection 3. Water-dependent/water-enhanced uses and water uses.* It also is discussed in *Section B. Summary and Conclusions,* below.

13. Development constraints

Most of the farmed land within Reach 5 is found east of the Causeway. The land east of the Causeway consists of some of the most environmentally sensitive land within Southold Town. The shallow depth to groundwater precludes the use of public supply wells, thereby dictating an almost exclusive reliance on individual wells. The low topography contributes to the vulnerability of this land to storm damage, particularly during high tides and when driving winds come out of the south during gales or hurricanes.

The western part of Reach 5, as mentioned earlier, is quite densely developed. Much of the existing development would not be permitted under existing environmental regulations. Now that public water has been extended throughout much of this area, there are few constraints to the conversion of the remaining vacant and unfarmed land to residential subdivisions. The primary exceptions to this are properties containing fresh or salt water wetlands.

However, property zoned for Marine II uses (at the foot of Shipyard Lane) contains some constraints related to the limited public water supply presently available at the site, the lack of access to sewage treatment, the high ground water table and the need for dredging of the boat basin and channel. The small size and relatively shallow draft of the existing boat basin appears to be a drawback to more extensive commercial redevelopment of this site. However, enlargement of the basin will require Town and State permits as well as U.S. Army Corps approvals. The large metal and concrete block structures on the site are in a seriously deteriorated condition. Removal of these structures and reuse of this site may require environmental remediation.

The portions of the Reach immediately around the Village of Greenport include some vacant parcels, which function, in whole or in part, as drainage for upland areas in Reach 3 to the north. Their buildability is questionable. One of them encompasses 18 acres on the west side of Manhasset Avenue and has been slated for preservation under the *Community Preservation Project Plan*. Another parcel lying between Madison Street and Main Street south of SR 25, encompasses almost 8 acres of wetland and water.

There is one Residential-Office zoned parcel located at the southeast corner of the intersection of SR 25 and Main Road, Greenport. This 4.7-acre parcel occupies a very visible spot on a busy intersection. Nevertheless, the shape of the lot and its location have posed some obstacle to its development under the permitted uses of the Residential Office district.

(i) Public services and facilities

The eastern portion of this Reach is not supplied by public water. The western portion of the Reach from the Causeway on to Greenport Village is almost entirely supplied with water from the Suffolk County Water Authority.

The Village of Greenport is serviced by a sewage treatment plant. The Village provides sewer services outside its borders, in Reach 6, but not within 5. Individual properties have their own on-site wastewater treatment systems. The age and condition of these systems are not known since regulation of such is under the jurisdiction of the County Department of Health Services. However, due to the large number of lots less than an acre or half-an-acre in size within Orient hamlet and East Marion, and the large concentration of homes near water, where the depth to groundwater is shallowest, high nitrogen loading to the groundwater may be a problem in some

places. The fact that the Suffolk County Water Authority is running mains to East Marion residences is assumed to be evidence of that.

(ii) Flooding

The potential for flooding in Reach 5 is extensive. The portions of the Reach most likely to flood extend west from Orient Point to Orient Hamlet, particularly around Long Beach Bay and Hallock Bay. These flood-prone areas reach inland to SR 25 and northward in to Reach 4 in the vicinity of Mulford Point. Within Orient Hamlet, Narrow River Road, King Street, parts of Platt Road, Orchard Street and Douglas Road are affected by flooding, particularly behind the dikes. The streets adjacent to Orient Harbor most susceptible to flooding include: State, Main, Fletcher, Vincent, Willow, Bay, Navy and King.

The entire land area within the Orient Beach State Park is designated as an *Otherwise Protected Area* in the Coastal Barrier Resources system. The Orient Causeway, SR 25, in the vicinity of Dam Pond and Truman Beach, also is subject to flooding from both Long Island Sound (via Dam Pond), in Reach 4, and Orient Harbor. Much of this area is designated as an *Otherwise Protected Area* in the Coastal Barrier Resources system as well. Flood insurance is not available in this areas for structures that were newly built or substantially improved on and after November 16, 1991, or that are not used in a manner consistent with the purpose of the otherwise protected area.

West of the Causeway, flooding is less prevalent, but still is a threat where the elevation dips to near sea-level. Problem areas exist around Marion Lake and Spring Pond, between those water bodies and Orient Harbor. Bay Avenue, Orchard Road, Sylvan Lane, Cedar Lane, Gillette Drive and Manor Place are all affected by flooding near the shoreline. Due to the topography, soil types and degree of development, extensive areas around Gull Pond and Stirling Basin are susceptible to flooding.

On Plum Island, flooding is of less concern due to the low-density of development and the fairly elevated shoreline. The primary flooding threat to Plum Island lies to the south of Plum Gut Harbor in the vicinity of Pine Point. This area also is a designated Coastal Barrier Area (1990).

Flood areas are indicated on Flood Insurance Rate Maps that are prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms might act as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make development of some low-lying properties more attractive by requiring raised construction about the 10 foot contour. As seasonal cottages are winterized and expanded into year-round dwellings, they also are being raised on pilings or mounded earth. However, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems in the near future for emergency services personnel as the year-round population increases. The most troublesome area in this regard within Reach 5 is Rabbit Lane at Marion Lake, where a number of structures are partially within the CEHA. As more and more of these homes are enlarged and improved, the pilings are being buttressed with mounded earth, which may result in localized changes in the flooding pattern.

The town needs to develop a *Flood Hazard Mitigation Plan* to inventory potential troublespots and solutions.

(iii) Erosion

Beaches and wetlands are the dominant coastal landforms in Reach 5. The spit at Orient Beach State Point is the most significant and visible barrier feature in the Town of Southold. The characteristics of the landforms are described below. The predominate drift direction varies within Orient Harbor and Long Beach Bay.

Reach 5: Inventory of Coastal Landforms

Beach:

Location A beach runs along the entire coastline of Reach 5 with the exception of the north and south shores of Long Beach Bay, which are bounded by tidal wetlands.

Width 0-75 feet.

Composition Mostly sand and gravel ranging from 8 to 64 mm.

Dunes:

Location Orient Point State Park contains an extensive dune system, located on a barrier spit. There are 4 to 5 small (less than 640,000 sq. ft.) areas of vegetated dune formations.

Tidal Wetlands:

The northern shores of Long Beach Bay and Little Bay possess extensive tidal marsh areas. Smaller areas of tidal marsh are located south of the Orient Causeway and within Orient Point State Park.

Town of Southold, 1989

Much of the bayfront shoreline in Reach 5 is not protected by man-made barriers. Details of coastal protection structures within the Reach are outlined below. By contrast, almost all of the bulkheads within Reach 5 can be found within Gull Pond Inlet, Spring Pond and Sterling Basin.

Reach 5: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length 150,600 l.f. Total Bulkheaded 17.5%

Coastline

Length 66,600 l.f.

Bulkheaded 21.6%

Stone groins 38

Wood/metal groins 41

Jetties 8

Creeks, Inlets

Length 84,000 l.f.

Hallock Bay 2.7% bulkheaded

Orient Harbor Creek None

Marion Lake 2.5%

Spring Pond 70.3%

Gull Pond 71.7%

Town of Southold, 1989

Like much of the Peconic Estuary shoreline, Reach 5 has a wide range of erosion issues. Orient Point is fully open to Gardiners Bay and experiences waves similar to those on the Long Island Sound shoreline. The beach is composed of stone and cobbles, with three rock groins between the Orient Point ferry slips and Orient Point. Orient and Long Bay Beaches, west of the ferries, are also fully exposed to Gardiners Bay. The beaches form a long spit extending west-southwest and together with the tidal marshes consist of the Orient Beach State Park.

There is only one road affording access to and from the State Park facilities. Located nearer the Gardiners Bay side of the spit, it has been undermined and otherwise damaged during severe storms. Breached during the December 14, 1994 storm, the roadway has since been rebuilt slightly north of its old location.

The beachfront within the State Park is a mixture of rock and sand, except at the public bathing areas where it is primarily sand of a coarse and pebbly nature. There are about 10 groins in various state of repair along the beach, where the predominate direction of littoral drift is from east to west. Long Beach Point itself is reported to change its orientation from season to season. The spit protects Long Beach Bay, which is lined with intertidal marshes. Long Beach Bay is not exposed to wave-generated erosion, but some tidal currents have affected the shoreline. As mentioned earlier, in the 1800s a channel was dredged and lined with bricks to maintain access around Peters Neck and Browns Point. Although it has changed the circulation pattern, it does not seem to have caused erosion.

Orient Harbor is an open bay protected by Long Beach on the southeast and Shelter Island on the southwest from waves of Gardiners Bay. However, although Orient Harbor is only a little wider than 2 miles, wave action is sufficient to be the main cause of erosion and beach movement. Tidal currents are important in shaping the shoreline around Peters Neck and Long Beach Points. Between the end of King Street and Peters Neck Point, there are almost 20 groins along the beach. Here, the predominate direction of littoral drift is to the south. Then, near King Street, the predominate drift direction changes to the north. The shoreline from King Street to the tidal marshes at the head of Orient Bay is marked with a number of groins, bulkheads, and the Orient Yacht Club pier. The private shorefront road west of the pier (towards the Causeway) is armored with stone. There is practically no beach at this point except during low tide.

The Causeway itself is heavily armored with stone and concrete courtesy of the NYSDOT. The land area adjacent to the Causeway in certain places is less than 1,000 feet wide and this is where flooding waters from the bay or the sound cut off access to Orient during severe storms particularly those that hit at high tide. The Orient Harbor shoreline from Dam Pond westward to Spring Pond is lined with more than 20 groins and many bulkheads. The predominate direction of littoral drift is from northeast to southwest. The mouth of Spring Pond is kept open by a pair of jetties. The shoreline to the immediate east of Spring Pond is heavily groined and bulkheaded, but the shoreline further east attests to the disruption that can occur when shoreline protection structures are installed without careful study of existing geophysical processes. The shoreline at Cleaves Point is heavily bulkheaded or faced with stone. The entrance to Gull Pond Inlet is stabilized by jetties.

The stretch of coast from Cleaves Point past Gull Pond to Youngs Point does not experience high wave action. The fact that the beachfront to between Gull Pond Inlet and the Youngs Point

breakwater is in public ownership probably accounts for the lack of groins and bulkheads and the substantial beach that remains in the front of the waterfront homes here. The direction of sand movement in this part of the Reach seems to be from east to west, but can be highly variable. At the mouth of Gull Inlet, tidal currents result in the formation of shoals, both inside and just outside the inlet. These shoals act as a sink for sand, removing it from the beach system.

Finally, the Coastal Erosion Hazard Area (CEHA) within this Reach runs roughly parallel to the shoreline for much of the area. Starting at Orient Point, the landward line is about 100 feet from the water's edge for the entire frontage of the County Park. Just east of the ferry terminal area the line moves inland approximately 100 feet. At the entrance to the State Park, the line moves inland again to the middle of Long Beach Bay. The entire State park has been designated a Natural Protective Feature Area due to its barrier function within the CEHA.

At Peters Neck, behind the State Park, the CEHA zigzags in conformance with the remnants of the dikes erected by Orient farmers to protect the farmland from salt-water flooding. However, from King Street around the Orient Hamlet to Harbor River Road (Skipper Lane) the line moves seaward sharply to less than 100 feet from the water's edge, reflecting the relatively sheltered nature of this part of the harbor. From Harbor River Road (Skipper Lane) westward, the CEHA line moves inland again, following old dikes that separate the marsh from the farmland until it reaches SR 25 where it turns and follows SR 25 all the way to the west side of Dam Pond.

The west side of the entrance to Dam Pond is defined by extensive bulkheads and groins running along the beach all the way to Marion Lake. The CEHA line is less than 100 feet from the water's edge, but it runs behind the bulkheading for almost half the depth. At Marion Lake the numbers of bulkheads and groins increases and the appearance of the shoreline becomes more disjointed. Rabbit Lane runs parallel to the Lake and the Bay. The shallowness of the beach here, and the fact that nearly every structure on this street is either on pilings or mounded earth, attests to the vulnerability of this area to flooding during storms.

From Bay Avenue (at Marion Lake) to the east side of Spring Pond, the shoreline is relatively unprotected and the beach appears more stable. However, the west side of the entrance to Spring Pond is heavily developed and bulkheaded. Here, ten groins and a continuous bulkhead across less than 400 feet of shoreline attempt to protect a large residence. The CEHA line is less than 100 feet from the water for much of this portion of the shoreline from the west side of Spring Pond to the east side of Gull Pond. It moves inland at the site of the former L.I. Oyster Company and again on the west side of Cleaves Point until it reaches the east side of the entrance to Gull Pond Inlet where it ends. There is no defined CEHA west of this point on the bay side of Southold Town.

On Plum Island, the CEHA line extends around the entire island roughly parallel to the shoreline. Its distance from the water varies between 100 to 400 feet depending on elevation. There are a few isolated structures within the CEHA, but most appear to be of a military nature.

In general, although there is extensive shoreline protection in this Reach, there are few structures other than bulkheads actually within the CEHA, unlike Reaches 2, 3 and 4. The substance and importance of CEHA are explained in *Section II.1.2.(v)(b) Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 5, three distinct land use situations have been identified within the Reach:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below. Underutilized sites are identified on [Map II-J-5](#). From this analysis, the Town of Southold has identified a series of areas of special concern which require greater attention in the LWRP. The location of these areas of special concern are also identified on [Map II-J-5](#).

(i) Areas of existing stable uses

The residential areas concentrated around the hamlets of East Marion and Orient have been identified by the Town of Southold as areas of existing stable uses. Changes within these areas probably will be limited to infill and upgrades (expansion and revision) of existing development. Now that public water has been extended to East Marion, it is highly likely that infill development may occur more quickly there. In Orient, the lack of public water and the shallow groundwater table may continue to be an obstacle to some development.

(ii) Areas subject to development pressure

Much of Reach 5 is subject to development pressure for luxury second homes. In the easternmost part of the Reach, the greatest threat is to the remaining agricultural lands whose value has been heightened by the fact that the vistas from these properties is guaranteed: which is one of the benefits of public preservation of the waterfront and the adjoining farms. The historic hamlet of Orient is facing the threat of losing the rural buffer that defines its boundary as the surrounding agricultural lands are converted into large lots with luxury homes. Also, loss of historic structures coupled with the construction of new residences of radically different architectural styles may threaten the unique character of the National Historic District over time. The residents of Orient are well aware of this threat and have expressed considerable concern over it.

In the western part of Reach 5, there is comparatively less land available for development. Much of the vacant land is part of the physical and visual buffer between SR 25 and many of the existing residences on the waterfront. Around the Village of Greenport, there may be an increase in development pressure if the Village's economic renaissance continues. However, infill development in keeping with the Village's character is considered appropriate for this part of the Reach.

Perhaps the most targeted property with Reach 5 is the site of the former L.I. Oyster Company at the foot of Shipyard Lane. Its redevelopment potential is significant. This site is discussed in more detail in the next subsection.

(iii) Underutilized sites

The Town of Southold has identified a few underutilized sites within Reach 5. These are discussed below, again, in order, from east to west. The location of these areas are identified on [Map II-J-5](#).

New York State Route 25 terminus at Orient

The terminus of SR 25 at Orient Point is considered underutilized from the point of view of public access to the beach and the scenic vistas of that site. The use of the roadbed is entirely given over either to parking or to the movement of vehicular traffic to and from the ferry boats. The surrounding land is mostly a haphazard patchwork of parking and undefined pedestrian travel paths. Public access to the water and the view takes a distinct back seat in this situation.

Various street ends in Orient/Narrow River Road

As mentioned earlier in *Subsection 7. New opportunities for public access and recreation provision*, the existing street ends throughout the eastern part of Reach 5 could be better utilized if some consideration and thought were given to making them more usable and attractive.

Former Long Island Oyster Farm, East Marion

The former Long Island Oyster Farm site encompasses 18.9 acres, including the bottom of the boat basin. The property is zoned Marine II and contains the derelict remains of a seafood processing plant. It could be redeveloped with a number of water-dependent uses. Given its size, it also has good potential to be made into a multiple-use facility accommodating water-enhanced recreational uses as well as the typical water-dependent uses allowed under the existing zoning. This site is also a feasible location for a Town-owned marina. Public ownership of this site may be more compatible with the surrounding residential neighborhood than commercial operation. It would also provide public access within this reach. The derelict state of the buildings is but one major obstacle. The other is the unanswered question of whether specialized environmental clean-up efforts may be necessary before this site can be re-used. Public acquisition of the site would enable the use of Brownfield monies to clean it up.

Boat launch and parking area adjacent to Baymen's Dock, Beach Street, Sterling Basin, Greenport

This site has enormous potential to provide low-impact public access and water-related recreation to the immediate neighborhood, which hosts a high population density. However, the site is in dire need of redesign and better landscaping. There is an excessive amount of paving on the site relative to the number of cars typically found there. Most of the .666-acre site is covered with asphalt. There is no landscaping save a sadly treated wetland fringe between Baymen's Dock and Brewers Yacht Yard. There are no amenities at the site save the water and lighting provided to the users of the dock. Use of the beach for bathing has been precluded by the location of the ramp and the paving over of much of the beach. With careful re-design of the ramp, removal of paving and reintroduction of indigenous wetland and other beach vegetation, this site could be a real asset to the community.

(iv) Areas of Special Concern

The Town of Southold has identified a number of *areas of special concern* within Reach 5. These are geographic places that feature natural or cultural resources in need of protection, or where key development (or redevelopment) strategies would revitalize the surrounding neighborhood. These are examined in more detail below.

- *Orient Point*

The primary issues here involve resource and park management, preservation of scenic resources and management of traffic congestion.

As stated in Reach 4, the Orient Point County Park is in need of better conservation of its natural resources, as well as a heightened level of park management. The gateway to the County Park is accessed from SR 25 and is clearly visible from Reach 5.

The second issue of concern to this specific area is the mitigation of a region-wide transportation service on a rural community. The escalating volumes and speed of traffic to and from the ferry on a rural two-lane highway have been (and will continue to be) the intense focus of local controversy. Earlier, *Subsection 11. Scenic Resources* discussed the negative impact of extensive paving at the terminal site on the local scenic resources. Here, attention is called to the larger issue: the question of to what extent a locality should be made to bear the brunt of regional transportation access due to the reluctance of other localities to accommodate their fair share of access. This question is examined in greater detail in *Subsection (ix) Transportation management*, below, *Section K. Summary and Conclusions* and *Section VI State and Federal Action and Programs Likely to Affect Implementation*.

The issue of ferry-related traffic congestion must be considered in conjunction with the increasing popularity of the nearby Orient Beach State Park and the rest of the North Fork as a tourist destination. The Town is greatly concerned about the increased levels of traffic being generated by the Cross Sound Ferry Company, the State Park at Orient Beach, and the federal research laboratory at Plum Island, as well as that generated by tourists and residents. State Route 25 in this vicinity is a two-lane rural highway. It is also the only east-west arterial. The congestion caused by the increased level of traffic has been further complicated by the general increase in speeding on the State highway and the lack of State enforcement of same. Widening of this historic highway is not an option. As the capacity of this rural two-lane highway is being strained by the joint presence and impact of a popular State park, a federal research facility, and an interstate transportation facility regulated by the State, it becomes evident that the Town faces serious obstacles to managing the traffic and maintaining its quality of life. Federal and state agencies are exempt from many or all local controls. Improved coordination of projects among federal, state and Town agencies would be helpful in resolving these problems. Again, the ramifications of this issue are discussed in *Section K. Summary and Conclusions* and *Section VI State and Federal Action and Programs Likely to Affect Implementation*.

- *Long Beach Bay (including Hallocks and Little bays)*
The primary issues of concern in this area involve protection of the wetland ecosystem, and maintaining the ecological integrity and productivity of this estuary. Although most of the land around Long Beach Bay and its tributary creeks and river are protected from further residential development, there remain outstanding concerns about wetland protection. As the few remaining shorefront lots in this vicinity are developed, there will be increased pressure to allow catwalk access from the homes over public wetlands to access the bay waters (and, presumably, a dock and a boat). The Town Trustees are grappling with this issue because it invokes the issue of whether public property should be used for private purposes of this sort. Due to the regional ecological significance of this ecosystem wetland protection should be a priority and private catwalks over public wetlands prohibited or restricted.

The Long Beach Bay complex is probably the most pristine and most productive ecosystem within the Town of Southold. Its high water quality and productive shellfish beds have not been degraded, but the potential exists for careless abuse, particularly if the Town is not successful in protecting more of the surrounding farmland from development. The point may come when the

Town will have to devise a resource management plan to protect the Bay's ecological integrity and productivity.

The State park forms the southward land border of this Bay. Its management by the State, particularly with regard to public access to sensitive habitat, whether by boat or by land, also is a point of concern. The escalating visitation levels have raised concerns about the impacts of the increased traffic on the East Marion and Orient communities.

- *Orient Hamlet*

Preservation of this unique historic entity is of primary concern. Fortunately, strong citizens' groups, e.g. the Orient Association and the Orient Historical Society, maintain careful watch over their treasure. But the Town must ensure that the character of the surrounding lands, mainly the farmfields continue to *define* the hamlet as a *hamlet*. Further, the Town must provide clear financial and other incentives for the protection and continued use of its historic structures.

- *Orient Harbor & Causeway*

The primary issues of concern here is with water quality and erosion. This harbor probably would benefit from the removal of direct discharge of stormwater runoff from roads. The State highway is probably the largest contributor of direct discharge, particularly along the Causeway. Continued state improvements to the highway over the last decade have not been accompanied by any significant improvements to the stormwater runoff problem. However, within the hamlet of Orient, the Town bears its fair share of the problem.

The future management of the Harbor probably should focus on reducing the need for shore protection structures and new groins.

- *NY Route 25 Corridor*

There are many issues of concern along this corridor. The primary ones east of the Causeway are different from those to the west in some respects. To the east, the continued loss of the remaining land in agriculture is one the Town hopes to stem through key acquisitions in its CPPP. To the west, there is a limited potential for existing and future commercial development to degrade the scenic quality of the corridor for the simple reason that so little commercial zoning is permitted within Reach 5.

There are two sets of concerns that apply to the whole Reach although in different forms; one is traffic, the other is aesthetics. Traffic congestion and speeding are a problem now. They are going to be of greater concern as residential infill continues to add to the traffic loading of the only east-west route in this part of Town. As mentioned earlier, every subdivision south of SR 25 has only one way out, north onto the highway. There is no network of parallel internal connector streets within this Reach, save Champlin Place near the Village of Greenport. The continued expansion of ferry service in terms of greater capacity, faster boats and increased hours of service will only add to the problems being experienced by the community within Reach 5, particularly in the western part of the Reach because of its greater population density.

The second issue, aesthetics, has two variants. To the east, particularly at the Causeway, the proliferation of overhead lines on both sides of the road has desecrated a truly beautiful viewshed. Throughout the Reach, but most notably in the more heavily treed sections to the west, the trees that once arched over the road have been carved back from the overhead lines into forms totally

unlike their natural shapes. Further, prevailing practices in State highway management have resulted in the removal of many trees and other fixed objects from the road shoulders in order to facilitate safer “run-off-the-road-recovery-areas” in known problem spots. This practice is perceived as making it possible for drivers to travel at higher speeds – in direct contradiction to community preferences for shade trees and slower speeds.

The Town has taken the initiative in redressing the aesthetic aspects of this situation by requesting cooperation from the State Department of Transportation, the Long Island Power Authority and Keyspan. A pilot program of replanting trees in Orient and East Marion proved the value of such cooperation and since that time agreement has been reached on an effective coordination process whereby the Town is consulted about potential tree removal or pruning in advance of such actions. Where tree removal is found to be necessary, arrangements are made for replacements.

- *Stirling Basin*

The primary issues in Stirling Basin revolve around harbor management and water quality. Since most of the Basin lies within the Village of Greenport’s jurisdiction, the Town’s potential role is not substantial. However, it can set a tone by better design use and management of the Sandy Beach Road property, which is discussed several times in this Inventory and Analysis. Further, it could work with the Village to jointly redress direct discharge of stormwater runoff from roads into the basin.

- *Gull Pond Inlet*

The primary issues of concern in Gull Pond Inlet are those of harbor management and water quality. The high number of docks and moorings within this water body and the high level of boating activity (loading and unloading) taking place at the NYSDEC ramp near the Inlet entrance all point to a need to establish some limits. The large number of boats moored here are of concern to the Town Trustees, who currently have a cap on adding any more boats due to congestion and lack of sufficient maneuvering room. Since this water body is probably operating at or near maximum capacity, the Town probably should be looking for additional water access elsewhere, rather than trying to cram more activity into this Inlet.

- *Plum Island*

The primary issues of concern with regard to Plum Island are two-fold: public safety and historic preservation. The Town’s law enforcement and emergency personnel are responsible for providing public security and safety within the boundaries of the Town. SR25 is a two-lane highway providing the only east-west access to this part of the Town. Recently, jurisdiction over ferry services was shifted from the Coast Guard to the Department of Homeland Security for national security reasons, and as a result, the Town’s Police Department has been expected to undertake the burden of increased and heightened security patrols without any financial compensation. The Town not only respectfully requests the courtesy of reasonable notification in advance of any expansion or change in the operations at PIADC that might affect the Town’s ability to maintain adequate levels of protection but also of direct financial assistance to the Police Department.

As discussed earlier in *Subsection 9. Historic Resources*, some of the island’s nautical and military structures are of State and National ranking, thereby worthy of preservation. Until recently, historic preservation of any structure on Plum Island was not a priority. Nevertheless, despite the restricted status of the island, the historic heritage should not be allowed to continue to disintegrate. Key

structures, particularly the lighthouse, are badly in need of protection from erosion and lack of maintenance. Timely action is needed now before these historic resources are lost.

These concerns relate to the current use and ownership of Plum Island by the federal government. If that use and ownership were to be terminated in the future the Town will need to provide a zoning designation for the island. At this point, designation of the island for park or educational purposes appears to be the most attractive option.

- *Marion Lake*

As former summer cottages morph into larger homes, and development within the watershed increases, the pollution level of Marion Lake is likely to worsen. A preliminary survey by Cornell Cooperative Extension Marine Program found that a number of chronic and acute factors are affecting the Lake. These include:

- Chronic
 - migratory and resident waterfowl
 - residential cesspools
 - stormwater runoff
 - atmospheric deposition of nitrogen
 - groundwater contamination
 - back flow of saltwater through drain to bog
- Acute
 - illegal dumping
 - severe storm events (heavy rains and saltwater inputs)

The survey recommended a more thorough study to determine how best to prevent further deterioration of the water quality as well as to move up the nutrient laden layer of organic sediment. (Source: *Cornell Cooperative Extension Marine Program*, memo from Chris Pickerell and Steve Scott, June 2000).

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 5 that should be examined in the LWRP. These are explained below. Further detail about potential responses to these issues is provided in *Sections III, IV and V* of this document.

(i) Agricultural protection

The eastern part of Reach 5 contains prime agricultural soils. However, unlike most of the Reaches, proportionately more of the farmland within Reach 5 is protected than unprotected (46%). Equally fortuitous, both by design and luck, the marsh and wetlands bordering the protected farmland also is protected from development. Furthermore, most of the protected land borders Long Beach Bay in a fairly consolidated block. However, a few farmland parcels still remain unprotected, and their location in the midst of the protected land has driven their value upwards. Since most of these properties are long and narrow, reaching downward from SR 25 towards the water's edge, their development will serve to drive wedges into the farmland and the vistas.

(ii) Harbor management issues

Harbor Management Issues in Reach 5 pertain to Orient Harbor, Long Beach Bay, Gull Pond and Sterling Basin. In Long Beach Bay, the primary concern is protecting the ecological resource from overuse. In Orient Harbor, there are concerns about the bay bottoms, specifically the potential for conflicts between baymen and recreational boaters. The questions include “Where (and how many) moorings should be permitted near shellfishing ground and eelgrass beds? Should direct discharge of stormwater runoff be eliminated? How to prevent discharge of sanitary wastes into the waters?” and finally, “To what degree new shore protection structures should be permitted to be introduced or existing ones repaired?” In Gull Pond Inlet and Sterling Basin, the management issues clearly revolve around the conflicts that arise in a confined area where a great deal of boating and mooring activities are taking place. The situation in Sterling Basin is complicated by the fact that the Village of Greenport has jurisdiction over the greater part of the basin, even though two of the largest marinas lie within the Town’s waters. However, it should also be noted that water quality issues near these two marinas appears to be of less concern than elsewhere in the Reach.

(iii) Public access and recreation

Reach 5 contains a substantial amount of public access and recreation but that access is not distributed evenly throughout the area. The bulk of the access is located at Orient Beach State Park, at the far eastern end of the Reach. Access is only by land. The State Office of Parks, Recreation and Historic Preservation has been re-evaluating the appropriateness and possible type and extent of boater access to the park. In 2003, under a pilot access program, limited non-motorized boating access to a portion of the Long Beach section of the park was allowed under permit only. The agency will evaluate this program and determine if any adjustments are necessary.

Within Orient Hamlet, the road ends provide some public access to the water, even if the “access” is limited in extent. The south side of the Causeway is considered to be access because it functions, however unintentionally, as a scenic overlook of Orient Harbor. However, within East Marion, because of the large number of private subdivisions on the waterfront, the public access points are limited basically to Bay Avenue, Klipp Park at Gull Pond Inlet and the parking lot and ramp at Sandy Beach Road. As mentioned earlier, only Klipp Park has been developed to maximize public access and recreation. The Bay Avenue site is virtually unusable due to the slab of concrete covering the beach. But, the Sandy Beach site has great potential for improved access.

The provision of more public access closer to where most of the people in Reach 5 live seems to be a sensible goal. The public acquisition of the former Long Island Oyster Farm property at Cleaves Point would be a major step towards meeting that goal.

(iv) Protection of habitats and wetlands

Reach 5 features wetlands and habitats of Statewide as well as local significance. These resources are concentrated around Long Beach Bay and Orient Harbor. Their protection, management and enhancement is one of the focal points of the *Peconic Estuary Program* of which the Town is a part. The land preservation policies espoused earlier are intended to assist in the effort to protect this unique resource.

(v) Fishing and aquaculture

The suitability and compatibility of locating open-water fish farms near Plum Gut needs to be determined along with the economic feasibility of such operations.

(vi) Protection of water quality

Degradation of water quality from the direct discharge of stormwater runoff and from on-site wastewater treatment systems located too close to the ground or surface waters are a major concern. In the eastern part of Reach 5, obviously the less new residential development that occurs within the watersheds of Long Beach Bay and Orient Harbor, the lower the potential for water quality degradation. However, the stormwater runoff problem will require cooperation and investment by the State. It may be prudent, and even necessary to develop watershed plans for Orient Harbor and Long Beach Bay in order to ensure this cooperation and protection.

By contrast, in the western portion of the Reach, the degree and nature of existing development, particularly on the ponds, basins and inlets, pose near insurmountable obstacles to improving the water quality in those bodies of water. Intensive and ongoing public education programs probably are the only effective way of ensuring against excessive use of fertilizers and pesticides on waterfront lawns. The regulation of septic systems, their use and their placement, essentially lies with the Suffolk County Department of Health Services under State Public Health Law. Relocation of septic systems away from the waterfront, wetlands and high groundwater would help. In some places infill of undersized lots could be merged so as to reduce density.

(vii) Flooding and erosion

Flooding and erosion within Reach 5, particular at Orient Beach State Park and along the Causeway are functions of the low elevation and geographic location relative to prevailing wind and wave action. Fortunately, the relatively undeveloped state of much of the land in the vicinity of these portions of the Reach reduces the need for undue concern over these natural processes.

Elsewhere within the Reach, the few structures within the CEHA should not be encouraged to be rebuilt within the CEHA. Where the lots are too small to permit property owners to relocate their residences farther from the water, or where the lot lies almost entirely within the CEHA, strict compliance with federal FEMA regulations will necessitate additional investment by the Town in the ability of emergency services personnel to evacuate residents over flooded access roads.

(viii) Protection of scenic resources

Reach 5 features a variety of unique and stunning scenic components. The eastern part of the Reach is a mostly open landscape with a concentration of low and medium residential development around the hamlets of East Marion and Orient. The shoreline characteristics here feature wetlands and beaches. Sweeping, panoramic views of Gardiners Bay and Orient Harbor can be seen across farmfields and acres of salt marsh. Many of these scenic components can be viewed from local roads and from the public parks along the shoreline. Two of the Town's Seaview Trails (Narrow River and Orient) take advantage of these vistas. However, the reluctance of the regional utility company to bury power lines underground has seriously degraded the viewshed along the Causeway. Further, LIPA's policy of leaving lines aboveground and adding several ranks of lines to a pole necessitates severe vertical as well as horizontal trimming of roadside trees, which has further impacted the viewshed along SR 25, as well as that of the local roads. Protection of these resources will require a combination of preservation efforts: acquisition of active farmland or

development right and more cooperation on the part of LIPA in the direction of undergrounding lines.

Finally, as is the case elsewhere in the Town, while most residents respect the existing terrain and natural habitat in the design of their homes, there are abuses whereby the terrain is completely reshaped, and the native habitat is removed and replaced with sod another non-native ornamental plant species. Suburban landscaping of this sort not only destroys ecological habitat it tends to require intensive applications of fertilizers and pesticides, which are detrimental to ground and surface water quality. If this trend continues and education efforts are ineffective, it may become necessary for the Town to adopt restrictions against wanton clearing of indigenous habitat near sensitive coastal features in order to protect both habitat and water quality, not to mention the scenic vistas.

(ix) Protection of historic resources

Of all the Reaches in Southold, Reach 5 possesses the crown jewel of historic preservation efforts: the Orient Historical District. As discussed earlier in *Subsection 9. Historic Resources*, this resource is unique and deserving of continuing protection. Until recently, the Town had not considered the impact that the loss of the surrounding farmlands to large lot residential development might have on this district. Further, the Town needs to pay closer attention to the continuing threat of visual degradation of the district and its immediate surroundings by the introduction of wireless communication towers, the addition of more overhead power lines and poles, and the continuing removal of trees from within the road corridor.

(x) Transportation management

Traffic has become one of the most pressing and controversial problems within Reach 5. There is only one east-west route through the Reach. Traffic volume has been increasing within the last decade. This growth has been attributed to the following: the increase in ferry traffic, the increase in attendance at the State Park, and the increase in population living within this portion of the Town. It is evident that the Town will have to assess the degree to which each factor contributes to the problem, and formulate appropriate solutions.

It is anticipated that, continued residential infill development within Reaches 4 and 5 will increase the overall volume of traffic. One solution is to escalate the preservation of remaining agricultural and vacant lands. The number of visitors to the State Park swells during the summer months and peaks on weekends, especially during special events. The Town will consult with the State Park office regarding any concerns and information it may have about the operations of the park. A cap may need to be placed on the number and type of crowd-drawing special events that take place during summer weekends. As for the ferry service, the increasing volume of traffic related to the ferry points towards the need for a regional solution.

Ferry service is experiencing a regional and national resurgence as major highways become more and more congested. The demand cannot be met by the Orient to New London ferry alone. Additional ferry service is needed between Long Island and Connecticut in order to share the burden more equitably among coastal communities.

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REACH 6: VILLAGE OF GREENPORT LINE AT FANNING POINT TO TOWN CREEK

A. INVENTORY AND ANALYSIS

1. Location

The Reach 6 shoreline runs from the Village of Greenport's western border at Fanning Point southward to Town Creek. Pipes Cove, Southold Bay and Shelter Island Sound bound this shoreline. The northern extent of Reach 6 runs along County Route 48, with land to the north of this road located in Reach 3. The eastern boundary of the Reach runs from Fanning Point north along the Town's border with the Village of Greenport's to North Street, where the boundary line shifts to the west along North Street to its junction with Moores Lane. At Moores Lane, the boundary shifts to the north to the Lane's junction with CR 48, whereupon it runs in a westerly direction to Youngs Avenue in Southold. The western boundary of the Reach runs south along Youngs (Railroad) Avenue from its intersection with CR 48 south to SR 25, then east along SR 25 to Hobart Road, then south along Hobart Road out to Southold Bay.

2. Land use and development

The predominant land uses within Reach 6 are medium density residential uses, followed by agricultural, resort residential and vacant lands. Other uses include marine commercial uses, hamlet business, resort and seasonal residential development, and institutional uses. The LIRR track runs close to the waterfront in this Reach. Its presence has had a noticeable impact on the pattern of land development in this Reach. Smaller lots and more intense development are found to the south of the track. Larger lots and open fields characterize the area north of the track.

The waterfront between Budds Pond and Conkling Point contains the most intensive concentration of marine commercial and water enhanced uses in the Town of Southold. The northern edge of Reach 6, where it borders Reach 3, also contains water-enhanced resort uses. The two reaches combined contain the largest concentration of seasonal cabins and motels within the Township; a result, no doubt, of the extensive waterfront, the beautiful water views, the sandy beaches and easy boating access as well as the historical availability of public water in this area. The land use pattern in Reach 6 is illustrated on [Map II-5](#).

Although residential development is dispersed throughout the Reach, the greatest concentration lies south of the LIRR track. The original hamlet of Southold had its beginnings in the neighborhood northwest of Founders Landing on and around SR 25, then known as *The Kings' Highway*. This neighborhood falls within Reaches 6 and 7.

Much waterfront property within this Reach has been subdivided and largely developed with the major exceptions of the lands north of SR 25 on the west side of Hashomomuck Pond and the marshy lands south of SR 25 between Pipes Neck Road and Ninth Street where Silver Lake drains into Pipes Cove. The high clay content of soils in certain portions of the Reach around Hashomomuck Pond and the Village have presented significant problems for the siting of septic systems and for site drainage.

The residential lots in this Reach are for the most part an acre or less in size. Many of the smallest lots originally hosted small seasonal residences. Today, these seasonal homes typically have been expanded and winterized. There are two small condominium townhouse developments within this

Reach, one fronting on Pipes' Cove on the easternmost boundary of the Reach, the other on the south side of CR 48 with water views of both Long Island Sound and of Hashomomuck Pond.

Throughout the Reach, residential communities typically contain a mix of year-round and seasonally used dwellings. However, strictly seasonal residential uses can still be found. These include the Breezy Shores seasonal cabins, which are thirty, older structures located on a private right-of-way known as Sage Boulevard on the western side of Conkling Point, and Terrace Colony and Mill Creek Colony at the northwest corner of Hashomomuck Pond. There are four small- to medium-sized motels located within this Reach: Drossos Motel on the north side of SR 25 between Chapel Lane and Albertson's Lane, the Silver Sands Motel at Silvermere which is located on Pipes Cove, Terning Point Inn which is located within Albertson Marina complex at Budds Pond, and the Southold Beach Motel on the south side of CR 48 just opposite Town Beach on Long Island Sound.

The Drossos' Motel complex is located on SR 25 and is the smallest with 14 rooms. The motel complex includes the only 18 hole miniature golf course in Town, an accessory ice cream snack bar, a chicken take-out restaurant, and a gift shop: making this place a popular family destination during the summer months. The 20-room Terning Point Inn is located on SR 25 within the Albertson Marina complex. The Silver Sands Motel is situated on a sandy beach directly on Pipes' Cove facing Shelter Island. In addition to 37 rooms, this Motel also provides private cabins, along with an in-ground swimming pool. The Southold Beach Motel contains 15 rooms and is situated one block from Hashomomuck Pond and offers views of Long Island Sound across CR 48.

There is one KOA Campground facility located within the Town, and it is located within this Reach south of CR 48, just north of Moore's Woods. Located across the highway from Inlet Point Park, it contains 148 campsites. Water, showers and electricity are available onsite.

Commercial uses are located primarily along SR 25 and have included as many as nine restaurants or eateries. Seven are in operation at this time; four of them have water views of Peconic Bay near Hashomomuck Pond. Not all of the restaurants remain open year-round, and of those that do, some have reduced hours of operation during the slower winter months.

The small, retail establishments within this Reach include several antiques and gift stores, liquor stores, a barber/beauty shop, delis, marine supplies, bait and fish shops, real estate offices, a florist shop, a fitness center, a combined deli and butcher shop, a retail complex that was fashioned from two former residences and the outbuildings, an animal hospital attached to a residence, two discount retail outlets, insurance offices, a strip shopping center, a printing shop and several small professional, medical or business offices. Larger business or industrial uses include a gas station with a repair garage, Mills Canvas' manufacturing facility, two large lumber supply companies, two custom welding shops, an asphalt plant and storage yard, a Cablevision Satellite Station, two 7-Eleven stores and a car dealership consisting of a showroom, a car lot, a body shop and repair garage.

Institutional uses include the Greenport Elementary, Middle and High schools, a church, a tourist bureau, a large electrical substation, and a New York State Department of Transportation field station, all on SR 25. The San Simeon Nursing Home is located in this Reach on the south side of CR 48 to the east of Chapel Lane. It operates at a top capacity of 150 beds. Reach 6 along with Reach 7 contains the bulk of Southold hamlet's business district and services.

Some of the developed commercial properties are capable of accommodating additional limited growth in accordance with the current zoning code. Most of the marinas in the area could expand their services and facilities to a limited extent. There is undeveloped commercially zoned land within Reach 6 that is still available to accommodate new businesses. There also are several acres of industrially zoned land available for development within this Reach. However, much of it has environmental constraints, which may account for its having remained undeveloped despite its close proximity to the business centers of both Southold and Greenport. Although Reach 6 is quite developed, more than 300 acres of land remain in active agricultural production. However, only 29 acres (9%) of this land is protected. Thus, considerable residential development could occur in Reach 6.

3. Water-dependent/water-enhanced uses and water uses

The water-dependent and water-enhanced uses in Reach 6 are concentrated primarily around Mill Creek and Budds Pond. Reach 6 (as a whole) contains the highest concentration of marina-related uses in the Town of Southold. The water-dependent uses include marinas, boat-launching ramps, and beach access at public road ends. Water-enhanced uses include seasonal cabins, motels, and restaurants. Most of the dependent/enhanced uses (except for local road ends) are directly accessible from SR 25 or CR 48. There are a few exceptions to this, but for the most part, access is fairly direct without the need to drive through residential neighborhoods. The stretch of SR 25 from just east of Bay Home Road and the bridge over the LIRR tracks is unusual in that it offers water views to the occupants of the vehicles on the road as well as to the patrons of the dependent/enhanced businesses located along this shoreline.

Due to the location of the existing water-dependent/enhanced uses on SR 25 relative to Greenport and Southold, as well as to Shelter Island Sound, expansion and intensification of these uses is expected to continue. The residential communities that border this particular concentration of dependent/enhanced uses are fairly well buffered (for the most part) from the visual and traffic-related impacts.

(i) Recreational boating

There are five commercial marinas located in Reach 6. These are concentrated between Sage Cove and Budds Pond. Together these marinas provide an estimated 600 in-water slips. This amounts to 25 percent of the marina dockage throughout the whole Town. The full range of boating services can be found within this stretch of the Reach, including at-grade and dry rack storage, the full range of repair services, and pumpout facilities. Some of the marinas offer additional water-enhanced amenities related to their business. Since each marina caters to a specific, identifiable niche in the recreational boating market, they collectively offer a wide range of service and price options. A more detailed review of each marina is provided below, starting from west to east within the Reach. A discussion of the problems related to Bay mooring can be found in *Section II-D. Public Access and Recreation*.

- *Albertsons Marina*

Located due east of Budds Pond, Albertsons Marina has 96 boat slips. It provides a launching crane and a ramp, full repair services, and a pumpout station, but no fuel. (However, because of the close proximity of its slips to the fueling station at the adjacent marina, Port of Egypt this is not a drawback.) Water and electricity are available dockside. Repairs and inside winter storage facilities are located in a shed across the street from the marina. The marina also provides outdoor winter storage of boats throughout its facility.

During the summer season, the marina permits seasonal storage of boats on trailers for a per-day fee for those customers who want the ease of convenient access to the water during the summer, but prefer to store the boats in their backyards during the winter. This service is almost like dry-rack storage without the rack and the forklift. Most of the boats found here are motorboats. Boats using the marina range in size from 20 to 46 feet. The site also includes a 20 unit motel by the road, and limited sales of new and used boats, accessories and engine parts. There is a small bait shop as well. In addition, a charter boat offering fishing or cruising operates out of this marina.

Access to Albertsons Marina is from the Mill Creek channel. This Marina lies west of the Port-of-Egypt Marina. Along with Port-of-Egypt, Albertsons is protected from Southold Bay by a sand spit that stretches between the mouths of Budds Pond and Mill Creek.

- *Port-of-Egypt*

Port-of-Egypt is one of the larger marinas in the Reach as well as the Town. It provides 154 slips, with most of the boats ranging in size from 22 to 30 feet in length. The majority of the boats are motor boats. Port-of-Egypt provides a wide range of amenities and services, with launching facilities, full-repair service, pumpout, fueling, new and used boat sales, restrooms and showers. Water and electricity are available dockside. The main complex of buildings has repair shops, storage areas, sales offices, show rooms and a retail shop for boat and engine accessories. The marina also provides dry rack storage for 70 boats. These racks are used for both winter storage and wet/dry use in the summer. Indoor and outdoor winter storage is provided, as well as in-water winter storage. Additionally, a charter boat offering fishing or cruising operates out of this marina.

A strip of land on the north side of SR 25 opposite the marina is used for sales of used boats and for winter upland storage. The marina has additional indoor winter storage capacity on the north side of the road. A separate trailer-boat-launching ramp within the marina complex is available for use by the public for a fee. Some transient slips also are available. A swimming pool, cabana and snack bar were added during the 1997 season for use by marina patrons only. Other water-enhanced uses include a restaurant, which is housed in a separate building overlooking the marina's docks. While the building is owned by the marina, it is leased to the operators of the restaurant.

The sand spit that separates the marina from Southold Bay functions as a natural breakwater protection. For a number of reasons, this sand spit is considered to be a significant Coastal Fish and Wildlife Habitat. It is discussed in detail in *Subsection 9. (ii)* of this Section under *Natural Resources: Port-of-Egypt Island – Significant Coastal Fish and Wildlife Habitat*. Access to Port-of-Egypt is from the east by the Mill Creek channel, which is maintained by the Suffolk County Department of Public Works.

- *Goldsmiths Boat Shop and Marina*

Goldsmiths Boat Shop is one of the larger marinas in the Reach as well as the Town. It is located on the east side of Mill Creek on a man-made inlet or cove that was created out of flooded clay pits: the site of a brickyard that had been abandoned after the Hurricane of 1938. Many of the buildings are reminders of the original use of the site as a brickyard. This site is the second of two marinas operating under the Goldsmiths name, the other, original site being located in Reach 7. The Reach 6 site has a total of 160 slips for boats

ranging in size from 17 to 35 feet. Its facilities include a launching crane and a ramp, full-service repair, fueling, and pumpout. Limited water and electricity are available dockside. The marina engages in limited sales of new and used boats. Accessories and engine parts are available in the retail shop. An on-site shed provides upland winter storage. There is also some winter-wet storage. A separate small launching ramp is available to the public for a fee.

The narrow channel to this marina is privately maintained and marked. The marina itself is partly protected from Southold Bay by a clay barrier formation that used to be stable, but which has deteriorated in recent years.

- *Mill Creek Marina*

Mill Creek Marina abuts Goldsmiths. A narrow, rectangular marina, it provides no-frills dockage for about 35 boats ranging from about 20 to 35 feet in length. It provides basic amenities and services such as water and electricity. No major repair, pumpout, fueling, or winter storage services are available. Other uses on the site include a restaurant, which is owned and operated by the marina owner. Part of the upland portion of the site is leased to an independent boat mechanic who uses the site for repairs and winter storage of customer's boats.

- *Brick Cove Marina*

Brick Cove Marina is located on a small cove that is located on the west side of Conkling Point midway between the Point and Mill Creek, and which is referred to in this document as Sage Cove. It is separated from Goldsmiths and Mill Creek marinas by two small, yet secluded residential subdivisions. Of all the marinas in this stretch of the Reach, this marina is the most secluded due to its setback off SR 25 on a private right-of-way. Sage Cove is a man-made waterbody that was once a clay pit. It has direct access to Southold Bay right where it meets Shelter Island Sound. Although the cove is not heavily bulkheaded except near the Southold Shores subdivision on the west side of the cove, a large metal bulkhead defines the entrance to the cove. The marina provides 138 slips available to a range of craft, mostly larger sailboats. Water and electricity are available dockside. Brick Cove provides a full range of services including a launching crane and a ramp, repairs, pumpout facilities, restrooms, showers and winter upland storage, both in the open and in enclosed sheds. However, no fuel is available here. Other uses on the site are recreational, including a swimming pool and several tennis courts. This marina also has a residential dwelling on site for the marina owner/operator. As with the Goldsmiths' site, this marina retains substantial physical evidence of its original use as a brickyard.

In addition to these five commercial marinas, there are private marinas located at Pipes Cove Condominium (eight slips), and at Southold Shores at Sage's Cove (opposite Brick Yard Cove Marina). These two marinas are owned by the property owners associations of the respective residential subdivisions that they serve. Also evident throughout this Reach are private docks for waterfront homes. High concentrations of private docks can be found in the sheltered waters of Beixedon Estates, of Budd's Pond, of Sage Cove, and behind Conklings' Point.

The prevailing winds and currents in this Reach are such that there are very few private docks and piers directly on the Bay. Those that exist tend to be heavily constructed and bulwarked: representing a significant and ongoing economic investment on the part of their owners. While

bulkheading is found throughout the shoreline in this Reach, it is not readily noticeable because most of it lies behind the mean high water mark and, in most cases, sandy beaches still exist in front of the bulkheading. Much of this bulkheading appears to date back to a time when bulkheading was designed to blend into the landmass. The two major exceptions to this are the stretch of shoreline between Bay Home Road and Budds Pond and the shoreline fronting the Breezy Shores cabins, where nearly the entire bayfront from Mill Creek Marina to Conkling Point is bulkheaded and, for all practical purposes, beachless.

Where permanent docks are not feasible, moorings tend to be more prevalent. Since bay moorings are not regulated, there is no way to get an accurate count of trends from year to year. During a field inspection in 1998, the number of moorings was estimated to be under 50. These were concentrated in Pipes Cove (15), in Conkling Point (15), and between Beixedon and Founder's Landing (10).

A number of docks are located on Hashomomuck Pond. However, access to Southold Bay from the Pond is limited to small boats able to fit under the LIRR and Mill Creek bridges. Boats in the Pond also are kept at stakes or moorings. Since 1997, there have been 20 creek moorings in Hashomomuck Pond, up from 16 in 1991. (Source: Town of Southold, Board of Trustees.)

There are two public boat-launching ramps within Reach 6. One is at the end of Meadow Lane in Mill Colony on the northwest end of Hashomomuck Pond. It is an asphalt ramp and suitable only for small light boats under 20 feet in length. The second ramp is located on the east side of Hashomomuck Pond at the south end of Bayview Avenue. This concrete ramp is suitable for use by small boats under 20 feet in length.

(ii) Commercial fishing

Neither the State nor the Town keeps records on commercial fishing production within the Town by Reach. Within this Reach, there usually are three or four fish traps set in the shallow waters off Beixedon Estates and Hippodrome Creek. One or two traps also can be found in Pipes' Cove near the Silver Lake Drain.

(iii) Commercial and recreational shellfishing

The most productive shellfish bed in Reach 6 is the Hashomomuck Pond/Mill Creek system. The Pond is conditionally open to shellfishing only from December 18 to April 30, but this varies from year to year. The seasonal closures typically apply to the northern and northwestern reaches of the Pond, where large numbers of waterfowl congregate and where naturally-occurring springs and stormwater runoff sites are located. This system is one of the Town's prime shellfishing areas.

Fair to good shellfishing also can be found in Sage Cove, and in the nearshore waters of Shelter Island Sound, notably at Pipes Cove. Sage Cove/Pond is closed to shellfishing from May 15 to October 31. Pipe's Creek is open to shellfishing year-round.

(iv) Aquaculture

There are no known aquaculture operations taking place within this Reach.

(v) Navigation and dredging

Shelter Island Sound has an average depth of 48 feet and a mean tidal range of 2.4 feet. The main channel extends west from the Greenport Village Harbor through Shelter Island Sound. Channel

depth ranges from 35 to 93 feet. With the exception of Sage Cove, channel depths in Southold Bay near the entrance to the other marinas in this Reach are considerably shallower. This may explain the preference of sailboat owners for Sage Cove.

Brick Cove Marina, Goldsmiths Marina and Mill Creek Marina have their own privately maintained channels to open water. Each of these channels requires periodic dredging to maintain sufficient water depth for passage by their boating customers. Records reveal that 66,300 cubic yards were dredged from Mill Creek in 1963. Subsequent dredging events were considerably less substantial:

1968	2,700 cubic yards
1975	6,000 cubic yards
1979	4,000 cubic yards
1980	4,500 cubic yards
1990	2,000 cubic yards

The dredged material usually has been placed upland on what is now referred to as the *Port-of-Egypt Island Significant Coastal Fish and Wildlife Habitat*.

(vi) Water-enhanced uses

This Reach hosts a large number of water-enhanced uses, such as seasonal cabins/motels and restaurants. The bulk of them are located between Budds Pond and Conkling Point, although some are located on northern Hashamomuck Pond and one is located on Pipes Cove.

In every case, the scenic vistas available from the water-enhanced establishment is an undeniable factor in its siting. But beyond the vistas, the unique concentration and mix of water-enhanced uses in this particular Reach is primarily the result of the availability of public water. Along SR 25, in particular, the mix of restaurants and marinas catering to recreational boaters has evolved into a mutually supportive one.

4. Existing Zoning

Using the LIRR track as an artificial reference point, the southwestern half of Reach 6 from Budds Pond to Founder's Landing south of the Long Island Railroad track is zoned with a mix of residential designations including R-40, R-80, and Resort Residential (RR). The southeastern half of Reach 6 from Budds Pond to the Village line includes districts of R-40 and R-80, RR, Hamlet Density (HD) and Marine II, the most intensive marine commercial designation. To the northeast of the railroad track, from the west side of Hashomomuck Pond to Chapel Lane, the bulk of the land is zoned R-80. The eastern shoreline of the Pond is edged with R-40 zoning. The land on the south side of SR 25, where it crosses over the railroad track almost to the Village border, is zoned for light industrial uses. The north side of SR 25 along this stretch is zoned mostly for business. The land on the eastern and northern boundaries of this Reach is zoned generally for medium to high density residential or resort uses. To the west of Hashomomuck, the bulk of the land is zoned R-80 with only three exceptions, two parcels zoned for RR and Affordable Housing District (AHD) and one LI zoned parcel.

The residential land use pattern in this Reach closely reflects the zoning pattern. Most of the R-40 zoned properties are developed. Most were subdivided prior to 1986 (which is when the town went to a base zoning of two acres per dwelling unit). Most are smaller than an acre in size. In the

R-80 districts, much of which is still undeveloped, the newer subdivisions were designed as *clustered subdivisions* so that lots sizes are about one acre in area with the remainder of the land in collectively-held open space.

Of the three RR designated properties on the waterfront in this Reach, only one, in Beixedon Estates, remains undeveloped.

The marine business zoning (M-II) within this Reach is substantial, encompassing 70.5 acres of waterfront or near waterfront. Close to half of this acreage is either undeveloped or in use for non-marine purposes.

5. Existing waterfront access and recreation sites

Reach 6 provides a number of opportunities for public access to the shoreline, however little of it is publicly owned. This Reach is particularly important for its concentration of recreational boating activity in the vicinity of Budds Pond and Mill Creek, much of it originating from the marinas located within it. It also hosts several water-enhanced uses in the form of restaurants, and seasonal accommodations. Within several of the residential communities, the roads are still in private hands. Almost all the private waterfront communities within this Reach provide beach and/or boat access for their residents.

By contrast, there is a dearth of public access to the waterfront via public property. Probably the most well known access, the Mill Creek Bridge, is not designed to be used for that purpose. Nevertheless, it is frequently used for fishing, photography, and bird watching. Only five or six Town roads end at the waterfront. Three of them have usable beaches at the water's edge. Two have small boat-launching ramps. The location of the public access and recreational sites within Reach 6 are indicated on [Map II-J-6](#), located at the end of this chapter, and the facilities available at these sites are discussed below.

Town of Southold

- *Town Harbor Lane*
Sandy beach at foot of a steep embankment. Parking by Town permit only.
- *Bay Home Road*
Sandy beach with rocky nearshore. Parking by Town permit only.
- *Hashomomuck Pond (northwest)– Meadow Lane*
Asphalt boat launch ramp for boats under 20 feet in length. Parking for 4-6 vehicles, by Town permit only.
- *Hashomomuck Pond (east)-Colony Road*
Beach. Parking by Town permit only.
- *Hashomomuck Pond (southeast)-Bayview Avenue*
Concrete boat launch ramp for boats under 20 feet in length. Parking for 4-6 vehicles, by Town permit only.

- *Island View Lane (east)*
Sandy beach. No designated parking.
- *Wells Lane*
Town parking permit required. (Catwalk to beach is privately owned.)
- *Pipes Neck Road*
Marsh. Parking by Town permit only. (Bridge and catwalk over marshes at inlet entrance are privately owned.)
- *Silvermere Road*
Deep sandy beach. Parking by Town permit only.

6. Inland recreation facilities

The 18-hole miniature golf course located at the site of Drossos Motel on the north side of SR 25 is one of two privately owned inland recreation facilities within this Reach. The other is a stable for horses, most of which are boarded. Lessons and a summer pony camp are available on the site. The site of the Sky Way Drive-in Movie Theatre just to the east of Chapel Lane where it intersects SR 25 remains vacant, but the screen has long since been dismantled.

The Union Free School District, which runs the Greenport school system (grades Kindergarten through 12th) owns more than 32 acres of property at the easternmost edge of Reach 6. A substantial portion of this property is devoted to recreational facilities such as tennis courts, an outdoor running track, a football field with permanent bleachers and lights for night games, a soccer field and assorted softball and baseball fields.

The Town owned Skipper Horton Park is located on the north side of SR 25 1110' east of Chapel Lane. This 5.4 acre site contains a Chamber of Commerce-run promotion booth, picnic benches and a telephone. The eastern half of the site will be developed into a freshwater wetland pond with assistance from the NYS Department of Transportation.

7. New opportunities for public access and recreation provision

There are several small properties on the west side of the Mill Creek channel that have the potential to provide public access and limited recreation if they were to be acquired and consolidated with Town, County or State funds. Most of the properties are too small and too wet to be developed into marinas. However, they could be utilized effectively for road- and water-side scenic overlooks, picnic areas, and launching sites for small boats, including kayaks and canoes.

Hashomomuck Pond's value as a prime shellfishing area, coupled with the low spans of the LIRR and Mill Creek bridges at its mouth, suggests that recreational use of its waters be restricted to low-impact uses. Its sheltered waters and protection from the level of boat traffic found in the bays make Hashomomuck ideal for canoeing and kayaking. Although the northern and eastern borders of the Pond are ringed with small lots less than an acre in size, much of the southeast corner of the Pond will remain open space due to the preservation efforts of the Cassidy family. Preservation of the westerly shoreline of the Pond will help retain its scenic and ecological values. A number of opportunities exist for maximizing this resource.

At the southeasterly end of Hashamomuck, between the LIRR tracks and SR 25, there is a stretch of M-II zoned property that currently hosts several non-conforming uses. Although this property has substantial and prominent road frontage on SR 25, its potential for development as a marina is compromised by the low span of the Mill Creek Bridge, not to mention the extensive freshwater wooded wetlands on the site and the poor soils. However, this property could be redeveloped into a canoeing/kayaking/scuba diving center due to its sheltered access to and scenic vista of Hashamomuck Pond.

On the western side of Hashomomuck, Laurel Avenue extends from SR 25 to Long Creek, the northwesterly arm of Hashamomuck Pond. This road end currently is overgrown. However, it could be designed to provide nearby residents with a place to launch kayaks and canoes.

The terminus of Silvermere Road has been suggested as a potential location for a boat-launch ramp. Local baymen have used this site during seasonal openings of Pipes Creek. This street ends at Pipes Cove and has a 100 feet of frontage on a wide sandy beach. However, the very close proximity of the Silver Sands Motel to this site, the deepness and steepness of the beach, the shallow water depth in this area and the close proximity to extensive salt marshes suggests that this site would be better used as a low-key public beach.

8. Natural resources

Reach 6 contains extensive natural resources in the form of wetlands and marshes, along with old fields and woods that once were farm fields. The bulk of these resources are concentrated in the vicinity of Hashamomuck Pond and Chapel Lane from CR 48 down to Pipes Cove. These resources are described below.

(i) Wetlands

Reach 6 contains numerous freshwater and tidal wetland areas, three of which have been designated as Significant Coastal Fish and Wildlife Habitats. The abundance of wetlands in this Reach may be due in part to the presence of deep clay layers within the subsoil starting at relatively shallow depths.

Tidal wetland vegetation may be found along the shoreline of nearly every major tidal inlet, creek or pond in Reach 6. A few of the large tidal wetland areas are located at Pipes Cove, Conkling Point, Hashamomuck Pond and Mill Creek. The intertidal marsh and mudflats at Conkling Point serve as feeding areas for least terns, which nest nearby. The wetlands and open water areas associated with Hashamomuck Pond and Mill Creek are fairly expansive, encompassing approximately 220 acres. Although the area is frequently disturbed by human activities, it remains valuable as wildlife habitat for a variety of fish and wildlife. In addition, the brackish waters of Hashamomuck Pond support the most important clam beds in Southold.

Reach 6: Tidal wetlands*

<i>Location</i>	<i>Acres</i>	<i>Dominant Species</i>	<i>Tributary Area</i>
Hippodrome Creek	5	Spartina alterniflora	Southold Bay
Hashamomuck Pond	37	Spartina alterniflora	Shelter Island Sound
West of Pipes Cove	1	Spartina alterniflora	Shelter Island Sound

Pipes Cove	31	Spartina alterniflora Spartina patens	Shelter Island Sound
Conkling Point	8	Spartina alterniflora	Shelter Island Sound
East of Pipes Cove	14	Spartina alterniflora	Shelter Island Sound

Source: *Unpublished Draft: Brown Tide Comprehensive Assessment and Management Program*, Suffolk County Department of Health Services. as edited by J. Bredemeyer, Trustee, Town of Southold, March 1993.

*Note: The Brown Tide Study only surveyed the Peconic-Gardiners Bay systems and did not include north shore areas.

This Reach also contains the highest concentration of freshwater wetlands within the Town. These wetlands are located as follows:

- an area east of Boisseau Avenue, west of Laurel Avenue and north of the Long Island Railroad right-of-way;
- a portion of wetlands and pond southeast of Hashamomuck Pond, between the Long Island Railroad right-of-way and SR 25;
- a large area between CR 48 on the north and SR 25 on the south, and between Albertson Lane on the west and Chapel Lane on the east, referred to elsewhere in this document as *Arshamomaque Wetland Preserve*;
- much of the Moores Woods/Moores Drain/Silver Lake area of Greenport with most wetland portions occurring within the Village and some extending into the Town
- an area at the southwest corner of the intersection of SR 25 and CR 48, just north of the Village of Greenport.

[Map II-15](#) shows the location of the freshwater wetland areas.

(ii) Significant Coastal Fish and Wildlife Habitats

There are four designated SCFWHs within Reach 6. These are the *Conkling Point SCFWH*, the *Hashamomuck Pond SCFWH*, the *Port of Egypt Island SCFWH*, and the *Pipes Cove and Moores Drain SCFWH*. The location of these SCFWHs are illustrated on [Map II-14](#). The main features of these areas are described below. This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2002) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website.

The habitat documentation for the SCFWHs should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitats by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitats.

- **Conkling Point Significant Coastal Fish and Wildlife Habitat**

Conkling Point is located approximately two miles southwest of the Village of Greenport on Shelter Island Sound. The fish and wildlife habitat is approximately 25 acres in size, consisting of a narrow, sparsely vegetated, sand island, a small protected bay, salt marsh, and tidal flats. Conkling Point is generally undeveloped and privately owned. However, the area is bordered by high density residential development to the north, resulting in some recreational disturbance of the habitat.

Conkling Point is a relatively small coastal wetland area, similar in nature to many other points around the Peconic Bays shoreline, but important as a habitat for wildlife.

This area has served for many years as a nesting site for least tern (T) and piping plover (E,T-Fed.). Approximately 1 pair of piping plover annually nested at Conkling Point during the 1987-1996 period. These numbers have decreased slightly since the early 1980s, when around 3 pairs of plover nested at this site annually.

The tidal wetlands at Conkling Point serve as feeding areas for the terns and many other wildlife species. The recreational soft-shell clam and hard clam shellfisheries, as well as a finfishery, at this location are of local importance.

The fish and wildlife resources of this area could be affected by modification of public access to and/or use of the area. Habitat modifications which substantially change the natural character of the area, such as residential, commercial, or industrial developments would have a significant impact on many wildlife species in the area. Undeveloped areas in and nearby Conkling Point that are currently privately owned have been identified as acquisition priorities by the Town of Southold.

Nesting shorebirds inhabiting Conkling Point are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs and nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat of this area.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Loss of the salt marsh habitat, through elimination of tidal connection, ditching, excavation, or filling, would result in a direct loss of valuable habitat and value as a food resource for many wildlife species. Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive

areas which support the fish and wildlife resources of Conkling Point. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

- **Hashamomuck Pond Significant Coastal Fish and Wildlife**

Hashamomuck Pond is located west of Conkling Point emptying through Mill Creek into Shelter Island Sound. The fish and wildlife habitat consists of an approximately 220 acre area consisting of a large, shallow brackish pond with a hard bottom, marsh and an inlet creek (Mill Creek). There is moderate to high density residential development on the north and northwest sides of the pond and marina development at the mouth of Mill Creek. The southwest side of the pond remains largely undeveloped, and a large parcel on the eastern side of the pond (Cassidy Farm) has been preserved.

Hashamomuck Pond is a valuable pond/wetland on the north fork of Long Island, but its value is reduced by human disturbance and water pollution. The pond still provides a valuable habitat for a variety of fish and wildlife.

Osprey (SC) nest on platforms at several locations in the pond and utilize the pond and marshes for feeding areas. A variety of waterfowl also utilize this area for feeding, including merganser, scoter, Canada goose, and oldsquaw. Several species of migratory hawks use Hashamomuck Pond. Diamondback terrapin nest at the head of Mill Creek.

The pond also serves as a habitat for finfish and shellfish including bay scallops and hard clams. The pond is one of the top five areas for the harvesting of clams in Southold and one of the top six areas for scallops, of significance in Suffolk County. (See SCFWH assessment in Appendix A for windows when shellfishing is allowed.) Any activity that would further degrade the water quality in Hashamomuck Pond would adversely affect the biological productivity of this area. All species of fish and wildlife are affected by water pollution such as chemical contamination (including food chain effects resulting in bioaccumulation), oil spills, excessive turbidity, stormwater runoff, and waste disposal, including marina and boat wastes. Hashamomuck Pond is presently polluted from several point and non-point sources of sewage and nutrient- laden runoff. Particular threats to water quality are caused by road runoff from Route 48 to the north, and from surface streets to the west (north of Long Creek). In addition, there is no sewage treatment in this area. Both point and non-point sources of pollution should be reduced or eliminated to enhance this habitat for shellfish and other fish and wildlife species.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Alteration of tidal patterns in Hashamomuck Pond (e.g. by modifying the Mill creek inlet) could have major impacts in the fish and wildlife species present. Barriers to fish migration whether physical or chemical would have major impacts on the fisheries resources in Hashamomuck Pond. Restoration of fish populations in the pond should be considered. There is currently a marina at the mouth of Mill Creek; any alteration in the current configuration, or changes in use and activities of this marina should be carefully examined with respect to fish and wildlife habitat impacts.

Elimination of marsh and intertidal areas, through loss of tidal connection, through dredging, ditching, excavation, or filling, would result in a direct loss of valuable habitat area. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values. Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of the Hashamomuck Pond area. The Town of Southold has identified acquisition of the remaining available parcels bordering the pond as a high priority.

Diamondback terrapin inhabiting the area may be vulnerable to disturbance by humans during nesting periods. Recreational activities near these nesting sites, e.g., boat landing, pedestrian traffic, use of off-road vehicles and personal watercraft, and picnicking, should be minimized during this period.

- **Port of Egypt Island Significant Coastal Fish and Wildlife Habitat**

Port of Egypt Island is located approximately two miles east of the hamlet of Southold, on Shelter Island Sound. The fish and wildlife habitat is a narrow, sparsely vegetated, sand island, approximately 4 acres in size. This island is located at the mouth of Mill Creek, just offshore from an area that is heavily developed with marina and port facilities.

Port of Egypt Island is a very small sand island, similar in nature to many other areas around the Peconic Bays shoreline, but very important as a habitat for wildlife.

The island has served for many years as a major nesting site for common tern (T), least tern (T), piping plover (E, T-Fed), and black skimmer. Roseate terns (E) nested here sporadically prior to the 1980s, but have not been documented since that time. Osprey (SC) nest at the western end of the island.

Nesting shorebird species inhabiting the Port of Egypt Island are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs, cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

- **Pipes Cove Creek and Moores Drain Significant Coastal Fish and Wildlife Habitat**

The Pipes Cove Creek and Moores Drain habitat is located between Hashamomuck Pond and the Village of Greenport. The fish and wildlife habitat is approximately 570 acres of size, and is comprised of several habitat types, including a portion of the shallow waters of Pipes Cove, the tidal creeks and marshes associated with Pipes Creek and Pipes Cove Creek, the freshwater swamps of the Arshmonaque wetlands and the Moore's Drain basin, open grasslands, and upland woods.

The Pipes Cove Creek and Moore's Drain habitat contains one of the largest tidal/freshwater wetland complexes on Long Island, and is unusual within the coastal lowlands subregion. This habitat area, including its diversity of upland ecological communities, is important to fish and wildlife throughout the year. Pipes Cove is a valuable waterfowl wintering area on the north shore, providing shallow water habitat for red-breasted merganser, bufflehead, and American black duck.

Pipes Cove provides important birdwatching, hiking, nature study, environmental interpretation, kayaking, and boating opportunities for the public. Recent acquisitions of lands within the Pipes Cove Creek Cove and Moore's Drain habitat area may contribute to the importance of the area to recreationists.

Any activity that would substantially degrade the water quality in the Pipes Cove Creek and Moore's Drain habitat would adversely affect the biological productivity of this area. Efforts should be made to improve water quality, including the control and reduction of discharges from vessels and upland sources. Vegetated upland buffer zones should be protected or established to further reduce water quality impairment from upland sources.

Any expansion of fishing, small boat use, and educational activities should be compatible with the preservation of natural habitats. Alteration of tidal patterns in Pipes Cove and associated tidal creeks would have major impacts on the fish and wildlife communities present. Dredging to maintain existing boat channels should be undertaken within the dredge windows identified in the SCFWH assessments (found in Appendix A) to minimize potential impacts on aquatic organisms, and to allow for dredged material placement when wildlife populations are least sensitive to disturbance. Existing and proposed dredging operations in this area should incorporate the use of best management practices to avoid and reduce adverse effects.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of Pipes Cove Creek and Moore's Drain. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of the cove and tidal creeks of this area could have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (*e.g.*, no-wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

(iii) Water Quality

There are three state-designated surface water quality classifications in Reach 6: SA, SC and C waters. The high quality SA waters include Shelter Island Sound, Hashamomuck Pond, and Pipes Cove. The SC waters include Budds Pond, Hippodrome Pond, the embayment at Conkling Point, and the tidal portion of Moores Drain. The freshwater portion of Moores Drain is classified as C waters.

Hashamomuck Pond has consistently appeared on both the *NYSDEC Priority Water Problem List* and its *Priority Waterbodies List*. In 1988, the Pond was a high priority waterbody with a problem rating of "severe." This rating indicated that the designated use of the waterbody, shellfishing, was precluded by its poor water quality. The waters of Pond have been severely impacted by non-point source pollution, particularly from stormwater runoff from residential and street areas. Other pollution sources are on-site wastewater treatment (septic) systems and high concentrations of waterfowl, especially in the sheltered portions of the Pond during the winter months. Water quality problems in Hashomomuck have been identified as having a high resolution potential in the 1996 *Priority Waterbodies List*.

Shelter Island Sound, in the vicinity between Budds Pond and Greenport Harbor, first appeared on the *NYSDEC Priority Water Problem List* in 1993. It is on the 1996 *Priority Waterbodies List*. These listings indicated that the designated use of the waterbody, shellfishing, was precluded by the poor water quality in this vicinity. The waters of the Bay have been impacted by pollution from the Shelter Island Heights sewage treatment plant and from stormwater runoff and boater pollution. Water quality problems in Shelter Island Sound have been identified as having a high resolution potential in the 1996 *Priority Waterbodies List*.

All the major waterbodies in Reach 6 have the potential to be impaired by stormwater runoff. There is one County stormwater runoff pipe (12") draining into the Hashomomuck Pond/Mill Creek system at the northwestern end of the Pond on Long Creek. There are at least three 12" pipes entering the Creek near its head. One is from CR 48, the other two are Town drains. There are three 12" pipes at the head of the Pond: one running from the County Road to a ravine behind the Shiloh Baptist Church, and two running from Town roads within the residential communities at the northeast corner of the Pond. Finally, at the Mill Creek bridge, a drain runs from SR 25 to the channel.

There are a number of residential drains, which carry gray water, presumably from showers, washing machines and stormwater runoff from homes on the water. Most of them can be found on the north side of Long Creek, and on the north and northeast side of the Pond itself. It is worth noting that these drains typically emanate from small residential lots.

A demonstration stormwater filtration project near the head of Hashomomuck Pond was recently installed by the Town to improve water quality. It was deemed successful, thereby resulting in the moving back of the conditional shellfishing area further west on Long Creek.

- *Pipes Cove and Shelter Island Sound*

Pipes Cove is a small bay in Shelter Island Sound, which is, located immediately southwest of Greenport Harbor between Fanning Point and Conkling Point. Nearly the entire shoreline is ringed by undersized residential lots, with homes located between 30 and 75 feet of mean high water. With the exception of Silvermere Motel and the condominium developments near Fanning Point,

both of which are hooked into the Greenport sewage treatment plant, these residences are serviced by on-lot subsurface sewage disposal systems. These systems pose a potential source of surface water contamination should they malfunction. Dye-testing of all septic systems which fringe the cove would be necessary to determine if any of these systems have failed.

The coastal waters of Pipes Cove are certified for shellfish harvesting. However, Moores Drain, a creek which drains the low-lying areas from Silver Lake in Greenport to Pipes Cove, has reportedly shown elevated levels of total and fecal coliform bacteria especially following excessive (greater than 6 inch) rainfalls. NYSDEC is currently investigating the Moores Drain and associated wetland areas to determine the cause of the pollution and whether a seasonal shellfish closure area is warranted. At present, the NYSDEC and the NYSDOT are working with the Town to develop a natural (man-made wetland) stormwater retention and filtration facility on the north side of SR 25 where Moores Drain empties into the marshes north of Pipes Cove. This project is in the construction stage.

- *Southold Bay and Western Shelter Island Sound*

Water quality within the western portion of Shelter Island Sound and Southold Bay is generally good. These open coastal waters are certified for shellfish harvesting. However waters near marinas are closed seasonally to shellfish harvesting, as are the tidal waters of Mill Creek and Hashamomuck Pond (discussed separately).

Development along the shoreline of Southold Bay and western Shelter Island Sound is primarily residential, with a concentration of marinas and restaurants in the areas between Budds Pond and Sage Cove. Of the five marinas located along this waterfront, only one doesn't have pumpout facilities (Mill Creek Marina). Shellfish harvesting within and adjacent to marinas is prohibited by NYSDEC except in certain marinas that close for a portion of the year. This is to prevent possible harvesting and ingestion of shellfish taken from waters, which have been contaminated by untreated sewage and chemicals discharged from boats.

Homes are generally located within 200 feet of mean high water (MHW) on Southold Bay and within 100 feet of MHW on western Shelter Island Sound. Most of the waterfront residences in this portion of the Reach are on lots ranging in size from half an acre to just under an acre. Some residences have separate bath houses on the property. All homes and bath houses are serviced by subsurface sewage disposal systems. Although none were identified during NYSDEC's 1990 survey, malfunctioning septic systems pose a potential threat to water quality in Shelter Island Sound.

A subsurface clay layer underlies the area from around Budds Pond to Sage Cove. This clay layer is known to run deep, thus preventing the downward percolation of water. Water may flow over the surface of the clay layer until it intercepts surface waters. In the event of a malfunctioning subsurface sewage disposal system, leachate from the system may eventually reach certified shellfish harvesting waters. Currently, the waters of both Budds Pond and Sage Cove are seasonally certified for shellfish harvesting during the period of November 1 through May 14.

- *Mill Creek and Hashamomuck Pond*

Mill Creek and Hashamomuck Pond are adjacent to Southold Bay. There are approximately 93 homes surrounding the shoreline of Hashamomuck Pond, many of which are seasonal. Several homes have floating docks or private moorings. Each home is serviced by on-lot subsurface septic

disposal systems. There are no marinas on Hashamomuck Pond or on Mill Creek. Stormwater outfall pipes and road ends discharge directly to surface waters contributing unfiltered contaminants from stormwater runoff into Hashamomuck Pond. The Town has listed Hashamomuck Pond and the contributory watershed as a priority area for eliminating surface runoff.

In 1991, the SCDPW installed the first phase of a two-phase County drainage improvement project designed to eliminate the direct discharge of stormwater runoff from CR 48, known locally as the North Road, into Hashamomuck Pond. The first phase included the installation of a series of leaching pools into the roadway shoulder area on CR 48. The purpose of these structures is to intercept runoff and allow contaminants to settle out of stormwater before it reaches a tributary which feeds into Hashamomuck Pond. The second phase includes the construction of a recharge area upstream of the tributary.

Implementation of the second phase has been delayed due to monetary constraints and difficulties involved with land acquisitions. The SCDPW is in the process of purchasing land suitable for use as a recharge basin. In October of 1998, they commissioned a drainage study preparatory to developing construction plans for the stretch of CR 48 between Hortons Lane and Main Street/SR 25 in Greenport. This study, which is scheduled to be completed during the year 2000, will focus on exploring ways to eliminate most of the direct discharge of stormwater to Hashamomuck Pond. On local roads, the Town of Southold has built stormwater drainage improvements at the intersection of Colony Road at Bayview Avenue. Two catch basins and leaching pools were installed in a gravel trench and the existing outfall pipe was closed off.

The Town of Southold also undertook a demonstration/implementation project in the watershed of Hashamomuck Pond as part of New York State's *Non-point Source Pollution Abatement and Control Program*, which is administered by the State's Department of Environmental Conservation. A stormwater runoff mitigation system was constructed on Long Creek Drive at the westernmost end of Long Creek. The project is being monitored for effectiveness and is expected to improve shellfishing conditions in the area.

As alluded to earlier, water quality in Hashamomuck Pond is greatly affected by rainfall and runoff. After heavy rainfalls of greater than 0.30 inches within a 24-hour period, water quality deteriorates rapidly. Under dry weather conditions, the water quality in much of the Pond meets the requirements for a NYSDEC certified area, although Long Creek (the western tributary to Hashamomuck Pond) and Mill Creek (the waters to the south of the LIRR tracks) remain seasonally, conditionally closed to shellfish harvesting. The remainder of Hashamomuck Pond is seasonally, conditionally certified.

Reach 6: Shellfish Harvesting - Water Body Classifications:

<i>Water body</i>	<i>Classification</i>	<i>Remarks</i>
Shelter Island Sound*	Uncertified & Certified	Large uncertified area lying between Greenport and Shelter island surrounding outfall of Shelter Island Property Owners Corp. Sewage Treatment Plant.
Pipes Cove	Certified	
Moore's Drain	Certified	
Conkling Point	Certified	
Sage Cove	Seasonally certified	Open from 11/1-5/14
Hashamomuck Pond and Mill Creek	Uncertified & seasonally conditionally certified	
Beixedon Creek	Seasonally certified	Open from 1/1 - 4/14
Budds Pond	Seasonally certified	Open from 11/1- 5/14
Southold Bay	Certified	
(*including Greenport Harbor)		

- Source:
1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, New York, excerpted from Part 4, Title 6, NYCRR.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.

9. Historic resources

There is an unusual wealth of historic resources in Reach 6, most of local significance. Many of the earliest settlers built their homes and plied the waters in the area between Southold and Hashomomuck because of the abundance of spring water that could be found here. Prior to the settlers, the aboriginal Indians made extensive use of the sheltered and productive inlets within this Reach.

(i) State and National Registers of Historic Places

There are no properties listed on the State and National Registers of Historic Places in Reach 6.

(ii) Local Historic Resources

Within this Reach are many of the original roads and features of the early settlement of Southold. The end of Town Harbor Lane is shown as a landing point on a U.S. Coast Survey of 1838. In 1891, a more direct route to the wharf was cut from the Kings Highway where it turned north onto what is now known as Boisseau Avenue. The new route, Hobart Road, facilitated more direct access to the Town docks which were located at what is now a bathing beach and park known as Founders Landing. This park property is discussed in more detail in Reach 7.

Hashamomuck Pond itself was the site of farms, particularly dairy and horse breeding, in some cases going back to the early days of the settlement. The land to the east and south of the pond, Pipes Neck, came to be known because of the types of barrels that were made from the large stands of trees that used to grace this marshy area.

Presently, only one structure within the Reach, the Vail-Booth House at the northeast corner of SR 25 and Laurel Lane, is on the Town Register of Landmark Structures. However, there are at least 86 structures within Reach 6 that are considered of local significance, some of which date back to the 1640s, when the settlement was founded by the English. The quantity of locally significant structures within Reach 6 is second only to Reach 5, Orient.

10. Archaeological resources

Much of Reach 6 is archeologically sensitive. See [Map II-17](#). There are at least two known aboriginal archaeological sites of significance within this Reach: both of which are located directly on coastal waters. One site is known as the *Indian Village Planting Ground*. This name is applied to a general area south of SR 25 between Hippodrome Pond and Budds Pond. The second site is known as *the Five Wigwams*. It is located in the general area of Pipes Neck, on the eastern side of Pipes Neck Road, south of SR 25.

11. Scenic resources

Hashamomuck Pond is the perhaps the largest, individual scenic component within the Reach, both from SR 25 and CR 48. The vista to the south of SR 25, near Pipes Neck, is that of wetlands framed by woods. Hidden behind the woodlands bordering Albertsons Lane and Chapel Lane lies the largest freshwater wetland and woodland complex within the Town – the Arshamomaque Wetland Preserve.

Although this Reach contains a considerable degree of commercial and residential development, the scenic potential is considerable and can and should be used to advantage by the marinas, the resorts and the restaurants located on its shorelines. Some of the businesses in this Reach have gone to considerable effort to maximize the potential for their customers to enjoy the views afforded by the shoreline, both from their property and from the water.

However, there is limited public access to much of this shoreline. There is visual accessibility, but it is limited primarily to views of Southold Bay and Shelter Island from public roads, notably SR 25 in the vicinity of Mill Creek. In addition, the Long Island Railroad track runs through much of the tidal wetland areas within this Reach, providing train passengers with good vistas that are not visible from the Main Road. However, these viewsheds are a fraction of what is possible. The challenge in this Reach is to expand the potential enjoyment of its scenic resources without compromising those resources and the privacy of the people with homes in the area.

12. Protected Resources

Table 6.1, on the next page, lists protected lands within Reach 6. A total of 31 properties encompassing 298.25 acres of land are considered protected from development.

Table 6.1 Protected Lands within Reach 6

Type of Owner	Acreage	# of Parcels
Park District	0	
Churches, Cemeteries	6.26	3
County Owned	78.36	5
Peconic Land Trust	23.3	1
Subdivision Park	2.32	1
Schools	32.68	1
County Development Rights	0	
State Owned	.42	1
Subdivision Open Space	15.89	2
Town Development Rights	34.8	1
Nature Conservancy	0	
Town Owned	90.95	16
Museums	0	
Village Owned	1.56	1
Water Utilities	11.71	2
TOTALS	298.25	31

Source: Town of Southold Geological Information System, August 2002

There is relatively little protected open space within this Reach. The largest block of protected land lies on the southeast corner of Hashomomuck Pond. Known as the Peconic Land Trust Cassidy Preserve, this 56+ acre property runs from the Pond to Albertson's Lane. The marsh and upland immediately adjacent to the Pond is about 23.24 acres in size. In 1997, this portion of the property was given to the Peconic Land Trust to be kept as a preserve. That same year, the Town purchased the development rights to the remaining 32.98 acres of farmland, which runs from the preserve to Albertson's Lane.

Most of the remainder of the open space within this Reach can be found in small clustered open spaces or parks connected with residential subdivisions. The County owns a 1.8-acre parcel on CR 48 that appears to be reserved for road drainage purposes. It should be noted here that the Village of Greenport owns land within Reach 6 that is a designated park. Known as Moores Woods, this park encompasses 192.3 acres of woods and wooded wetlands, which drain to the southeast into Pipes Cove.

The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold Town. It targets all A-C zoned lands larger than 10 acres in size. Most of this land, some 277 acres, is in agricultural production. The largest blocks of land targeted for acquisition lie on either sides of Hashomomuck Pond. Much of the property on the west side of the Pond up to the subdivision of Long Pond Estates is still in agricultural production. Of the 307 acres in agricultural production, only 29 (9%) is protected.

On the east side of the Pond, the CPPP has targeted for preservation all the undeveloped land within the Reach that lies between the Pond and the eastern border. While some of this property is

still being farmed, much of it has reverted to meadows, old fields and emergent woods. A significant portion of the land lying between Albertson Lane and Chapel Lane contains woods and freshwater wetlands. Known as the *Arshamomaque Wetland Preserve*, this particular area is the largest expanse of freshwater wetlands and wooded wetlands in the Town. In 1997, Supervisor Cochran launched a major initiative to remove 241 acres from the threat of development. With the backing and support of The Nature Conservancy, the Town persuaded a private foundation to launch the preservation initiative by contracting to purchase an eight acre piece at the southeast corner of the Preserve. Since that time, an additional 126.6 acres have been purchased using Town and County funds.

South of SR 25, the CPPP recommends the preservation of the extensive marsh that drains Moores Woods and Pipes Neck. Preservation of the lands around Hashomomuck and eastward to the Village boundary will achieve two ends: protection of rare and threatened habitat and species that are unique to this area, and much needed recreation and open space between the still growing hamlet of Southold and the Incorporated Village of Greenport. Further information about the CPPP can be found in *Section II.B.8. Open Space Preservation Plan*.

13. Development constraints

There are not many development constraints within Reach 6 other than extensive areas of sensitive wetland habitat. The constraints are discussed below.

(i) Public services and facilities

Most of Reach 6 is serviced by public water, with the major exception of the residential communities on the east side of Hashomomuck Pond to the west of Albertson Lane and on the northwest corner of Hashomomuck, on Long Creek.

Where individual properties have their own wells, the well depth, location and water quality are factors under the jurisdiction of the Suffolk County Department of Health Services. The SCHDS's policies regarding individual wells within Southold Town is explained and analyzed elsewhere in this document, specifically in *Section C. Land Use and Development, 2. Public services and facilities* and in *Section E. Natural Resources, 10. Groundwater resources*.

There are some properties within Reach 6 that are hooked into the public wastewater treatment facilities owned by the Village of Greenport. These properties include: the Greenport School complex, the Driftwood Cove Condominiums on Ninth Street, the Silver Sands Motel, the KOA Campground, the San Simeon Nursing Home, and the eight apartments on the site adjoining the nursing home. As discussed in greater detail in *Section C. Land Use and Development, Subsection 2. (ii) Wastewater treatment*, this system provides secondary treatment.

All other individual properties have their own on-site septic systems. However, because of the small size of many of these lots and the poor permeability of some soils, particularly around and east of Hashomomuck Pond, there are places where residential wastewater and gray water is being channeled illegally onto other properties, into woods and wetlands. The seriousness and extent of this problem is not fully known.

(ii) Flooding

The potential for flooding in Reach 6 is significant and extensive. Portions of Beixedon, much of Pipes Cove, Conkling Point and Hashamomuck Pond are subject to flooding during storms. SR 25 and some local roads suffer flooding where drainage is channeled to wet, low-lying soils adjacent to the roadways. The high clay content of much of the land around Hashomomuck Pond eastward to Greenport Village contributes to this problem.

The threat of flooding in this area comes from two directions: from Long Island Sound where Reach 6 abuts CR 48 and Town Beach at the northern end of Hashomomuck Pond, and from Southold Bay and Shelter Island Sound. Pipes Cove and Conkling Point are designated *Coastal Erosion Hazard Barrier Areas* (1990). Flood insurance is not available in these areas for new construction or substantially improved structures built on and after November 16, 1990.

Flood areas are indicated on *Flood Insurance Rate Maps* prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms acts as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make the development of some low-lying properties more attractive by requiring the first floor of new construction to be raised to a height that is one foot higher than the base flood elevation of the site. As seasonal cottages are winterized and expanded into year-round dwellings, they also are being raised on pilings or mounded earth. As a result, the existing roads and surrounding terrain remain susceptible to flooding, perhaps more so. This trend is likely, in the near future, to cause problems for emergency services personnel, particularly as the year-round population increases.

The Town needs to develop a *Flood Hazard Mitigation Plan* to inventory potential troublespots and solutions.

(iii) Erosion

Beaches, marsh and wetlands are the dominant coastal landforms in Reach 6. The characteristics of the landforms are described below.

There is a noticeable sand drift from west to east between Beixedon Estates to Founders Landing as evidenced by the sand-forms around the numerous groins in this area. Within Pipes Cove, the drift of sand is from southwest to northeast around the perimeter of the Cove. Erosion is perhaps most noticeable just west of the entrance to Mill Creek up to Bay Home Road as evidenced by the significant amount of bulkheading along the waterfront here. The homes in this area have little or no beach in front of their bulkheading. Another erosion-prone area is the stretch of shoreline from Sage Cove to Conkling Point. The shoreline is heavily bulkheaded, in some places with concrete rubble. Erosion in these two areas is probably due to wave action and prevailing winds during most storm activity in this region.

Reach 6: Inventory of Coastal Landforms

Beach:

Location	A beach runs along the entire coastline of Reach 6 with the exception of the tip of Conkling Point which is mostly tidal wetlands.
Width	0-60 feet.
Composition	Primarily fine grained sand.

Tidal Wetlands:

Tidal wetlands are found in close proximity to almost every major inlet, creek or pond in this Reach. A few of the larger tidal wetland areas located near Pipes Inlet, Conkling Point, Mill Creek, and Hashamomuck Pond.

Town of Southold, 1989

Bulkheading and groins are a common feature along the shoreline of Southold Bay. These structures seek to protect individual properties and do not represent a coordinated approach to coastal protection. There are many different designs of structures, with varying sizes and materials. In many cases, these structures have resulted in erosion of the beaches in front of properties, increased erosion to neighboring properties and an interruption in the natural flow of sand along the beaches in the Reach. Details of coastal protection structures within the Reach are outlined below.

Reach 6: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length	89,800 l.f.
Total Bulkheaded	23.4%
Coastline	
Length	23,400 l.f.
Bulkheaded	36.7%
Stone groins	32
Wood/metal groins	21
Jetties	6
Creeks, Inlets	
Length	64,400 l.f.
Goldsmiths Pond	25% bulkheaded
Youngs Pond	27% bulkheaded
Beixedon Creek	32% bulkheaded
Budds Pond	56% bulkheaded
Hippodrome Pond	None
Greenport Creek	14% bulkheaded
Conkling Point Creek	5% bulkheaded
Pipes Neck Creek	1% bulkheaded
Hashamomuck Pond/Mill Creek/Long Creek	13% bulkheaded

Town of Southold, 1989

Pipes Cove spans Fanning Point to Conkling Point. Tucked behind Shelter Island, the cove is about 5,000 feet wide. The two sides of the cove are protected by structures. At the head of the Cove are tidal wetlands that fringe Moores Drain and an outlet for inland freshwater wetlands in the Arshamonaque area. The beaches near the head have been fairly stable, overwashing during storms but building back fairly rapidly. The highly developed land along the west side of Cove is protected by bulkheads for its entire length. Almost 20 groins have been built along this shoreline. Because of the bulkheads and limited wave fetch, movement of sand is predominantly controlled by currents. The general direction of drift is north on the north half of the shoreline and south on the south half. Conkling Point itself has been gaining sand and has expanded in a southwesterly direction.

The west side of Conkling Point, up to Brick Cove Marina, is also heavily bulkheaded with about 15 groins along the shore. At the northwest end, the shoreline turns to an east-west orientation. There are basins (Sage Cove) (Mill Creek Marina) near the turn, which were initially dredged in 1959 (163,900 cubic yards) and re-dredged in 1963 (129,200 cubic yards). They are protected by stone and metal jetties. Just west of these basins, Mill Creek -- the entrance to Hashamomuck Pond and currently the entrance to the Port of Egypt marina -- has been dredged regularly since 1963. The old entrance to Albertsons and Port of Egypt marinas by Budds Pond has been closed off due to excessive shoaling. The current navigation channel located on the east side of the offshore bar in front of Port of Egypt is maintained by dredging. This area is open to waves from the south across Southold Bay, which has a 10,000 foot fetch, allowing for waves as high as 3 or 4 feet. Storm waves and tidal currents at the inlets have led to erosion, but structures and dredging have been the major forces in shaping the current shoreline.

At Budds Pond, the shoreline has a north-south orientation. Here, the predominate direction of littoral drift is south, and the shore is open to waves from the east. These waves can reach 3 to 4 feet in height. The shoreline is heavily bulkheaded with almost 20 groins located here. Further, the narrow entrance to Beixedon Creek is protected by two large jetties. The northeasterly jetty extends into Southold Bay for a distance of nearly 300 feet from the inlet entrance. The eroded condition of beaches to the west of this jetty is probably due to the loss of sand that has either been trapped on one side of this jetty or lost to the Bay.

The substance and importance of CEHA are explained in *Section II.I.2.(v)(b) Coastal Erosion Hazard Areas*.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 6, the Town of Southold has identified three distinct land use situations within the Reach:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are identified on *Map II-J-6*. The Town of Southold also has identified areas of special concern which require greater attention in the LWRP. The location of these special areas of concern are also identified on *Map II-J-6*.

(i) Areas of existing stable uses

The older residential areas concentrated between Founders Landing and Beixedon Estates and adjacent to Fanning Point have been identified as areas of existing, stable uses. Changes within these areas will be limited to infill development. Much of the subdivided land on the northerly and easterly border of Hashomomuck is already developed.

(ii) Areas subject to development pressure

Much of the undeveloped farmland left within Reach 6 can be categorized as being subject to development pressure. The lands closest to the hamlet of Southold (on the west side of Hashomomuck) probably run the greatest risk of development because of their proximity to the business center and their generally good soils for septic systems. The land on the east side of the Pond is more difficult to develop due to the high clay content of the soils and the greater presence of wetlands (tidal and fresh and wooded).

The increased pressure for waterfront lots is and will continue to cause the redevelopment of many waterfront homes from seasonal to year-round homes or from small cottages to larger homes. The fact that most of the waterfront lots within this Reach do not meet the Suffolk County Department of Health's minimum requirement of 150 feet of distance between the septic system and a body of water (much less another wellhead) poses a serious question as to the long-term ecological health of the Towns creeks and bays as increased septic loadings leach into the ground and surface waters.

As the amount of prime vacant waterfront land declines, the pressure to subdivide the remaining waterfront properties within this Reach will increase. A prime example is land around Pipes Cove, which though low-lying or wet, is under development pressure. The land immediately to the west of Bay Home Road is another such pressure point. The current owner has planted this land to grapes and has established a winery. If this endeavor is successful, it will anchor this land against future residential development.

Another property of concern is located on the western half of Conkling Point along Sage Boulevard. At 98 acres, it is one of the larger underdeveloped waterfront sites left in Town. However, it faces significant obstacles to development. The property lacks an improved access road. Further, the clay soils and the large extent of freshwater wetlands on the site pose significant environmental constraints. Presently the site is improved with 30+ summer cottages and one year-round residence, of which the former are considered to be non-conforming uses. In 1996, the property owners were granted permission by the Building Department to repair the cottages sufficiently to allow them to be rented seasonally; thereby ensuring the continuance of this non-conforming use for the near term.

(iii) Underutilized sites

One can argue that much of the marine business zoned property has potential to handle more development even given the environmental constraints that the waterfront location poses to such expansion. Nevertheless, because of the limited amount of land zoned for marine business, the projected increase in demand for access to the water by boaters, and the appeal of water-enhanced uses such as restaurants to the public, a portion of the marine-zoned property along the waterfront in Reach 6 can be described as underutilized.

There is one RR-zoned property in this Reach that is considered underutilized. Located on the east side of Petty's Pond, opposite Beixedon Estates, this property was known as Arshamomaque Inn and Cottages. The property hosts 9 seasonal residences dating back to the 1920s near the inlet entrance. The remainder of the 27-acre parcel is either in woods or is farmed. If supplied with public water, this parcel has potential for further development as a seaside resort, assuming that the potential archeological sensitivity of this site (as explained in *Subsection A.10. Archaeological resources.*) can be addressed.

(iv) Areas of Special Concern

Areas within Reach 6 that are considered to be of Special Concern (ASC) include the following types of situations: properties featuring unique natural or cultural resources that need protecting, properties facing inappropriate development or redevelopment opportunities and properties where existing development could be upgraded in order to revitalize the area. The ASCs identified within Reach 6 are listed and examined in detail below.

- ***Hashamomuck Pond***

The environmental health of the Pond and its ability to sustain shellfish may become seriously compromised if increased development is allowed to occur on the vacant lands left around its perimeter. Further, intensification of existing residential land uses at the northern and eastern borders of the Pond are cause for concern due to the fact that the lots are too small to permit adequate siting for septic systems. As more seasonal homes are converted to year-round use and as house size (and water usage) increase, contamination of surface waters is likely to increase. Protection of the Pond for its shellfish resource values may still require restrictions on continuing intensification of existing development along the shoreline and within the contributing watershed. The Town has embarked on a program of land acquisition and storm water remediation around the Pond. It has obtained County cooperation in the area of stormwater remediation.

- ***Budds Pond/Mill Creek/Sage Cove***

The issues of concern in this area relate to the negative impacts that marina operations can have on the nearshore ecology as well as to the visual landscape. Most of the marinas in this stretch of the shoreline have attempted to minimize their impacts on the water by promoting the use of their pumpout stations. However, because of the potential for further commercial development, the proximity of this development to Hashomomuck Pond and the lack of permeable soils suitable for on-site drainage and filtration purposes, this part of the Reach will always require careful stewardship and ecologically conscious development techniques. Also, of concern are ongoing and future conflicts over the use of Sage Cove by residential property owners and Brick Cove Marina. The use of landscape buffers to ameliorate the view of marinas from the water probably will become of increased importance as waterfront values continue to rise.

- ***Arshamomaque Preserve***

The Town's largest complex of freshwater wetland and wooded wetland lies between Albertson Lane, SR 25, Chapel Lane and CR 48. The site of unique and unspoiled habitats of rare species, the Town has enlisted the assistance of The Nature Conservancy to acquire and conserve 241 acres of mature forest and freshwater wetland. The *New York State Natural Heritage Program* is researching the Swamp Cottonwood-Swamp White Oak-Pin Oak plant community on this site. There also is a large, undisturbed narrow-leaf cattail

marsh within this proposed preserve. Some acquisitions have been made and others are near completion.

- ***Moore's Drain, Pipes Neck***

The wooded and wet lands that run south from Moore's Woods to Pipes Cove encompass a unique and largely unspoiled habitat. Visible from SR 25 and the LIRR, this land poses serious obstacles to development due to inherent environmental constraints such as susceptibility to flooding, clay soils and high groundwater table. Nevertheless, the land between SR 25 and the LIRR track is zoned Light Industrial Office, and the portion south of the track is zoned R-80. Much of this area has been targeted for acquisition under the Community Preservation Project Plan.

2. Key Issues

Discussion of the key issues within Reach 6 is defined according to type of issue in the following subsections.

(i) Agricultural protection

Much of the land that had been cultivated or used for dairy or horse breeding farms within this Reach has reverted to old fields, meadows and woods. The amount of land still in production within this Reach is relatively small but potentially highly significant because of its location on the outside edges of the Southold hamlet and between the hamlet and the Village of Greenport. Since some of this land is on (or adjacent to) the waters of Hashomomuck Pond and Southold Bay, the potential for this land to be subdivided into residential communities is enormous.

The protection of agricultural land within this Reach is the subject of some debate. There is concern that this land may be needed to absorb additional residential growth. However, because of the limited amounts of protected open space in this Reach, this agricultural land has significant potential to act as a visual and physical boundary that buffers the Southold hamlet from the concentrated marina operations to the east. An agricultural belt, however narrow, would help maintain the character of the hamlet of Southold as a separate community from either the Hashomomuck region or the Greenport region.

(ii) Harbor management issues

Harbor management issues within this Reach are related to the high concentration of marina and water-enhanced operations within a short stretch of shoreline. The issues revolve around the need to provide boating access without unduly compromising or degrading the environment, particularly the highly valued shellfish resource of Hashomomuck Pond. The environmental sensitivity of the Pond notwithstanding, the configuration of this Reach's bay-front shoreline provides a large amount of sheltered, yet highly accessible entry onto the Peconic bays. No other part of the Town enjoys such a combination in such abundance.

The as-yet unrealized potential for intensification and growth in this area coupled with the environmental sensitivity of Hashomomuck Pond, points towards the need for a *Harbor Management Plan*. Such a plan could sketch out the ultimate build-out of each existing marina. An analysis of a build-out scenario would highlight potential land and water use conflicts. Ideally, the *Harbor Management Plan* would define the maximum perimeter of waterside activities that could take place within each marina. If State (NYSDEC) approval could be obtained for the *Perimeter Plan*, the individual marinas would be able to respond more effectively and quickly to

changing market conditions without compromising environmental concerns. (A variation of this concept is described in *Greenport Village's Harbor Management Plan*.)

(iii) Public access and recreation

Reach 6 offers a highly concentrated amount of boating access to the water particularly between Budds Pond and Sage Cove. The access happens to be strategically convenient from a boater's perspective, given its sheltered nature and its proximity to Little Peconic Bay and Gardiners Bay. However, from a general public perspective, Reach 6 offers a limited amount of beach access and other recreational opportunities relative to the population living within it. Accordingly, the Town should explore sites that could be acquired in order to improve public enjoyment of the waterfront. A number of these potential sites were earmarked in the *Community Preservation Plan Program* (CPPP). Given the escalating value of Southold's waterfront for single family residential use, it is highly unlikely that any zoning incentive techniques will be effective in obtaining general public waterfront access.

(iv) Protection of habitats and wetlands

As mentioned earlier, Reach 6 features regionally-important wetlands and habitats. These are concentrated around Hashamomuck Pond and south of Moores Woods. These include the designated *Significant Coastal Fish and Wildlife Habitats* at Conkling Point, Hashamomuck Pond and Port of Egypt, as well as the site of the *Arshamomaque Wetland Preserve*. As mentioned earlier, many important habitats and wetlands were earmarked for acquisition or conservation under the CPPP.

Ongoing monitoring will be needed to assess the effect of proposed runoff remediation projects that are currently under design and construction by the County and the State because in both cases, the runoff is being discharged directly into marine and tidal habitat. The Town also needs to address direct runoff from Town roads, although the collective volume of this runoff is thought to be considerably less than that from the County and State roads.

(v) Protection of water quality

In addition to pollution from unfiltered stormwater runoff, surface water quality in this Reach suffers from pollution caused by septic systems located too close to the shoreline and by illegal disposal of gray water from residential properties. The problem is most noticeable where undersized lots are concentrated in an area with poor soil permeability such as Pipes Neck. Also of concern is the contributory bacterial and nitrate loading from waterfowl. The problem is particularly acute in the Long Creek section of Hashomomuck Pond.

A *Watershed Management Plan* for Hashomomuck Creek may be needed in conjunction with the proposed *Harbor Management Plan* for Mill Creek.

(vi) Flooding and erosion

Flooding is of major concern in the low-lying portions of the Reach, some of which is developed. The wisdom of encouraging large scale new development or the conversion of seasonal homes into year-round dwellings in these areas needs to be reconsidered, particularly where insufficient high-ground exists to facilitate placement of homes and septic systems. A Flood Hazard Mitigation Plan is needed.

Erosion is not considered to be a major problem although there are a few locations, mentioned earlier, that are suffering undue erosion due to badly placed groins and bulkheads. The placement of future groins and bulkheads in these portions of the Reach should be reconsidered in light of the more comprehensive understanding of shoreline dynamics available to us. At the least, replacement or relocation of some key groins or jetties should be considered such as that located at Beixedon by Petty's Pond.

(vii) Protection of scenic resources

Protection of the scenic resources of this Reach is of paramount importance for a number of reasons. First, a significant proportion of the Town's historic structures are located within this Reach. Second, the commercial development south of SR 25, particularly along the water's edge depends in part on the scenic panorama afforded from the shoreline. Third, this stretch of road also offers the traveler one of the few roadside vistas of the bays from SR 25 other than that afforded by the incomparable views from the Orient Causeway.

The woodlands and wetlands along SR 25 between Hashomomack Pond and the Village offer a potential demarcation between the developed areas of the hamlet and the village. However, this stretch is punctuated with a considerable amount of industrially developed land, not all of it attractively designed or maintained. The unattractive appearance of some of the commercial development along SR 25 beginning at a point from just west of the NYS DOT's field station to the Village boundary has been an issue of concern to the Village.

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REACH 7: TOWN CREEK TO LITTLE CREEK

A. INVENTORY AND ANALYSIS

1. Location

Reach 7 runs from the eastern side of Town Creek in Southold to Little Creek in Cutchogue. The eastern boundary of Reach 7 lies on the western side of Hobart Road for its entire length, running out into Southold Bay through the heart of Southold Park District property. At Hobart Road's intersection with SR 25, the eastern boundary takes a short run west to Youngs Avenue where it runs north to CR 48. At CR 48, the northern edge of the boundary runs west along the county road until its intersection with Peconic Lane, where it turns south. The western boundary of Reach 7 zigzags as follows: from CR 48 the line runs south along Peconic Lane to SR 25, where it turns west for a short distance on SR 25 to Indian Neck Lane. The line runs south along Indian Neck Lane to its intersection with Arrowhead Lane, then south along Arrowhead Lane, extending to the Little Peconic Bay. All the residential building lots fronting on the western side of Arrowhead Lane are included in Reach 7.

Of all the Reaches, this one contains the greatest number of creeks and inlets. These include, from east to west, Town, Jockey, and Goose creeks; the small, unnamed inlets/canals at Harbor Lights, Reydon Shores and Paradise Point; Cedar Beach Harbor and its numerous tributary creeks and inlets; Midway Inlet; West Lake; and Corey and Richmond creeks. Only Reaches 5 & 8 contain such extensive inland shorelines. Reach 7 fronts on Southold Bay, Shelter Island Sound, Little Peconic Bay and Hog Neck Bay. The dominant land mass within Reach 7 is Great Hog Neck.

2. Land use and development

The land use pattern in Reach 7 is illustrated on *Map II-5*. The predominant land use in Reach 7 is medium density residential and the bulk of it is found in Great Hog Neck and eastward, around Goose, Jockey and Town creeks. East of Ackerly Pond Lane and South Harbor Road, the character of the Reach is predominantly residential and commercial. West of Ackerly and South Harbor, the character is predominantly agricultural with a significant, but clustered percentage of residential development. This demarcation line for the east and western parts of the Reach will be used throughout this Inventory and Analysis.

The subdivided lots within Reach 7 range in size from less than 10,000 square feet to 80,000 square feet. About a third of the lots fall in the one to two acre range, a third in the half to one acre range, and the rest in the less than half acre range. The mix of lot sizes is random throughout the Reach, but most particularly in the eastern part. Much of the eastern part of the Reach's history, street layout and buildings date back to the founding of the Town in the 1640s. The settlement grew outward from here, and the subsequent development still retains a strong traditional village feeling, albeit at a much larger scale than the hamlets of either Orient or New Suffolk. This historic aspect of Reach 7 is discussed in further detail, below, in *Section 9. Historic Resources*.

Almost all the waterfront in this Reach has been developed with the major exceptions of the eastern borders of both Corey and Richmond creeks. Off the water, most of the land in the eastern part of the Reach has been subdivided and developed. There are infill lots still left, but their numbers are limited. The few remaining larger lots that are left in the eastern part of Reach 7 are found in the central portion of Great Hog Neck. By contrast, the western portion of Reach 7 is predominantly undeveloped. Much of this land is in agricultural use, but is vulnerable to residential development, as will be discussed later in this analysis.

The residences in the eastern part of the Reach are a mix of year-round and seasonal homes. The proportion of the mix has fluctuated through the years, and probably will continue to do so. The primary attraction of this residential area is the fact that with the exception of Great Hog Neck, proper, most of the eastern part of Reach 7 is within walking distance of the hamlet. There is an extensive sidewalk network, probably the largest one outside of Greenport Village. Kids still ride their bikes to school on sunny spring and fall days, people can walk from one destination to another and increasingly, retired people can be found biking to town instead of driving. It is worth noting that the street network in this part of the Reach provides alternate opportunities to travel from east to west without using either SR 25 or CR 48.

The western part of the Reach is less populated. Residential development here is concentrated along Peconic Lane in the vicinity of Carroll Avenue, the southern portion of Wells Road and Indian Neck Lane. The older homes on and near Peconic Lane are a reminder of this hamlet's past economic prosperity when it was a mail and passenger stop on the railroad. Several have been restored, and two are in use as a bed and breakfast. Although the post office remains, residents of that part of the Reach need a car to access essential supplies and services in the other hamlets. Although the hamlet of Peconic, as defined by postal boundaries, is split between Reaches 7 and 8, the business section of it will be described in Reach 7 for simplicity of description. It should be understood though that uses denoted as being on the west side of Peconic Lane are in Reach 8.

Other uses found within Reach 7 include commercial, agriculture, marine business, resort or seasonal residential, and institutional. Most of the commercial business in Reach 7 is located in the eastern part of the Reach. These uses are clustered around the original business district of Southold hamlet, to the north and south of SR 25. The business uses in this hamlet include a range of offices providing legal, financial, insurance, architectural, engineering, medical, counseling services, realtors, banks, several eat-in or take out restaurants, grocers and delicatessens, several retail stores, an artist's studio, a health & exercise club, a newspaper publishing office, a shoe repair shop, a haircutting salon, and other miscellaneous offices. This business district is unique in that several older residences still remain in use as such, interspersed between those that were converted and expanded into businesses, and lots containing strictly commercial construction. Most, but not all, of the renovations and new construction respected the vernacular residential architecture surrounding it.

Further west, on SR 25 between Wells Avenue (across from Feather Hill, not to be confused with Wells Road, Peconic) and Ackerly Pond Road, there are several professional offices, a funeral home, a bed & breakfast, a custom welding workshop and a tree service, all operated from residential-type structures or as home occupations. The Southold Town Hall, the post office, the library, the District Attorney's Office and the elementary-middle and high school complex are located at the eastern end of the Reach, all within walking distance of each other. This part of Reach 7 also encompasses the Southold National Historic District, which runs from just west of Wells Avenue to just east of Jockey Creek Drive. At the western-most edge of the Historic District there is another cluster of business uses: consisting of a physical therapy studio, a hardware store, marina, gas station, heating fuel and plumbing business, two antiques stores, a kayak excursion, rental and sales center and professional offices. Also scattered throughout the SR 25 roadfront of Reach 7 are five churches, two separate complexes of historical buildings owned by the local historical society and an American Legion Hall which is housed in a former residence. (More detail on the Southold National Historic District is provided in *Section 9. Historic Resources*, below.)

Just west of the historic district and south of SR 25 there are two venerable cultural institutions that play a unique role in Southold Town's cultural life: the Southold Indian Museum and Custer Institute. The Indian Museum houses what may be one of the largest aboriginal artifact collection in New York State. It is discussed in more detail later, in *Section 10. Archeological resources*.

Custer Institute was formalized in 1927 and its first building completed in 1939. It is a non-profit amateur astronomy center containing observatories, several telescopes, a library, a museum, a radio astronomy facility, a darkroom, an optics shop and a 100 seat multi-media lecture hall. Its library contains science and astronomy books dating from the 1800's. Founded by Charles W. Elmer of the Perkin-Elmer Optical Company, this Institute continues to offer lectures, workshops and a chance to observe the heavens. Southold's attempts to prevent light pollution are designed, in part, to enable this unique resource to continue to provide scientist and residents alike access to the night sky.

There are several other, smaller clusters of business properties within Reach 7. These are located north of the Southold hamlet center in a strip along CR 48 and on both sides of Peconic Lane. The Southold strip includes a mix similar to that found in the historic district: a restaurant, furniture upholstery shop, a tile and quarry shop, a radio station and several professional and medical offices.

The business center of the hamlet of Peconic is located on both sides of Peconic Lane. Although the hamlet of Peconic is split between Reaches 7 and 8, the business section of it will be described in Reach 7 for simplicity of description. It should be understood for reference purposes that all business uses denoted as being on the western side of Peconic Lane are located in Reach 8. The original business hamlet of Peconic currently is a shadow of its former self. All that remains is a small post office, a laundromat, and a company servicing portable toilets. The train stop/mail drop was abandoned decades ago. The former general store building stands silent. Just west of Peconic Lane, north of the railroad track are several businesses: a gasoline self-serve station with an accessory food store, a large barn that accommodates a wooden gazebo and shed manufacturing operation, and a stone and gravel contractor. South of the railroad tracks, at the intersection of Peconic Lane and SR 25, is another cluster of businesses and municipal uses: Town-owned playing fields, an elementary school, a medium-sized car dealership and repair garage, an auto body repair workshop, an upholstery shop and the Town's highway and police departments. Adjacent to the highway and police departments there are two businesses: a custom window fabric and blind shop and a cleaning business. With the exception of the company servicing portable toilets, the playing fields, the school and the car dealership, all the business and municipal uses are on the west side of Peconic Lane in Reach 8.

Agricultural uses are found mainly in the northwestern portion of Reach 7, west of Ackerly Pond Road and South Harbor Road. There the lots have remained intact and suitable for farming. There is some farmland still left in the center of the Hog Neck peninsula, but much of it is being lost to incremental residential development. Until the late 1970s, farming still took place extensively throughout Great Hog Neck and even closer in to the hamlet, behind residences on the north of SR 25 and on both sides of the railroad tracks, right behind the business district. However, bit by bit, this land is being incorporated into building lots or is being left fallow. In spite of this loss, Reach 7 still contains 766 acres of active farmland, 275 acres of which (36%) is protected acreage.

There are two marinas and a former mariculture facility located within this Reach. The marinas are located on the east side of Town Creek near its mouth (Goldsmiths) and at the head of Jockey

Creek (Southold Marine, formerly Ulrich's). The marinas are discussed in further detail in the next section, *Section 3. Water-dependent/water-enhanced uses and water uses*. The mariculture site, which encompasses almost 14 acres, contains a commercial oyster grow-out facility. Known locally as "the Plock property," after its former owner, the history and present use of the grow-out facility are described in *Section 3*, also. Finally, there are 5 shoreline recreational areas within Reach 7. These are discussed in the next section too.

3. Water-dependent/water-enhanced uses and water uses

The water-dependent and water-enhanced uses in Reach 7 are located on Southold Bay Town, Jockey and Goose creeks. The water-dependent uses include ten marinas, six public boat launching ramps, four public or park district waterfront parks, a sailing club, one mariculture research facility and a shellfish cage holding area.

The water-enhanced uses include one bed & breakfast with views of Goose Creek, and The General Wayne Inn, a combined restaurant and inn with water views of Shelter Island Sound, and one marine science research center, the Suffolk County Marine Environmental Learning Center at Cedar Beach County Park.

(i) Recreational boating

There are ten (10) marinas located within Reach 7. Only two (2) of these are defined as commercial marinas or privately-run businesses. Seven (7) are non-profit, subdivision-related marinas. One (1) is owned by the park district. These marinas are scattered about the Reach; there is no concentration of marina activity on any one creek or portion of the bayfront. Together, these marinas provide an estimated 224 slips for recreational boats ranging in size from 15 to 35 feet. The commercial marinas accommodate about half of this total. A discussion of each marina is provided below. A discussion of the problems related to Bay mooring can be found in *Section II-D. Public Access and Recreation*.

- *Goldsmiths Marina, Southold*
Operated in conjunction with a larger marina of the same name on Shelter Island Sound in Reach 6, this marina actually is the older of the two. In fact, this marina is the oldest family run marina in original ownership in the State of New York. Located on the east side of Town Creek, on Hobart Lane, it lies directly behind Founders Landing, the location of the Town's original wharf and shipping piers. The location is sheltered from, yet easily accessible, to Southold Bay. Goldsmiths has capacity for about 45 boats. The marina can handle boats from 20 feet up to 35 or 40 feet. Limited services are provided dockside: e.g. water and electricity. All other amenities and marine mechanic services are located at the other marina. There are some upland metal and concrete block sheds at this location that are used for winter storage. The Sea Tow Services Company maintains their eastern Long Island office and several boats here.
- *Southold Marine Center*
Southold Marine Center is located on the south side of SR 25 at its intersection with Bayview Road. It occupies the western bank at the very head of Jockey Creek, more than a mile from the open waters of Southold Bay. This marina provides about 65 slips. However, its use is restricted to smaller boats (25 feet in length and under) because of the clearance limitations of the Jockey Creek Bridge on Oaklawn Avenue. The bridge crosses Jockey Creek at about its midpoint. Passage under the bridge during extreme low or high tides can pose problems for boats with deep draft or high superstructure. The marina

provides amenities such as water, electricity, a ships' store, and full repair service. No fueling or pumpout services are available. Indoor and outdoor winter storage are available. There also is an indoor dry rack storage system with a capacity for about 100 boats.

- *Southold Park District Marina*

Located at the head of Town Creek, off Maple Lane, this marina provides dockage for about 15 craft ranging in size from 15 to 25 or 30 feet. Dock space is limited to residents of the Southold Park District. No amenities or services are provided other than a faucet for attaching a hose and limited lighting from a nearby street light. There is a large parking lot at this site, and a picnic table. *An in-depth discussion of the territorial jurisdictions and operations of park districts within the Township can be found in *Section II. D. Public Access and Recreation*.

There are seven (7) private marinas throughout the Reach. They provide dockage, and perhaps water and electricity, but no other services. Their location and estimated number of slips (these are known to fluctuate) are noted below:

Southold Bay

Plock Preserve	4 to 7 slips
Reydon Shores	50 slips
Paradise Point	10 slips
Corey Creek	18 slips
The Cove	15 slips
Munnakoma Waters Association	17 slips

In addition to these marinas, there are a large number of private docks. Almost every creekfront lot within Reach 7 has a private dock, and with the exception of the eastern boundaries of Richmond and Corey Creeks, most of the waterfront is substantially developed.

The demand for boat dockage is great, as reflected in the fact that there are significant numbers of boats anchored at moorings within the creeks. In 1999, there were approximately 102 moorings within Reach 7, accounting for nearly 40 percent of all the moorings in the Town of Southold. Moorings were concentrated in the following creeks: Goose Creek (39), Richmond Creek (20), Town Creek (13), and Jockey Creek (9).

Town and Jockey Creeks handle some of the larger moored craft in Southold. In 1995, when these creeks were surveyed as part of a Harbor Management Study, 17 of the 24 boats in these creeks were over 24 feet long, and 11 were over 30 feet. Goose Creek, though handling more craft, is used for smaller boats (nearly 60 percent are 15-18 feet long), with only one boat longer than 24 feet. Goose Creek is at its capacity. According to the Trustees Office, Town and Jockey Creeks are near capacity.

Corey Creek, Richmond Creek and Cedar Beach (4) provide another concentration of moorings. In these creeks, the majority of boats (90 percent) are 24 feet long or under (1995). Richmond Creek is at capacity at the mouth of the creek.

Unregulated Bay moorings, totaling an estimated 49 in this Reach, are concentrated in the northwestern corner of Hog Neck Bay, on the western border of the Reach. A discussion of the problems related to Bay moorings can be found in *Section II. D. Public Access and Recreation*.

As can be seen below, there is fluctuation in the number of moorings in existence within Town creeks.

Boat moorings regulated by the Town

<u>Location</u>	<u># Moorings-1991</u>	<u># Moorings-1999</u>
Town Creek/Jockey Creek	40	22
Goose Creek	48	39
Cedar Creek	4	3
Corey Creek	25	18
Richmond Creek	16	20

Source: Town of Southold, Trustee Office, January 1991. August 1999.

There are six public boat launch ramps in Reach 7, all located at road ends and owned and maintained by the Town of Southold. The ramp locations are noted below. An asterisk denotes those that are concrete.

Cedar Beach Road*	Peconic Bay
Pine Neck Road*	Jockey Creek/Town Creek
Gagen's Landing*	Goose Creek
Wells Road	Richmond Creek.
Spring Lane	Richmond Creek.
Parkers Landing*	Richmond Creek.
Minnehaha Blvd.	Corey Creek

(ii) Commercial fishing

There are no known commercial fishing operations within this Reach. Neither the State nor the Town keeps records of harvest by Reach.

(iii) Commercial and recreational shellfishing

The Town, Jockey and Goose Creek complex is a very productive shellfishing area. These Creeks are seeded annually by the Town. However, because of the degree of residential development along their shorelines and the high number of moorings within their borders, Town Creek, Jockey Creek and the western portion of Goose Creek are closed to harvesting between April 15th and December 31st. The eastern portion of Goose Creek is open year round.

Cedar Beach Creek is another fair to good shellfishing area that also is open year-round. Richmond Creek is a fair to good area, but it is closed from April 1st to October 31st due to questionable water quality. Even though Richmond Creek arguably has the least developed shoreline within the Reach, it suffers from the direct discharge of large volumes of untreated stormwater runoff from SR 25. The discharge pipe enters the Creek at northernmost part of its western head. Another factor in the fluctuating water quality within Richmond Creek is the large waterfowl population. The situation is further exacerbated by the increasing numbers of birds that are wintering over in the creek, instead of migrating south. Fair to good shellfishing can be found in the nearshore

waters of both Southold Bay and Hog Neck Bay. In spite of the high level of waterfront development, Reach 7 is one of the most highly productive reaches for shellfish within the Town. However, the seasonal deterioration of water quality precludes more extensive use of these resources.

(iv) Aquaculture

There are two centers of aquaculture within Reach 7: the Plock Shellfisher Preserve and the Suffolk County Marine Environmental Learning Center at Cedar Beach County Park.

The Plock Shellfisher Preserve site encompasses almost 11 acres and contains a former oyster grow-out facility. The Preserve site originally was part of a larger property that was owned and operated by the Plock family. This unique resource fell into disrepair due to the death of the family patriarch. However, the family worked with the Peconic Land Trust to create a four-lot residential subdivision with boating access from the small harbor off Reydon Shores. The remainder of the property has been preserved for use as a shellfishing research station as well as open space. Since 1996, the Cornell University/Suffolk County Cooperative Extension's Marine Research division has leased space to shellfish cultivators of clams and oysters.

The Suffolk County Marine Environmental Learning Center at Cedar Beach County Park has been in existence since 1981. Although its primary focus is marine research, its marine educational programs for youngsters are the most visible aspect of this Center. In addition, the County has allowed the Cornell University/Suffolk County Cooperative Extension's Marine division and the Town to use the facilities to cultivate shellfish for the Town's seeding program. The Town of Southampton also uses this facility for its seeding program. Soft and hard clams, scallops and oysters are cultivated here. The facility underwent a major renovation during 1999 of nearly \$800,000 worth of laboratory renovations, new classrooms and office space. An estimated 15,000 children annually take part in programs at this Center.

Since 1998, the Center has provided an office and boat slip for the Peconic Estuary Bay Keeper.

(v) Navigation and dredging

Reach 7 is bounded seaward by Shelter Island Sound and Hog Neck Bay, which is part of Little Peconic Bay. This Reach offers excellent boating opportunities because of the fairly low number of navigation hazards such as rocks, shoals, and sandbars. Town, Jockey, and Goose Creeks, along with the small canals/inlets of Harbor Lights, Reydon Shores/Plock and Paradise Point, all empty into Southold Bay which is part of Shelter Island Sound. The peninsula of Great Hog Neck separates Shelter Island Sound from Little Peconic Bay.

Cedar Beach Creek, Midway Inlet and West Lake empty directly into Little Peconic Bay. Corey and Richmond creeks empty into Hog Neck Bay, which is part of Little Peconic Bay. Little Peconic Bay has a surface area of approximately 22 square miles, and an average depth of 21 feet. The deepest portion of Little Peconic Bay occurs near Cedar Beach Point, where depths range from 58 to 70 feet.

There are two federally marked channels in Reach 7 between Paradise Point in Southold and Crab Creek Point on Shelter Island, and between Cedar Beach Point in Southold and Jessups Neck in Southampton. Tide rips are common in both channels. The Suffolk County Department of Public Works maintains navigation channels at the entrances of Town and Jockey Creeks, Goose Creek (seaward of the Goose Creek Bridge), Cedar Beach Point, Corey Creek, and Richmond Creek.

Dredging provides access to two marinas and a public boat ramp in Town and Jockey Creek, to a public boat ramp in Goose Creek, to the Suffolk County Marine Environmental Learning Center at Cedar Beach County Park, and to a public boat ramp in Corey Creek. Details of the dredging projects in Reach 7 are summarized in Table 7-1, below.

Table 7-1 Dredging Projects within Reach 7

Creek	Date	Cubic Yards	Method of disposal
Jockey Creek	1959	115,000	
	1963	93,400	
	1976	9,000	
	Total	217,400	
Goose Creek	1959	46,700	Beach nourishment to the east, formerly upland disposal
	1967	75,200	
	1968	11,100	
	1976	6,000	
	1995	3,000	
	Total	139,000	
Cedar Beach	1979	12,400	Beach nourishment to the east
	1980	1,900	
	1981	9,700	
	1982	1,700	
	1983	1,700	
	1984	1,900	
	1985	1,440	
	1986	2,880	
	1987	1,920	
	Total	35,540	
Corey Creek	1963/4	345,600	Formerly upland and now beach nourishment
	1967	23,900	
	1972	7,600	
	1981	10,200	
	1983	800	
	1984	3,500	
	1986	18,600	
	1987	5,040	
	1999	5,300	
	Total	420,540	

Table 7-1 Dredging Projects within Reach 7 continued

<u>Creek</u>	<u>Date</u>	<u>Cubic Yards</u>	<u>Method of disposal</u>
Richmond Creek	1959	123,000	Beach nourishment on both sides of inlet
	1964	82,800	
	1967	25,100	
	1972	5,500	Upland disposal adjacent to creek
	1983	15,300	
	1995	20,000	
	1999	2,200	
Total	273,900		

Source: AKRF, 1995 p II-26. Updated information provided by Ed Lynch, Suffolk County Department of Water Works-Waterways Division.

4. Existing Zoning

The majority of the land in Reach 7 is zoned for low-density residential use (see [Map II-6](#)). The predominant residential zoning classifications are R-40 and R-80, in that order. Other residential classifications include Resort Residential (applied to The Cove Condominiums on Corey Creek), Hamlet Density (Founder's Village senior citizen complex in Southold hamlet) and Affordable Hamlet Density (Southold Villas on SR 25).

Throughout the Reach, the R-40 and R-80 districts alternate, reflecting the fact that much of the land here was subdivided and developed prior to 1986 and two-acre zoning. The R-40 districts contain a mix of lot sizes from a quarter acre to one acre. As mentioned earlier, most of the residential development is in the eastern part of the Reach. However, there are several properties within the Hog Neck peninsula that are zoned Agricultural-Conservation, reflecting the fact that they were still in active agricultural production in 1989. Unfortunately, some of these properties are being lost to residential development. In the western part of the Reach, most of the land is zoned A-C and most of it remains in agricultural production.

The business district of Southold hamlet contains fairly extensive areas zoned for Hamlet Business (HB), most of which is clustered to the north and south of SR 25 for a distance of about one full mile, half of which lies within Reach 7 and half within Reach 6. There also are a number of General Business (B), Limited Business (LB) and Light Industrial (LI) districts scattered throughout the hamlet. It is worth noting that a sizeable number of the HB zoned properties are either vacant or used for residences. Further, several of the properties improved with business structures are either empty or underutilized, thereby raising the question of whether there is a surfeit of HB zoning within the hamlet. West of the HB zone on SR 25 there is about a three-quarter mile stretch of Residential Office (RO) zoning. Recently, most of the structures in this zone were included in the Southold National Historic District. There is one only isolated HB district in the midst of residential and agricultural zoning. It designates the General Wayne Inn, near Cedar Beach Point. This somewhat incongruous zoning exists because of the inn's history dating back to 1784.

In the western portion of the Reach, there is a cluster of business zoning around the hamlet of Peconic. Although most of it lies within Reach 8, the discussion of the hamlet business center is

included in this Reach because most of the postal jurisdiction of Peconic lies within Reach 7. The business uses described in *Section 2. Land use and development* are mostly in conformance with their zoning districts, which include HB, B and LI.

The two commercial marinas in Reach 7 are zoned M-I (Southold Marine on Jockey Creek) and M-II (Goldsmiths on Town Harbor). The acreage involved is minimal: 3.1 acres at Southold Marine Center and 3.4 acres at Goldsmiths Marina. Both marinas are probably built out to near capacity. The other marinas, owned by the park district or homeowner associations, are located in residential zoning districts.

5. Existing waterfront access and recreation sites

Reach 7 provides a number of important waterfront access points and opportunities for recreation, each of which are indicated on [Map II-11](#) and discussed below.

Suffolk County

- *Cedar Beach County Park, Cedar Beach Drive, Southold*
This 63-acre County site provides limited public recreational facilities, but it is used extensively during the summer season. The site contains extensive wetlands and beachfront. The wetland ecosystem is sheltered from direct wave action off Little Peconic Bay and it harbors a wide variety of wildlife. Although swimming is popular at this park, no lifeguards are provided. This site is the location of the Marine Environmental Learning Center for Suffolk County Community College.

Town of Southold

- *Terry Lane Road End, Town Creek, Southold*
Located adjacent (north) of the Founders Landing Park, this road end has an asphalt boat launch ramp that is almost entirely washed away. The ramp is difficult to use during low tide due to the shortness of the ramp and the steepness of the slope. Also, the strong currents here make the ramp difficult for use by inexperienced boaters. Its use is limited to lightweight boats under 25 feet in length. However, this has become a popular spot for jet skiers to launch from. Recently, the Town placed a sign here advising boaters to use the Pine Neck ramp, described below.

The remains of the ramp and the gulying that occurs from stormwater runoff precludes use of the site for a bathing beach. This negative is ameliorated by the adjoining beachfront of *Founders Landing Park*. However, as noted below, access to that park is limited to Park District residents only. There is parking available alongside the road for 4-6 cars. A Town-issued parking permit is required.

- *Gagens Landing Road End, Goose Creek, Southold*
There is a concrete boat launch ramp here in good condition. Parking is available for 5-7 cars. A Town-issued parking permit is required.
- *Pine Neck Road End, Jockey Creek, Southold*
There is an extensive concrete/asphalt apron here that covers nearly the entire 50 feet of shoreline. It is in good condition, and is heavily used for small boats, jet skis and kayaks. It provides parking for 5-10 cars. A Town-issued parking permit is required.

- *Goose Creek Beach, North Bayview Avenue, Southold Bay, Southold*
This 2.7-acre Town beach is located on Southold Bay. During the summer season it offers restrooms, a lifeguard service, playground equipment and parking capacity for approximately 50 cars. A Town-issued parking permit is required. A very popular family beach due to its shallow swimming area, its relatively calm waters and its proximity to deeper water for water-skiing, this beach is located right between the channel to Goose Creek and the Southold Yacht Club which runs a sunfish sailing & racing program for youngsters and teenagers. The potential for conflicts between boaters, bathers, sailors and water-skiers is of some concern.
- *Cedar Beach Road end, Shelter Island Sound, Southold*
The concrete boat launch ramp here is in good condition. Since the site adjoins the County beach parking field, parking is directed there.
- *Minnehaha Boulevard road end, Corey Creek, Southold*
The dirt ramp located here is suitable only for small boats. Parking is available for 2-3 cars. A Town-issued parking permit is required.
- *Wells Road road end, Richmond Creek, Peconic*
This road end provides only a packed sand surface for a ramp, thus is suitable only for light boats. It is used on a limited basis by some commercial baymen, crabbers and recreational boaters. Town permits are required to park here.
- *Spring Lane road end, Richmond Creek, Peconic*
This is an unimproved road end has very limited parking. It provides suitable access for kayaks.
- *Parkers Landing road end, Richmond Creek, Peconic*
The concrete launching ramp is in good condition. Parking is available for 8-10 cars. A Town-issued parking permit is required.

Southold Park District*

- *Founders Landing Park & Wharf House, Hobart Road and Terry Lane, Southold*
Located directly on Southold Bay at the mouth of Town Harbor, this 1.8-acre park preserves the purported original landing site of the founding fathers of the Town. The Town's shipping docks and piers were installed here and remained active through the turn of the 20th century. The Wharf House itself dates back to 1915, when it was built to commemorate the historic significance of the site. The park offers extensive amenities: a roped off beach and swimming area, playground equipment, a basketball court, several picnic tables under shade trees, lifeguards, rest and changing rooms, parking for about 15-20 cars in the main lot and overflow for an additional 30 in the grassed upland area on the north side of the Wharf House.

In years past, a snack concession business was operated out of the Wharf House. The House itself was recently renovated. It is now a popular place to rent for parties since it offers heat, a full kitchen, a dance floor, bathrooms, tables and chairs and a large wrap-around porch from which to enjoy sweeping views of Southold Bay. Access to this park is limited to Southold Park District members and their guests.

- *Young's Avenue Park*
This park is less than one-half acre in size and is located near the head of Town Creek where the road crosses over it to Calves Neck. It contains a small grassy area under shade trees with a picnic table and a very large parking area that could hold at least 20 cars, but that is almost never used by more than three or four. This is a popular lunch time spot due to its close proximity to the hamlet business district. The waterside portion of this park, which has slips for 15 small craft, was described earlier in this chapter in *Section 3. Water-dependent/water enhanced uses and water uses.*
- *Emerson Park, South Harbor Road, Southold*
This 4-acre site, also known as *South Harbor Park*, fronts on both Hog Neck Bay and the entrance to Richmond Creek. In addition to the extensive and very deep beach, there is extensive wooded upland, which hosts a large picnic area, a bocci court, volleyball court and restrooms. Electricity and running water also are available, making this site a popular destination for large gatherings and picnics. This site has the parking capacity for approximately 20 to 30 cars. This is an unprotected beach as there are no lifeguards.

**An in-depth discussion of the territorial jurisdictions and operations of park districts within the Town can be found in Section II.D. Public Access and Recreation.*

Private

- *Laughing Waters Boat Launch Ramp, Minnehaha Boulevard, Corey*
The stone blend boat launch ramp located here is owned by the Laughing Waters Home Owners Association. It provides parking for 4-5 cars.

The underwater lands of Town, Jockey, Goose Creek, Cedar Beach, Corey and Richmond Creeks are part of the *Andros Patent*, thus are under the ownership and jurisdiction of the Town Trustees. The underwater lands of the canals of Harbor Lights Estates, Reydon Shores, Paradise Point, Midway Inlet and West Lake are in private ownership. Though privately owned, they are still under Trustee jurisdiction. Outside of these inland waterbodies, the majority of the underwater lands belong to the State of New York. Out from the shoreline, there are sizable private underwater holdings, as well as underwater lands conveyed to the county.

6. Inland recreation facilities

Within Reach 7, there are three sites hosting inland recreation facilities. One is in the eastern section of the Reach near the heart of the hamlet on the west side of Oaklawn Avenue north of the Jockey Creek bridge. Located on the 37.8-acre grounds of the Southold School District, which accommodates grades K through 12, the school's facilities include tennis courts, playground equipment, an indoor gym, a state of the art auditorium and soccer, softball and football playing fields. The school facilities generally are open for use to Town residents, although school sponsored activities take precedence.

The second site is Triangle Park, a 1.5 acre site between SR 25 and Lower Road (near South Harbor Road). This park contains a War Memorial for World War II, Korean and Vietnam veterans. It also has picnic benches under the trees.

The third set of inland recreation facilities, known as Tasker Park, is located on the east side of Peconic Lane, north of its intersection with Carroll Avenue. The 10.5-acre site is owned by the Town of Southold and it boasts a regulation football field, three tennis courts, a playground for pre-

school children, three Little League regulation softball fields, and one T-ball field, as well as an equipment storage shed with bathrooms, a public telephone. Night lighting is available on part of the site. The football field is scheduled to be replaced by a soccer field in the near future. The stone-blend parking field off Carroll Avenue can accommodate approximately 100 cars.

Although technically in Reach 8, it is worth mentioning here that the Town acquired a 14-acre site in 1998, directly across Peconic Lane from Tasker Park. Referred to as the Jean Cochran Park, tentative plans call for the football field to be relocated from Tasker Park here. A roller hockey rink with a half-mile track suitable for walking, jogging and roller-blading has been installed. Other projects include: night lighting for the site, off-street parking, two outdoor basketball courts, an adult regulation softball field, and a building containing restrooms, equipment storage space, offices for supervisory personnel and meeting rooms.

7. New opportunities for public access and recreation provision

The existing road ends can provide enhanced and more attractive access to their immediate neighborhoods if they were better maintained and in some cases landscaped. Many road ends suffer from erosion due to stormwater runoff off the street or from excessive paving: in some cases the pavement goes right down to the beach. Pulling back the pavement and reinstalling native beach vegetation would go a long way towards making these properties more attractive to people in the immediate neighborhood, who then might be inclined to use them more extensively.

The Town is seeking to develop a better stewardship program for the adjacent park, which is under County ownership and management. The willingness of the County to cooperate with the Town will be a deciding factor in improving public access and recreational opportunities at this site. Town ownership of the site would be preferred.

There are few opportunities for creating new public access points to the water in Reach 7 due to the high degree of residential subdivision development that has already taken place along the shoreline. The best opportunities include the vacant land on the eastern side of Corey Creek and at the head of the eastern branch of Richmond Creek. The first site has considerable amounts of low-lying, wooded wetland; thus its use may be limited to passive recreational access (picnicking, nature walks, fishing). On Richmond Creek there are several small properties worth considering, most of which are located near the two heads of the creek, and most of which are accessible from SR 25. The largest and most desirable property for preservation is the former Wortis properties at the foot of South Harbor Road. This property currently is in private ownership, but the prior owners were actively pursuing a limited development of this estate. Its preservation would provide much needed access to the water in a fairly heavily populated area. All of these properties have been identified for preservation in the *Community Preservation Project Plan*.

The second source of opportunity open to the Town is to acquire lands on either side of existing road ends, particularly where those lots are vacant or the structures are in deteriorated condition. The additional acreage could be used to provide some off-street parking, benches and playground or picnic equipment, all of which could be buffered, from the neighbors. However, given the value of waterfront, this is an unlikely scenario except where the lots are essentially unbuildable for environmental reasons.

8. Natural resources

(i) Wetlands

Despite the density of waterfront development, there is extensive tidal wetland vegetation to be found throughout Reach 7. Even where there is bulkheading, particularly in the more sheltered creeks, the structures were placed far enough behind the beach to allow the beach and wetland to survive. Particularly large expanses of tidal wetlands occur along Town Creek, Jockey Creek, Goose Creek, Cedar Beach, Corey Creek and Richmond Creek. The wetland systems associated with Corey, Richmond and Cedar Beach Point creeks are particularly extensive and unique, thus have been designated as *Significant Coastal Fish and Wildlife Habitats*. They are listed below. Their habitat qualities are described in the next subsection.

Reach 7: Tidal wetlands

<u>Location</u>	<u>Acres</u>	<u>Dominant Species</u>	<u>Tributary Area</u>
Richmond Creek	16	Spartina alterniflora	Little Peconic Bay
Corey Creek	13	Spartina alterniflora Spartina patens	Little Peconic Bay
Cedar Beach	26	Spartina alterniflora	Little Peconic Bay
Paradise Point	3	Spartina alterniflora	Shelter Island Sound
Reydon Shores	5	Spartina alterniflora	Shelter Island Sound
Goose Creek	30	Spartina alterniflora Phragmites communis	Shelter Island Sound
Jockey and Town Creeks	7	Spartina alterniflora	Shelter Island Sound

Source: *Unpublished Draft: Brown Tide Comprehensive Assessment and Management Program*. SCDHS; as edited by J. Bredemeyer, Trustee, Town of Southold, March 1993.

(ii) Significant Coastal Fish and Wildlife Habitats (SCFWH)

There are four designated SCFWHs within Reach 7. The location of each habitat is shown on [Map II-14](#). Their main features are described below. This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2002) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website. .

The habitat documentation for the SCFWHs should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the SCFWHs by incorporating design guidelines and standards for the protection of the SCFWHs.

• Jockey Creek Spoil Area Significant Coastal Fish and Wildlife Habitat

The Jockey Creek Sandspit is located at the mouth of Jockey Creek just north of the Great Hog Neck on Shelter Island Sound. The fish and wildlife habitat is an approximately 10 acre sand spit and dredged material island in the mouth of a tidal creek. There is heavy residential and marina development in the creek and consequent pollution, mostly from runoff.

The sand spit and dredge spoil island is not a rare ecosystem type but the area serves as a nesting site for least tern (T) and common tern. Piping plover (E, T-Fed) nested at this site in the mid-1980s, but have not been documented since then. Osprey (SC) also nest at this site. There are no significant human use activities associated with the fish and wildlife resources at the Jockey Creek Sandspit.

Nesting shorebirds inhabiting Jockey Creek Sandspit are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

Pollution in the area, from road runoff into Town Creek and boat waste discharges into Jockey Creek, should be minimized or eliminated to improve water quality and enhance habitat value for local fish and wildlife species. Innovative shore stabilization approaches using vegetation and/or other “soft” technologies, and restoration of fringing salt marshes should be considered to improve water quality and enhance fish and wildlife habitat value.

- **Cedar Beach Point Significant Coastal Fish and Wildlife Habitat**

Cedar Beach Point SCFHW is located at the tip of Great Hog Neck, north of Little Peconic Bay. The fish and wildlife habitat is approximately 85 acres in size, consisting of sparsely vegetated sand beach and dredged material deposits, a small protected bay (Cedar Beach Creek), mud flats, and salt marsh. The *New York Natural Heritage Program* has documented seabeach knotweed, a rare plant species, in this area. The area is owned by Suffolk County and houses the *Cornell Cooperative Extension Marine Program*. The habitat is generally bordered by low to medium density residential development. The mouth of the creek is subject to periodic maintenance dredging.

Cedar Beach Point is a small coastal wetland area, similar in nature to many other points around the Peconic Bays shoreline, but important as a habitat for various fish and wildlife species.

This area has served for many years as a nesting site for least terns (T). In 1982 and 1983, approximately 80-90 pairs of least terns nested in the area, making this colony one of the largest on the north fork of Long Island, of county-level significance. However, human disturbance of the area, including pedestrian traffic and recreational vehicle use, has been a serious problem for many years, and least tern populations have declined to around 5-6 pairs annually by the late 1980s. Common tern (T) nested at Cedar Beach Point in the mid-1990s, ranging from 1-14 pairs. More information about the importance of this site for common tern is needed.

Piping plover (E, T-Fed) nest regularly at Cedar Beach, with an annual average of 1 pair observed during the 1987-1996 period. The peak number, 2 pairs, was observed in 1995. The appearance of this species has become more regular throughout the 1990s.

Osprey (SC) have nested in the area for many years, using man-made nesting platforms located in the habitat. The tidal wetlands at Cedar Beach Point serve as feeding areas for both least tern and

osprey, as well as for many other wildlife species. Black skimmer (SC) have appeared at Cedar Beach Point in high concentrations (several hundred). Low marsh areas of these wetlands support healthy populations of fiddler crabs. Diamondback terrapin are also present here; more information is needed to determine importance.

In addition to its ecological values, Cedar Beach Point is an important area for marine sciences education and research. The Cornell Cooperative Extension Marine Program is located at Cedar Beach, and the area is heavily used by faculty and students as a “living laboratory.”

It is essential that any potential impacts on Cedar Beach Point be evaluated with respect to the established science program here, and the need to maintain natural or controlled experimental conditions. Any activity that would substantially degrade the water quality in Cedar Beach Creek would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, stormwater runoff, and waste disposal. It is essential that high water quality be maintained in the area, primarily by controlling discharges of sewage and other pollutants from upland sources.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Alteration of tidal patterns at Cedar Beach Point would have major impacts on the fish and wildlife communities present. Elimination of salt marsh and intertidal areas, through loss of tidal connection, excavation, ditching or filling, would result in a direct loss of valuable habitat area. Construction and maintenance of shoreline structures, such as docks, piers, bulkheads, or revetments, in any part of this area, may have a significant impact on the fish and wildlife resources of Cedar Beach Point. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Maintenance dredging in the Cedar Beach Point area should be undertaken within the dredge windows identified in the SCFWH assessments (found in Appendix A) to minimize potential impacts on aquatic organisms. Dredged material disposal in this area would be detrimental, but such activities may be designed to maintain or improve the habitat for certain species of wildlife, especially nesting birds. There is some indication, however, that as a result of the potential for overwash onto salt marshes, this site does not exhibit optimal conditions for dredged material placement.

Nesting shorebirds inhabiting Cedar Beach Point are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs and nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to

help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

- **Corey Creek Significant Coastal Fish and Wildlife Habitat**

Corey Creek and Beach is located on the southwestern shoreline of Great Hog Neck on Little Peconic Bay. The fish and wildlife habitat consists of approximately 130 acres of tidal creek, salt marsh, mudflats and beach. The area around the western shoreline of Corey Creek and Moyle Cove is a developed residential area and some portions of the creek have been dredged and bulkheaded. The beach is a small sand beach and dredged material area which is somewhat degraded by human disturbance.

The small disturbed tidal creek and beach found at Corey Creek is not a rare ecosystem type but the area functions as an important habitat for a variety of fish and wildlife. Osprey (SC) historically have nested on platforms at this site. A small population of least tern (T) was present on the beach in 1984, but this species was documented only once more through 1996. Piping plover (E, T-Fed) were sporadically documented at Corey Creek Beach, ranging from 0-2 pairs annually during 1987-1996.

Diamondback terrapin have also been seen but the nesting sites and the importance of this area to these species is not well documented. The creek serves as a feeding area for the osprey along with waterfowl, shorebirds and other wildlife. Waterfowl species observed overwintering in the Corey Creek area include Canada goose, American black duck, mallard, oldsquaw, bufflehead, red-breasted merganser, surf scoter, and common goldeneye. The creek is a productive area for marine finfish and shellfish. The area serves as an important nursery area and habitat for shellfish including bay scallops and hard clams.

The creek is one of the top three areas in Southold for scalloping and is significant to the Long Island region. It is one of the top five clamming areas in the town. The creek area is also locally important for waterfowl hunting.

Any activity that would substantially degrade the water quality in Corey Creek would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, stormwater runoff, and waste disposal. It is essential that water quality be maintained in the area to protect the bay scallop fishery. The Town of Southold recommends that use of sprinklers and lawn chemicals be minimized or prohibited on creek waterfront property.

Alterations of tidal patterns in Corey Creek (e.g., by modifying the inlet) would have major impacts on the fish and wildlife species present. Dredging in the creek should be undertaken within the dredge windows identified in the SCFWH assessments (found in Appendix A) to minimize potential impacts on aquatic organisms and to allow for dredged material disposal when wildlife populations are least sensitive to disturbance. Dredged material disposal that alters the creek inlet or tidal flow would negatively impact the habitat value of this site.

Barriers to fish migration, whether physical or chemical, would have a major impact on the fisheries of Corey Creek. Restoration of fisheries habitat through removal of such barriers, or other means, should be considered for Corey Creek.

Elimination of salt marsh and intertidal areas, through dredging, loss of tidal connection, excavation or filling, would result in a direct loss of habitat area. Construction of shoreline structures such as docks, piers, bulkheads or revetments, in areas not previously disturbed by development (e.g., natural beach or salt marsh) may result in a loss of productive areas which support the fish and wildlife resources of Corey Creek. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Nesting shorebirds inhabiting Corey Creek are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat of this area.

- **Richmond Creek and Beach Significant Coastal Fish and Wildlife Habitat**

Richmond Creek and Beach is located just west of Great Hog Neck with an inlet into Little Peconic Bay. The fish and wildlife habitat is approximately 135 acres in size consisting of a sand peninsula, salt marsh, and tidal creek. The New York Natural Heritage Program has documented the occurrence of seaside plantain, a rare plant species, at Richmond Creek. There is moderate residential development along the borders of the creek, portions of which have been dredged and bulkheaded. Much of the creek is lined by *Spartina alterniflora* (smooth cordgrass). The creek itself tends to be muddy.

The creek/beach/marsh ecosystem at Richmond Creek is similar to other creeks in the area but serves as an important habitat to several vulnerable wildlife species. Diamondback terrapin nest on the beach; the tidal creek and salt marshes provide feeding areas and cover for terrapins during this period.

The beach has historically been a nesting area for least terns (T) and piping plover (E, T-Fed). Piping plover nested in small numbers at Richmond Creek during the late 1980s, but have been documented only twice since that time (in 1995 and 1997). Further information on the importance of this beach to the piping plover population is needed. Two pairs of common tern (T) nested on Richmond Creek Beach in 1988. Waterfowl species observed overwintering in the Richmond Creek area include Canada goose, American black duck, mallard, oldsquaw, bufflehead, red-breasted merganser, surf scoter, and common goldeneye.

Richmond Creek is also a productive habitat for finfish, shellfish and crustaceans, including blue claw crabs, clams and scallops. The creek is one of the top two creeks for crabbing in the town and is also important for clamming.

Nesting shorebirds inhabiting Richmond Creek and Beach are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat of this area.

Elimination of salt marsh vegetation, through loss of tidal connection, landfilling, dredged material disposal or excavation would result in a direct loss of valuable habitat area. Alterations of tidal patterns in the marsh (e.g., by modifying the inlet) could have major impacts on the fish and wildlife species present. Construction of bulkheads, breakwaters, revetments, and other “hard” shoreline structures negatively impact tidal wetland habitats. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Any activity that would substantially degrade the water quality of Richmond Creek would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects as a result of bioaccumulation), oil spills, sedimentation, excessive turbidity, stormwater runoff, and waste disposal (including boat wastes). Impacts to water quality in the creek should be minimized or eliminated to enhance locally important shellfish and crustacean populations. Barriers to fish migration, whether physical or chemical would have a major impact on the fisheries in Richmond Creek.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

(iii) Water Quality

There are two state-designated surface water classifications in Reach 7: Shelter Island Sound, Little Peconic Bay, Town Creek, Jockey Creek (below the bridge), Goose Creek, Cedar Beach Creek, Corey Creek, and Richmond Creek have all been designated SA quality waters. The portion of Jockey Creek north or above the bridge is designated SC waters.

Parts of Goose Creek, Richmond Creek and other tributary creeks to Southold Bay are included on the *NYSDEC Priority Waterbodies List*.

Southold Bay has consistently appeared on the *NYSDEC Priority Water Problem List* and the *Priority Waterbodies List*. Little Peconic Bay first appeared on the *Priority Water Problem List* in 1993 and is on the 1996 *Priority Waterbodies List*. These listings indicate that the designated use of the waterbody, shellfishing, was impaired by the poor water quality of the Harbor and Bay, which have been impacted by non-point source pollution, particularly stormwater runoff. Other pollution inputs come from storm sewers, on-site wastewater systems, boats and waterfowl, especially in the sheltered portions of the Creek during the winter months. Water quality problems in Southold Bay were identified as having a high resolution potential. Water quality problems in Little Peconic Bay were identified as having a medium resolution potential in the 1996 *Priority Waterbodies List*.

Town, Jockey and Goose creeks are the major tributaries to Southold Bay. All three creeks are surrounded by residential development. The lots range in size from less than 10,000 square feet to just under two acres. Most of the lots are developed, with homes located between 50 to 150 feet of mean high water. All the homes are serviced by on-lot subsurface septic disposal systems.

Town and Jockey creeks are further impacted by marina operations, neither of which provide pumpout facilities. Finally, with the exception of the Town's wetland retention basin at the head of Town Harbor, on the west side of Hobart Road approximately 550 feet south of SR 25, all other stormwater runoff from State and Town roads is discharged directly into Town and Jockey creeks. Three 12-inch storm drainage outfalls enter Town Creek. Three 4-inch, two 6-inch, one 8-inch, nine 12-inch and one 48-inch diameter storm drainage outfall pipes enter Jockey Creek. One 8-inch and three 12-inch storm drainage outfall pipes and two paved concrete ditches enter Goose Creek. One 12-inch storm drainage outfall enters Southold Bay. One storm drainage outfall enters Cedar Beach Creek. One 1-inch, three 3-inch, one 6-inch, two 12-inch, and three 36-inch storm drainage outfalls enter Corey Creek, all from local roads. One 8-inch storm drainage outfall enters directly into Hog Neck Bay.

Currently, there are no industrial or commercial land uses on the shoreline of Little Peconic Bay within the Reach. The shoreline development is strictly residential, albeit fairly intensive. During the course of their 1989 shoreline survey of the area, the NYSDEC noted concentrations of domestic animal wastes in several spots on the shore of the bay. Local regulations requiring the restraint of pets and enforcement of clean-up requirements may be necessary to reduce potential organic and coliform loadings to the bay from domestic pet wastes.

Several years ago, the Town of Southold Conservation Advisory Council (CAC) undertook a demonstration project that consisted of an Adopt-A-Creek program. This was a grassroots effort to improve the water quality of Southold's tidal creeks. The CAC's action was in response to the fact that many of the tidal creeks, which are currently open seasonally only for shellfish harvesting, used to be open year-round. Many of Southold's transient residents cannot partake in recreational shellfish harvesting activities because most of the seasonal closures occur during the peak summer months. The CAC chose Goose Creek as a pilot area for the Adopt-A-Creek program, and coordinated with NYSDEC in collecting water quality samples. They also contacted all of the residents surrounding Goose Creek to solicit volunteers, and conducted an initial seminar to inform residents as to what they could do to improve the water quality of Goose Creek. Unfortunately, the Adopt-A-Creek program is no longer in existence, mostly due to the fact that the CAC is a voluntary group, with no environmental staff resources to assist it in the ongoing implementation and educational efforts that this program required.

Largely through the efforts of the CAC, two drainage improvement projects were installed near the headwaters of Goose Creek (Cedar Drive) and Town Creek (Hobart Road). Improvements on Cedar Drive included the installation of two catch basins and leaching pools in a gravel trench at the road end. Improvements on Hobart Road, mentioned earlier in this section, included the installation of three curb inlets, ten leaching pools, and three concrete headwalls, plus the incorporation of a vegetated detention basin and drainage outlet improvements. The Suffolk County Cooperative Extension utilized the Marine Environmental Learning Center at Cedar Beach Park to conduct water quality tests to monitor the effects of these drainage improvements (McMahon, April 12, 1993). A stormwater improvement project was also completed on a tributary of Corey Creek. Two catch basins and leaching pools were installed in a gravel trench on Minnehaha Boulevard. The systems appear to be working; no direct discharge has been observed at these sites.

The Town of Southold has undertaken a demonstration/implementation project in the watershed of Goose Creek as part of the *Peconic Estuary Program*. Stormwater runoff mitigation systems have been constructed at 5 locations in Goose Creek. The project was designed to improve water quality enough to allow shellfishing in the creek on a year-round basis. Since 1990, Goose Creek has been subject to seasonal restrictions. However, as a result of these stormwater projects, 83 acres of seasonally certified shellfishing grounds within Goose Creek were reclassified as certified year-round. (Source: Correspondence dated September 23, 1999 from Daniel E. Lewis, Marine Resources Specialist, Bureau of Marine Resources, New York State Department of Environmental Conservation.)

This is one of the most highly productive reaches for shellfish within the Town. Of the six creeks, four are considered most productive, and all are seeded by the Town. Town Creek, Jockey Creek, and Goose Creek are all seasonally certified for shellfish harvesting. The opening/closure dates vary for each creek or portions of each creek. Currently, the coastal waters of Little Peconic Bay and the tidal tributaries including (listed from west to east) Little Creek, Richmond Creek, Corey Creek, the two unnamed ponds, and Cedar Beach Creek are all certified for shellfish harvesting. Details on shellfish harvesting dates are summarized in Table 7-2.

Table 7-2 Shellfish Harvesting - Water Body Classifications within Reach 7

Water body	Classification	Remarks
Southold Bay	Certified	All boat basins and canals between the eastern shore of the mouth at Goose Creek to Paradise Point seasonally closed during 5/15-10/31.
Town and Jockey Creek	Seasonally certified	Open from 1/1-4/14
Town Creek	Seasonally certified	Additional localized closure surrounding Goldsmiths Boat Shop. Open 11/1-5/14
Jockey Creek	Seasonally certified	Additional localized closure surrounding Southold Marine Center. Open 11/1-5/14
Goose Creek	Certified*	

Cedar Beach	Certified
Corey Creek	Certified
Richmond Creek	Certified
Little Peconic Bay	Certified

Source:

1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, NY, excerpted from Part 4, Title 6, NYCRR.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.
 3. 1999, NYSDEC
-

9. Historic resources

As mentioned earlier in this inventory and analysis, this Reach contains a wealth of significant historic resources, a reflection of the Township's beginnings in its first hamlet in the 1640s. These resources are discussed in detail below.

(i) State and National Registers of Historic Places

Within Reach 7, there is one historic district listed in the State and National Register of Historic Places. Designated on October 14, 1997, this district is located along both sides of SR 25, itself an historic road, for a distance of about three-quarters of a mile in the eastern portion of the Reach in an area roughly bounded by Jockey Creek Drive to the south, Griswold Street to the west, the L.I.R.R. to the north and Wells road to the east. The district consists of 86 buildings, 2 objects and 1 site. The majority of the buildings are residences whose date of construction ranges from 1653 to 1930.

One of the buildings of note within this District is the Whitaker House, also known as "The Anchorage." Built in the early 19th century, it served as Miss Jennings Dame School (c. 1815). Major alterations were made around 1890. From 1891 it was the home of Dr. Ephraim Whitaker, Southold's first historian. This property was purchased by the Town in September, 1998. Prior to this date the residence had been altered into several apartments. The building currently is vacant and its ultimate fate unknown.

The two objects within this District are the Ben Franklin mile marker (set on the ground in front of the Presbyterian manse on the south side of SR 25) and the Civil War monument at Budd's Park (intersection of SR 25 and Tucker Lane).

The site within this District is the Old Burying Ground alongside the First Presbyterian Church. Locally known as "God's Acre" this cemetery dates back to 1640 and is considered Southold's first. (U.S. Department of Interior, National Park Service)

(ii) Local Historic Resources

Within this Reach many of the original roads and features of the early settlement of Southold are still in existence: a characteristic shared with Reaches 5 (Orient) and 6 (Hashamomuck) and 8 (New Suffolk). For instance, Town Harbor Lane dates back to the very early days of the settlement, when the Town docks were the busy site of shipping piers that were located at what is

now known as Founders Landing Park. Hobart Road was not cut until 1891, and it was designed to shorten the distance from SR 25 and the docks.

No fewer than 17 of the Town's 52 Designated Local Landmarks are located within Reach 7. The greatest number of these landmarks are clustered together on the grounds of the Southold Historical Society.

10. Archaeological resources

Almost all of Reach 7 east of South Harbor Road is considered archeologically sensitive. See [Map II-17](#).

Reach 7 is the home of the Incorporated Long Island Chapter of the New York State Archeological Association. This unique museum (known as the Southold Indian Museum) was built in 1963 but its roots go back to 1925 when local residents with an interest in archaeology met in each others homes. The Chapter has hosted two state conferences of the NYSAA and has participated in a number of archeological digs. The collection contains aboriginal artifacts form Long Island. Source: Dedication Day 1998, The Incorporated Long Island Chapter of the New York State Archaeological Association.

11. Scenic resources

Much of Reach 7 is developed with low to medium density residential development. Most of these neighborhoods have mature landscaping, which minimizes the impact of these structures on the scenic quality of the Reach. The numerous creeks and inlets glimpsed from the local roads the Jockey Creek bridge are the main scenic component of Reach 7, particularly where wetland vegetation still exists. Docks and boats border these creeks against a backdrop of upland vegetation and homes. In the more scenic areas the homes are partially hidden from view by the shoreline vegetation.

While there are limited amounts of open space within the eastern portion of the Reach, there is extensive public access to the shoreline by way of Town parks and road ends. Located throughout the Reach, some of the road ends and parks offer boat ramps. The Cedar Beach County Park provides good public access to the shoreline and offers excellent views of Shelter Island Sound, Shelter Island, Little Peconic Bay, and the South Fork. That park also contains a diverse marine environment with significant amounts of tidal wetlands as well as an extensive beach.

SR 25 offers the unusual combination of commercial access and scenic views of the historic structures at the center of Southold hamlet within the eastern portion of the Reach. At the western end, from South Harbor Road westward, the road offers a few vistas of farmland both to the north and south. However, not all of this farmland is protected from development. Therefore, considering that these scenic views are limited, there is some concern about further incursion of new residential and winery development directly on the road front.

CR 48 offers a significantly different vista than does SR 25. Located directly north of the hamlet of Southold, this road provides a mixed view of the few remaining agricultural lands with some strip-type retail buildings in the forefront. The vista does not begin to open up until west of Horton Lane, yet, even there, the presence of commercial and residential structures by the roadside interferes with the view. Further west, as the bend curves past Kenneys Road, the traveler is treated to a sweeping view of the road stretching off in the distance with farm fields and horse pasture to

the north. To the south, several of the lots between the road and the railroad track have been developed, thus blocking the view in that direction.

The Long Island Rail Road track runs through the farmland of the western portion of the Reach before entering the eastern portion with its residential and business properties. The track parallels SR 25 and offers the rider one of the few true glimpses into a village, other than in parts of Mattituck and Greenport. For the most part, the view from the train is not walled off by fences or buildings, except in the vicinity of Youngs Avenue.

12. Protected Resources

Table 7-3, below, lists protected lands within Reach 7. A total of 94 parcels encompassing 627.46 acres of land are considered protected from development. *Map II-4* shows their location.

Table 7-3 Protected Lands within Reach 7

Type of Ownership	Acreage	# of Parcels
Park District	8.13	5
Churches, Cemeteries	39.15	8
County Owned	74.18	12
Peconic Land Trust	15.87	2
Subdivision Park	2.33	2
Schools	38.69	1
County Development Rights	152.79	4
State Owned	0	
Subdivision Open Space	66.89	9
Town Development Rights	158.81	12
Nature Conservancy	5.65	1
Town Owned	48.8	35
Museums	0	
Village Owned	0	
Water Utilities	6.77	2
Peconic Land Trust Easement	9.4	1
TOTALS	627.46	94

Source: Town of Southold Geographic Information System, August, 2002

Reach 7 contains a fair amount of protected land given its residential density. Fortunately, key waterfront parcels were preserved through the efforts of far-sighted citizens early in the Reach's developmental history, thereby maintaining a modicum of public access to otherwise privately held waterfront. As mentioned earlier, there are several access points which are either owned by the Town (parks and road ends), the Southold Park District or the County. Although privately-held open space is not generally considered to be equivalent to public access by the State, there are number of subdivisions within Reach 7 that own private beaches and that provide docking access for their residents. These resources are considerable in extent and they provide valuable access to non-waterfront lots within a subdivision. Since these access points are well used by the subdivision residents and their summer guests, they play a significant role in providing access to the shoreline.

More than thirty six percent of Reach 7's agricultural land is protected: 311.60 acres. The bulk of the protected agricultural resources lies in the western portion of the Reach in Peconic. The eastern portion of the Reach is the most densely developed portion of the Reach and its protected resources consist mostly of waterfront properties, school properties and privately held open space within shorefront subdivisions.

The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open agricultural and scenic qualities of the Town. It targets all A-C zoned lands larger than 10 acres in size. Most all of this acreage is still in agricultural production. Additional details are provided in *Section II.B. Planning Framework, 8. Open Space Preservation Plan: 1989, 1998.*

The CPPP proposes to add to the preserved areas within Reach 7 by targeting the remainder of the unprotected farmland, most of which lies west of Ackerly Pond Lane and South Harbor Road. The central portion of Great Hog Neck contains a number of formerly active agricultural parcels (all of which are zoned A-C) whose integrity is being threatened by encroaching residential development. The CPPP also proposes to acquire key vacant waterfront parcels, most notably on Corey and Richmond Creeks.

It should be noted that two significant community resources, the Indian Museum and Custer Institute are not counted as protected land due to their private status and ownership.

13. Development constraints

There are few development constraints in Reach 7, mainly because it already is developed and any future development is likely to consist of infill, renovation and reconstruction.

(i) Public services and facilities

There is extensive public water supply available within Reach 7, particularly in the eastern portion, where supply mains run the length of CR 48 as far west as the eastern side of Ackerly Pond Lane, and the length of SR 25 to Grange Road by South Harbor Road. The Suffolk County Water Authority is in the process of extending mains throughout Great Hog Neck. During 1999, a water main was run down Peconic Lane from a new well-site on the northwest corner of CR 48 and Henry's Lane, Peconic (Reach 2) then westward to Cutchogue Middle School in Reach 8.

Individual properties without access to public water have their own on-site water supplies through private wells. Well depth, location and water quality are factors under the jurisdiction of the Suffolk County Department of Health.

There are no public wastewater treatment facilities within Reach 7. Individual properties have their own on-site wastewater treatment systems consisting of cesspools and leaching fields. Due to the age of much development within the Reach, particularly the eastern portion, the cesspools of waterfront lots may be located close to the shoreline and the groundwater table, thus presenting a point source of pollution to both the groundwater and the surface waters of the bays, creeks and inlets.

(ii) Flooding

The potential for flooding in Reach 7 is extensive. Areas likely to flood include the shoreline of Town, Jockey, Goose, Cedar Beach, Corey and Richmond creeks. The entire area surrounding Cedar Beach Point is low-lying and subject to coastal flooding as well as from large deluges of

rainwater. Some of the local roads in the vicinity of these creeks are subject to flooding too, particular in the vicinity of Cedar Beach.

Town Creek, Jockey Creek, Goose Creek, Corey Creek and Richmond Creek are all designated as *Coastal Barrier Areas* (1990). Flood insurance is not available in these areas for new construction or substantially improved structures on and after November 16, 1990. Cedar Beach Creek is designated as an *Otherwise Protected Area* in the *Coastal Barrier Resources* system. Flood insurance is not available in this area for structures, newly built or substantially improved on and after November 16, 1991, that are not used in a manner consistent with the purpose of the otherwise protected area.

Flood areas are indicated on *Flood Insurance Rate Maps* prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms might act as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make the development of some low-lying properties more attractive by requiring raised construction above the 10 foot contour. As seasonal cottages are winterized and expanded into year-round dwellings, they also are being raised on pilings or mounded earth. However, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems in the near future for emergency services personnel as the year-round population increases. The most troublesome area in this regard within Reach 7 is the Cedar Beach Point area, where the narrow private roads lack essential drainage and structural support for extensive use by heavy emergency vehicles.

The Town needs to develop a *Flood Hazard Mitigation Plan* to inventory potential troublespots and solutions.

(iii) Erosion

Beaches and wetlands are the dominant coastal landforms in Reach 7. The characteristics of the landforms are described below.

Reach 7: Inventory of Coastal Landforms

Beach:

Location A beach runs along the entire coastline of Reach 7.

Width 0-40 feet.

Composition Mostly fine grained sand.

Tidal Wetlands:

Saltwater tidal wetlands are found in close association with almost every major inlet, creek or pond in this Reach. Larger tidal wetland areas are located near Town, Jockey, Goose, Cedar Beach, Corey and Richmond creeks. They also are found within Harbor Lights canal, Reydon Shores inlet, Paradise Point inlet, Midway inlet and West Lake, all on Great Hog Neck.

Source: Town of Southold, 1989, 1999

Bulkheading and groins are a common feature along the shoreline of Southold Bay and Little Peconic Bay. These structures were installed to protect individual properties and do not represent a

coordinated approach to coastal protection. There are many different structural designs, in varying sizes and types of materials. In many cases, contrary to their intent, these structures have resulted in the erosion of the beaches in front of properties, increased erosion to neighboring properties and an interruption in the natural flow of sand drifting along the shoreline.

Details of coastal protection structures within the Reach are outlined below.

Reach 7: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length	163,600 l.f.
Total Bulkheaded	29.5%

Coastline

Length	40,200 l.f.
Bulkheaded	44.2%
Stone groins	4
Wood/metal groins	108
Jetties	7

Creeks, Inlets

Length	123,400 l.f.
Cedar Beach Creek	7.8% bulkheaded
Lake Pond Drive	27% bulkheaded
Paradise Point Inlet	35% bulkheaded
Reydon Inlet	72% bulkheaded
Corey Creek	27% bulkheaded
Goose Creek	21% bulkheaded
Windhammer Inlet	50% bulkheaded
Jockey/Town Creek	48% bulkheaded

Source: Town of Southold, 1989

The confluence of Town and Jockey Creeks at Harper Point has complex tidal currents. The entrance to these two creeks is exposed to waves from the east. The mouth to these creeks has been dredged for many years, further complicating the situation. A barrier spit has protected the mouth since at least 1870, with the channel on the east end. The spit is connected to the shore just north of Goose Creek, which is part of the tidal complex. Several groins were constructed at the east end of the spit to prevent sand from depositing in the channel and to hold the spit in place. The groins have deteriorated over time and have not been replaced. In the past, erosion of the spit was mitigated by placement of dredged material from the channel onto the spit. However, lack of sand placement in the past decade has left the spit in a severely eroded condition. As the spit erodes, Harper Point is being exposed to increasing wave action. A channel into Jockey Creek has been dredged immediately along the lee side of the spit, and when waves overtop the shoal, sand is carried landward into the channel. As this sand is removed by dredging, it is disposed off-site thus preventing self-maintenance of the spit through natural processes. The shape of the shoreline at the entrance is controlled to a large degree by dredging and tidal currents, but the prevailing easterly winds, and the subsequent wave action, also contribute to erosion in this area.

The north shore of Great Hog Neck is open to waves from north to northeasterly storm. The shoreline along the north shore is heavily bulkheaded. Small, sheltered boat basins have been

dredged into the shoreline to provide protection. Other than a few large sailboats moored near the mouth of Goose Creek, there are no docks or moorings in this part of the Reach. The predominant direction of littoral drift appears to be to the east, towards Paradise Point. According to baymen, tidal currents run east during both the flood and ebb. This could be caused by a tidal gyre setting up in Southold Bay. Tidal currents appear to be causing elongation of Paradise Point.

Between Paradise and Cedar Beach Points, Cedar Beach is vulnerable to waves running westerly across Shelter Island Sound. The shoreline is fairly heavily bulkheaded, particularly near Paradise Point where the lots are quite vulnerable due to their small size (half- to one acre) and shallow depth. The shoreline here has about 20 small groins protecting it. However, in spite of these efforts, the shoreline appears to be eroding due to wave action, and perhaps the lack of sufficient protective beach in front of the bulkheads. However, some accretion is occurring around Cedar Beach Point, and tidal currents at Cedar Beach Creek form shoals around its mouth.

The south shore of Great Hog Neck is open to waves from the south across Little Peconic Bay, a distance of some 30,000 feet. Although winds from the south typically blow only during the summer and are usually of low speed, occasionally a storm can cause high winds from the south.

The shoreline between Cedar Beach and West Lake is heavily bulkheaded and has more than 40 groins, especially towards the east end of this stretch. There is practically no beach left in front of these properties, many of which suffer the same lack of sufficient depth and lot size as those at Paradise Point.

Corey Creek and Richmond Creek together form the apex of Hog Neck Bay, which is open to waves traveling towards the northwest. Similar to the waves that affect Cedar Beach, these are normally small, but storms can generate erosion-causing waves. Corey Creek was first dredged in 1963-1964 (345,600 cubic yards) and has been maintenance-dredged regularly since. Richmond Creek was first dredged in 1959 (123,000 cubic yards) and is regularly dredged as well. Dredged materials from each of these creeks have been used for various purposes and placed in different locations. In January 1995, about 20,000 cubic yards was dredged and mounded on the beach at Emerson Park, the Park District property at the foot of South Harbor Road. The dredged material was bulldozed into surrounding vegetated areas to smooth it out. Bars at the creek mouths overwash during storms, but normally rebuild quickly. Tidal currents form shoals inside and outside of the creek mouths. The shoreline west of Richmond Creek parallels Indian Neck Lane. Most of the homes in this area are situated on very deep lots, which will permit pulling back of structures from the shoreline in the event major erosion should ever occur. The beach here is dynamic. Almost all of it is bulkheaded. There are a few low groins along the beach here which appear to be a capacity. There are no wetlands along the bay shoreline of this portion of the Reach. Dredging, storm waves, and tidal currents are the major forces shaping the shoreline within this portion of Reach 7.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 7, three distinct land use situations were identified within the Reach:

- areas of existing stable uses
- areas subject to development pressure

- underutilized sites

The location of these areas and sites are identified on *Map II-J-7*, located at the end of this chapter.

(i) Areas of existing stable uses

The bulk of the easterly portion of the Reach, from Ackerly Pond Lane and South Harbor Road to Youngs Avenue and Hobart Road, not including Great Hog Neck east of Goose and Corey creeks, has been identified as an area of existing stable uses. A second, smaller area of stability lies immediately abutting Indian Neck Lane for its entire length from SR 25 to its terminus near the mouth of Richmond Creek. Changes within these two areas probably will be limited to infill development on the few remaining vacant lots and the redevelopment or expansion of existing homes, especially those located on the waterfront. However, there is continuing potential for increased density as waterfront lot owners attempt to obtain area variances for slightly undersized lots under the guise of setting up “family compounds” or in response to the “spectre” of severe financial hardship.

(ii) Areas subject to development pressure

Much of the western portion of the Reach between Ackerly Pond Lane and South Harbor Road, with the major exception of Indian Neck Lane, can be categorized as being subject to development pressure. Also vulnerable are the isolated agricultural parcels and vacant lots located in the inland portions of Great Hogs Neck. The latter farms are most vulnerable at the moment, due to increased pressure for residences in a highly desirable residential area. Most of Great Hog Neck is composed of homes that by dint of age, architecture or mature plantings, have blended into the landscape. There are few standard cookie-cutter clusters of look-alike homes and fenced-off yards here and this is probably part of its appeal. As for the block of farmland north and south of SR 25, although some of it has been (or is being) planted for grapes, not all of it is protected from development.

The older residences that form the heart of the Southold National Historic District are, unfortunately, subject to the bane of many historic structures within the United States: dereliction and subsequent razing. Since most of these homes lie within the Residential Office zoning district, the temptation to raze and replace with new office space may begin to unravel local preservationists’ attempts to maintain the integrity of this district.

The business heart of Southold hamlet itself is undergoing a period of transition as the impacts of big box stores and retail outlets in the Town of Riverhead continue to be felt. There is an ongoing problem of vacancies and poor maintenance, and the construction of new buildings outside the hamlet perimeter, instead of the rehabilitation of older commercial space within it.

(iii) Underutilized sites

There are several underutilized sites within Reach 7. Most of these are within the hamlet business center, some of these lie within the National Historic District. One of these sites is on the waterfront and is owned by Suffolk County.

The underutilized business properties involve existing structures, some of which have been vacant for some time. Some of these buildings could be renovated, particularly on their second floors, to provide affordable housing for elderly or single people. Some of the structures require upgrading with modern conveniences such as bathrooms and heavy-duty electrical wiring. Of particular concern are those structures within the Main Street complex that are not being maintained or refurbished. As a corollary to this, the National Historic District, just to the west of the Main Street

complex, is in need of creative approaches for the adaptive reuse of large residential structures without destroying their architectural and historical integrity. A case in point is the Whitaker house.

Finally, the Town has been approached by Suffolk County about leasing or otherwise assuming responsibility and liability for the operation of Cedar Beach County Park. While the Town is interested in improving the quality and the extent of amenities at this park, the County has not been willing to discuss ceding ownership to the Town at some future date. Presently, any improvements made by the Town accrue to the County's ownership, and their ultimate disposition of the property would be out of the Town's control. Given the Town's extremely limited financial resources, it has chosen to focus them on properties under its control. However, the Town would prefer to assume ownership of this park.

(iv) Areas of Special Concern

The Town of Southold has identified a number of *areas of special concern* within Reach 7. These are geographic places, which may feature natural or cultural resources, in need of protection or where key development (or redevelopment) strategies would revitalize the surrounding neighborhood. These are examined in more detail below and in *Sections III* and *IV*.

- *The Creeks*

The primary issues of concern here involve preservation of water quality (so as to maintain the shellfish resource), harbor management (so as to reduce boater conflicts within the creeks), the preservation of scenic resources (in the face of infill development and revitalization efforts) and the over-intensification of waterfront development. Each of these issues affects the creeks, inlets and canals in varying degrees. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences, and the filtration of stormwater runoff.

- *The Significant Coastal Fish and Wildlife Habitat areas*

Due to the close proximity of residential development to these sensitive habitats, and the importance of these habitats to the health of the Peconic Estuary, the Town must find ways to ensure that these habitats are not further impacted by human activity. Given the potential for increased septic flows as waterfront (or near waterfront) homes are built or expanded, the location of septic systems should be the focus of greater scrutiny. The filtration of direct discharge of stormwater runoff will become of greater importance. Public education as to the negative impacts of the deposition of dog wastes on the beaches and road ends will assume greater importance as the year-round population increases. Finally, the preservation of contiguous blocks of habitat will become more critical as existing fringe habitat is lost to residential development.

- *Town and Jockey Creeks*

The primary issue of concern here is the continuing erosion of the residual spits guarding the entrances to Town and Jockey creeks. Lack of maintenance of the groins stabilizing the spit and failure to restore the spit with dredged spoil have exposed the wetlands and uplands at Harper Point to direct wave action off Southold Bay. However, since the spit may have been an unnatural addition to the original entrance to this complex of creeks, this area should be the focus of a targeted study of old marine charts to discern the shape and extent of past barrier formations at Harper Point. At the least, if offered the land, the Town should accept so that dredged spoil could be placed around the groins to forestall further erosion and enhance protection of the creek entrance.

- *Cedar Beach Park*

This park and marine education center is of high importance to the Town of Southold because of its extensive natural resources and its unique teaching and research opportunities. The park's location at the southeastern-most tip of Great Hog Neck means that its accessibility is somewhat compromised. Due to the fact that all traffic on and off of Great Hog Neck is over only two access roads, the residents of the area understandably are not enthralled with the prospect of increased traffic congestion. The fact that Great Hog Neck still contains significant undeveloped acreage that is vulnerable to new residential infill development, means that the resources of Cedar Beach will be both a boon and a bane. The increased population will benefit from continued improvements to the Cedar Beach facilities. Yet, the increased levels of traffic that are highly likely to ensue are going to be a source of local controversy. Potential solutions include acquisition of more open space on Great Hog Neck and adding more recreation facilities to meet existing and future need for open and recreational space.

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 7 that should be examined in the LWRP. These are explained below. Further detail about potential responses to these issues is provided in *Sections III, IV* and *V*, later in this document.

(i) Agricultural protection

The western part of Reach 7 contains prime agricultural soils, which are part of the belt of soils stretching across the Town from Mattituck eastward. Most of the agricultural land in need of protection is zoned A-C. A few parcels are zoned R-80. As is the case in many of the Reaches in Town, more of the farmland within Reach 7 is unprotected than is protected. While significant blocks of land have been preserved, additional infill pieces must be preserved in order to ensure the continued productivity of the entire block. This is of particular concern west of Ackerly Pond Lane and South Harbor Road. Since most of the unprotected pieces are long and narrow, running between the rail road tracks and SR 25 or from SR 25 to the water's edge, development of any one piece will serve to drive insurmountable wedges into both the farmland and the vistas.

(ii) Harbor management issues

The Harbor Management issues in Reach 7 are spread throughout the Creeks. In most of them, the predominant issues involve management of the boating activity, hence the placement of moorings, and the extension of existing docks ever further into the channel to accommodate larger boats. The limited number of marinas relative to the population density highlights the future potential for these marinas to expand their services. While the situation in these creeks appears to be fairly stable at this point, as infill development increases, it may be necessary to develop individual Harbor Management Plans in order to manage the resource without negatively impacting on the natural habitats within them. Bay moorings are not likely to become a major issue in Reach 7 due to the exposed nature or shallow nearshore of much of the Reach. However, protection of the entrance to Jockey and Town creeks may require public ownership of the land spit on which the groins are located. Erosion has removed most of the sand around the groins holding the spit in place, thereby leaving properties near the creek mouths more exposed of wave action and causing a reduction in wildlife habitat.

(iii) Public access and recreation

Reach 7 contains a substantial amount of public access to the water and water-based recreation, particularly in the eastern portion. However, with the exception of the County park at Cedar Beach and the Town park at the Goose Creek bridge, that access is primarily restricted to the residents, either of the park district or of private residential subdivisions. Some of the public access is in residential neighborhoods, which means that increased traffic levels resulting from heavier use of the parks may generate local controversy against their further expansion. With the exception of Corey Creek, there is little opportunity for the acquisition of new public access in the eastern part of the Reach, but there is ample opportunity for improving existing access (road ends in particular). Corey Creek is almost inaccessible to the general public due to the nature of the residential subdivisions that occurred around its shoreline. There are virtually no usable road ends on the Creek, but there is vacant land that would be suitable for public recreation and access. Preservation of this land would help prevent further deterioration of water quality around Corey Creek: an issue of some concern due to the large number of undersized lots there.

In the western portion of the Reach there are greater opportunities for obtaining public access, mainly to Richmond Creek due to the availability of creekfront land within close proximity to SR 25, thus obviating the need for cars to go through established residential neighborhoods.

(iv) Protection of habitats and wetlands

Reach 7 features important wetlands and habitats. These are concentrated around the creeks, some of which are heavily developed. These include the designated SCFWHs at Jockey Creek, Cedar Beach Point, Corey Creek and Richmond Creek and Beach. Due to their high productivity and the enhanced value these habitats give to the surrounding residential development, it is important to the Town to protect the extent and the integrity of these wetland habitats from any degradation or intrusion. Therefore, the Town will have to develop a strategy for ensuring that new or expanded residential development on the creeks do not introduce new dockage and bulkheading in existing wetlands. The current balance that exists must be maintained and improved upon where possible. Towards that end the Planning Board in August 2002 issued a Positive Declaration and required the compilation of a generic Environmental Impact Statement for all proposed residential development on Great Hog Neck.

(v) Protection of water quality

The detrimental impacts to water quality from stormwater runoff and poorly located or malfunctioning on-site cesspools or leaching basins are of great concern. Given the degree of development that has already occurred, and the significant potential for infill development, the Town of Southold will need to develop watershed management plans for individual creeks, particularly Town and Jockey, Goose and Corey. The current trend of new waterfront property owners to maximize their water views at the expense of their neighbors views by stripping away all vegetation and replacing it with rolling grass lawns is likely to result in regulatory measures to prevent removal of native vegetation and contamination of the ground and surface waters by lawn-related pesticides, herbicides and fertilizers. Hopefully strong education programs will be able to forestall the need for regulations. The regulation of septic systems, their use and placement, essentially lies with the Suffolk County Department of Health Services under State Public Health Law. The County's cooperation in adopting and enforcing stricter siting standards near the waterfront will be essential to any Town efforts to protect the quality of its ground and surface waters.

(vi) Flooding and erosion

Flooding and erosion within Reach 7 is, with the exception of the Cedar Beach area, not of major concern. Most of the residential construction is located on fairly high upland. However, in the Cedar Beach area, the low-lying nature of the terrain and the roads and the high clay content of the soils makes much of this area particularly vulnerable to flooding both from sea and from landward drainage during storms. The undersized nature of some of the more exposed and heavily bulkheaded lots provides ample argument for discouraging the rebuilding of such lots where so doing will necessitate substantial additional municipal investment in infrastructure and emergency services equipment to evacuate residents over flooded access roads. A Flood Hazard Mitigation Plan could address these concerns and problems.

(vii) Protection of scenic resources

The bulk of the scenic resources of Reach 7 can be found in its mostly harmonious mix of development and nature. The human components of this Reach's scenic beauty consist of the historic structures, the mature landscapes and the largely traditional physical layout of the hamlet. It is worth noting here that the Town's Southold Sea View Trail winds around the largely residential peninsula of Great Hog Neck. The scenic vistas of SR 25 and CR 48 rely on the historic and open agricultural characters, respectively, of those road corridors. As elsewhere in the Town, there is an ongoing need for greater sensitivity on the part of State and utility officials and crews to the aesthetic component of their maintenance responsibilities. The excessive widening of travel lanes and shoulders, the paving over of concrete road-beds and the addition of turning lanes is slowly destroying the character of SR 25. On CR 48, County measures to improve drainage also contain the potential to obstruct the view through the addition of fenced recharge basins alongside the road. Overall, the desire to facilitate increased travel speeds poses increased dangers to agricultural vehicles and farmstand or winery clients accessing the farms from both roads. Also a problem is the severe trimming of roadside trees by LIPA and the installation of underground water mains by the SCWA. Recent activity by both utility companies in the last couple of years will ultimately result in the decline of most of the treescape along SR 25 within the hamlet center of Southold.

Finally, as is the case elsewhere in the Town, while most residents respect the existing terrain and natural habitat in the design and placement of their homes, there are abuses whereby the terrain is completely reshaped and the native habitat is removed and replaced with sod and other non-native ornamental plantings. Suburban landscaping of this sort not only destroys indigenous ecological habitat, it tends to require extensive applications of fertilizers and pesticides or herbicides, which also are detrimental to ground and surface water quality. If this trend continues and education efforts are not effective, it may become necessary for the Town to adopt restrictions against wanton clearing of indigenous habitat near sensitive coastal features in order to protect both habitat and water quality, never mind the scenic vistas. This will be of particular concern within the eastern portion of the Reach as existing construction is revamped and expanded.

The western part of the Reach is vulnerable to loss of the sense of "countryside just outside a hamlet" feeling. There have been serious inroads made into this vista already, and further continued erosion of the vista will essentially destroy its character.

(viii) Protection of historic resources

Reach 7 is also home to the Indian Museum and Custer Institute, two cultural institutions with a unique history. These institutions are worthy of recognition and protection.

In extent, Reach 7 shares with Reach 5 a National Historic District of considerable acreage. As discussed earlier in *Section 9. Historic Resources*, this resource is unique and deserving of continuing protection. Until recently, the Town had not considered the impact that the loss of these structures might have to the predominant character of the hamlet of Southold. With the national recognition of the historic significance of a substantial portion of the hamlet's Main Road frontage comes a growing understanding that the Town needs to pay closer attention to providing incentives to these property owners to maintain these structures.

(ix) Transportation management

In spite of its population density, Reach 7 functions fairly well, traffic-wise, because of its gridlike road network. There are several alternative ways to get from one point to another within the eastern portion of the Reach. However, the peninsula of Great Hog Neck is only served by two access roads, which essentially are the ends of a single road that loops around the perimeter of the Neck. As noted earlier, the significant infill potential of the peninsula means that traffic congestion (and the timely provision of emergency services) will become of increasing concern as the population increases and the summer residents become year-round residents. If Town's efforts to preserve the remaining farmland in Great Hog Neck are successful, transportation issues will be less serious but, nevertheless, still a problem.

REACH 8: LITTLE CREEK TO HALLS CREEK/DEEP HOLE CREEK

A. INVENTORY AND ANALYSIS

1. Location

The Reach 8 shoreline runs from the east side of Little Creek (by Arrowhead Lane) to the east side of Marratooka Point. Little Peconic Bay, Cutchogue Harbor and Great Peconic Bay bound the shoreline. The western boundary of the Reach starts at a point that matches up with the terminus of Deep Hole Drive and runs north across New Suffolk Avenue, whereupon the road's name changes to Locust Avenue. The boundary continues to SR 25 where it turns to the west for a short distance until the intersection of Elijah's Lane. At Elijah's Lane, the line continues north to CR 48 where it turns to the east. The northern boundary of Reach 8 runs along CR 48, with land to the north of this road located in Reaches 1 and 2. At Peconic Lane, the boundary line turns to the south, running along Peconic Lane to SR 25, then turning west along SR 25 to Indian Neck Lane and south along Indian Neck Lane to its intersection with Arrowhead Lane. At Arrowhead, the line runs out to Little Peconic Bay on the east side of Little Creek.

Part of the hamlet of Peconic lies within this Reach, although most of it is discussed in Reach 7. Almost all of Cutchogue and New Suffolk hamlets lie within Reach 8, which also includes Robins Island, a 471.85 acre island less than one mile south of the hamlet of New Suffolk.

There are several creeks and inlets located within Reach 8. Starting at Peconic, these are: Little Creek, Schoolhouse Creek, the Lagoon, Wunneweta Pond, Horseshoe Cove, Haywater Cove, Broadwater Cove, Mud Creek, East Creek, Wickham Creek, West Creek, Downs Creek, the tidal drain at the mouth of Deep Hole Creek and Halls Creek.

2. Land use and development

The land use pattern within Reach 8 is described below and illustrated on *Map II-5*. The Reach contains a wide range of residential, commercial, agricultural and open space uses. However, based on the predominant land use patterns, there are two distinct sections to Reach 8. North of SR 25, the overwhelmingly predominant land use is agricultural. South of SR 25, the dominant land use is residential. In the southern part of the Reach, the hamlet of New Suffolk and Robins Island are reviewed separately. The distinctions between the north and south portions of the Reach and of New Suffolk and Robins Island will be observed throughout this inventory and analysis to help describe the Reach more clearly.

North of SR 25, the residential land uses are intermittently interspersed with agricultural operations. However, between CR 48 and the Long Island Rail Road track, starting in Peconic, there is a small cluster of commercial uses, which were described in detail in Reach 7 due to their proximity to the hamlet of Peconic. The remainder of the CR 48 corridor is either older residential housing, most of which predated the construction of CR 48, or agricultural/ landscaping/nursery businesses. South of the railroad track, which roughly parallels the CR 48 roadbed, down to SR 25, most of the land use is agricultural. The major exception to this pattern is the residential development that fronts on each of the north-south local roads of Peconic, Bridge, Cox, Depot, Alvah's and Elijah's lanes. The largest clusters of residences within this portion of the Reach are found between Depot and

Alvah's lanes, where three major subdivisions (totaling about 60 residential lots) are located. The next largest residential clusters lie on the east side of Bridge Lane (20-25 lots) and on the east side of Elijah's Lane (15 lots). Most of the residential lots in this portion of the Reach are in the half to two acre size range.

Within the northern portion of the Reach, there are few non-agricultural commercial uses. The local roads north of SR 25 also contain few commercial uses.

On and south of SR 25, the character of the Reach is more residential and commercial than agricultural, although there are highly significant blocks of agricultural land in active production located just south of SR 25. This is an important point, which will be revisited again later. When travelling from east to west, the SR 25 corridor changes from rural (between Peconic Lane and Eugene's Road) to suburban (between Eugene's Road and the shopping center) to traditional hamlet (between Depot Lane and Alvah's Lane) then back to rural (Alvah's to Elijah's). The mix of land uses throughout the corridor fluctuates in a haphazard fashion from wineries to shopping centers to gas stations to institutional (telephone exchange, governmental offices, schools, cemeteries and churches, etc.) to retail to farmstands to car & body repair shops to professional and business offices. Throughout the SR 25 corridor, new and old residences are interspersed with the commercial land uses. With the major exceptions of New Suffolk, described later, and the original Cutchogue business hamlet (near the intersection of SR 25 and New Suffolk Road), none of these commercial uses are within convenient walking distance of each other. All of it is strung out along the road. The strip nature of commercial development within Cutchogue is of some concern and will be discussed again later in this subsection.

As noted in the preceding paragraph, south of SR 25, there remain substantial blocks of prime farmland that are still in active production. This acreage is basically clustered in four areas: (from east to west) between Indian Neck and Skunk Lane (also known as Bay Avenue), between Harbor Lane and Stillwater Avenue, between Pequash Avenue and West Creek and between Down's Creek and Locust Avenue. The largest of these blocks of agricultural land is that lying between Pequash and West Creek, which effectively surrounds and buffers the hamlet of New Suffolk. Altogether, Reach 8 contains more acreage in agricultural production than any other Reach: 2,305 acres; however, only 34% of this acreage is protected.

Residential development is found inbetween these blocks of farmland, generally along the local north-south roads. Much of Reach 8's bayfront shoreline is extensively developed. The creekfront between Little Creek to Wickham Creek including all of Nassau Point, also is extensively developed. The average lot size in Nassau Point is between 20,000 and 80,000 square feet. The average lot size in the Broadwaters Cove and Fleets' Neck areas is between 10,000 and 40,000 square feet, a reflection of past zoning ordinances. The remaining subdivisions in the western section of this part of the Reach average in the 40,000 to 80,000 square feet. The western subdivisions and Nassau Point feature a road pattern that is more suburban than traditional. The road networks within the Broadwaters Cove and Fleets' Neck subdivisions follow the more traditional grid pattern.

New Suffolk, like Orient Village, retains a strong sense of community, largely because it is physically separated and buffered by a belt of farmland. The hamlet of New Suffolk

occupies a bit of high ground between (and to the south of) Wickham and West creeks. Its predominant land uses are residential followed by a small amount of commercial, mostly marine-related uses, which are located near or on the waterfront. The commercial uses are extremely limited: two restaurants, a rental boat yard, some dockage and a marina associated with one of the restaurants, and a post office. The average lot size near the water (and within the original nucleus of the hamlet) is somewhere between less than 10,000 to 20,000 square feet. The western half of New Suffolk features larger lots up to 80,000 square feet in area. The eastern part of New Suffolk follows the traditional village grid pattern. The western part mimics the grid pattern but in a looser and larger framework.

Robins Island is part of the larger New Suffolk community financially, if not physically. Owned by one person, most of the island has been reserved for open space conservation in perpetuity under an easement to The Nature Conservancy. The remainder of the island is being developed into a unique hunting retreat featuring a main house, recreational facilities, a guest house, a caretaker's dwelling, a hunting lodge, planted fields to attract migrating waterfowl, a boat shed and numerous other equipment storage buildings.

There are 3 shoreline recreational areas within Reach 8. These are discussed in the examination of existing waterfront access and recreation sites in *Section 5*, below.

There are key parcels of vacant and underutilized land within Reach 8 that are of concern. Within Cutchogue there is a fair amount of undeveloped business-zoned and residential Hamlet Density property north of Griffin Street, close to the heart of the original hamlet. Its careful development would help anchor this part of the business district against the suburban strip-type development at the shopping center to the east. Within New Suffolk, the small size of the lots coupled with the environmental sensitivity of the area has proved to be a substantial obstacle to economic revitalization. With the exception of Schoolhouse Creek, the remaining commercial waterfront in New Suffolk is underutilized.

3. Water-dependent/water-enhanced uses and water uses

The water-dependent and water-enhanced uses in Reach 8 are concentrated in Cutchogue Harbor and New Suffolk. The water-dependent uses include 9 marinas, 4 public boat-launching ramps, 4 small boat launches, 3 public waterfront parks, commercial fishing and aquaculture. The location of these facilities are indicated on *Map II-J-8*, located at the end of this chapter, and they are described in greater detail below. Water-enhanced uses consist primarily of seasonal residential development and restaurants associated with the marinas.

(i) Recreational boating

There are 8 marinas in Reach 8. Together, these marinas provide an estimated 335 slips. These marinas are spread throughout the Reach, although a concentration of recreational boating activity and associated facilities is found in New Suffolk, where about 160 slips are located, and the Cutchogue Harbor area. A discussion of each marina is provided below starting at the eastern end of the Reach. A discussion of the problems related to Bay moorings can be found in *Section II. D. Public Access and Recreation*.

- *Zito's Marina, Broadwaters Cove, Cutchogue*

This is a small marina located at the head of the cove, with a capacity of 47 slips. It is a full-service marina with repair and upland storage; however, it does not offer

fueling or pumpout services. The entry channel is maintained by the Suffolk County Department of Public Works.

- *Cutchogue Harbor Marina, Wickham Creek, Cutchogue*
Located at the mouth of Wickham Creek, Cutchogue Harbor Marina has a capacity for 115 boats and is the largest marina in this Reach. Boater amenities provided here include a ship's store, basic repair services, fuel, pumpout station, laundry, restrooms and showers. A public ramp is available for a fee. There is limited upland storage, and limited in-water wet storage is available. Access is via a County-maintained channel at Wickham Creek.
- *New Suffolk Shipyard, Schoolhouse Creek, New Suffolk*
This marina has a total of 65 slips, some of which are used by transient craft. Situated at the head of this man-made creek, the Shipyard provides a range of boater amenities and a ship's store. Services include full-service repair, fueling, and restrooms. A pumpout system is proposed with a grant pending. Upland storage is provided, along with in-water wet storage (a bubble system). About 50 bay moorings are used for anchoring customer's boats in Cutchogue Harbor.
- *Tuthill Docks, Schoolhouse Creek, New Suffolk*
Though not a formal marina, the Tuthill Docks, located along the southern side of the creek, provide facilities for an estimated 55-60 craft. There are no amenities or service provided in conjunction with these docks. The docks are used by baymen, as evidenced by the traps and netting typically found dockside.
- *Capt. Marty's Fishing Station, Cutchogue Harbor, New Suffolk*
Located on the south side of the King Street road end, next to the marina/restaurant site, there are no docks at Capt. Marty's. This is one of the last of the small fishing boat rental marinas left in the Town. Also on the site is a bait and tackle shop, a boat launch ramp at the end of King Street, and a parking area for cars, boats and trailers. Winter storage of boats on trailers is provided on the north side of King Street on a leased vacant lot.
- *Harbor Inn Marina (formerly know as Marina Bay Club, Gally Ho, Harpoon Harry), Cutchogue Harbor, New Suffolk*
This is a relatively small marina with a total of about 35 slips. Located seaward of the restaurant on the site, the marina is in deteriorated condition. There are few or no amenities available here other than upland winter storage and limited electricity.

There are two private, homeowner-operated marinas in Reach 8. The largest is the Haywaters Cove Association with an estimated 10-15 slips. The other is the Old Cove Yacht Club near Schoolhouse Creek. The Club provides a dock for small sailboats, e.g. Sunfish. Many, if not most, of the waterfront homes on the creeks have private docks and bulkheading.

In 1999 there were a total of 50 creek moorings in Reach 8, up from 42 in 1995, yet not as high as in 1991 when there were 70. Reach 8 currently contains close to 20 percent of the mainland total of regulated moorings. Most of the moorings are located within East Creek

(21), followed by Little Creek (11), Mud Creek (9), Broadwater Cove (5), Haywaters Cove (3) and Wickham (1). In 1995, the majority of the moored boats, 85 percent, was smaller than 24 feet.

In 1995, unregulated bay moorings in Reach 8 numbered about 70. They were concentrated in Cutchogue Harbor (50), principally in Horseshoe Cove and in the western part of the Harbor just north of Schoolhouse Creek. In 1999, the number of moorings was estimated to be higher, particularly adjacent to Schoolhouse Creek. Although there is sufficient surface area for more bay moorings within the Harbor, access to these moorings is limited to a few landside-launching points. A discussion of the problems related to bay mooring can be found in *Section II-D. Public Access and Recreation*.

There are five public boat-launching ramps in this Reach. There also are three private ramps accessible to the public for a fee. These ramps are located at commercial marinas. These are discussed in further detail below in *Section 5. Existing waterfront access and recreation sites*.

(ii) Commercial fishing

There are no known commercial fishing operations within this Reach, although baymen operate from the Tuthill Docks. Neither the State nor the Town keeps records on harvests by Reach.

(iii) Commercial and recreational shellfishing

In this Reach, the most productive shellfish beds lie within Cutchogue Harbor and around Robins Island. None of the creeks within this Reach are considered particularly productive shellfishing areas. Of these, Broadwater/Haywater Coves, and Mud, East, Wickham, and West Creeks, are fair to good resources. Only Broadwater Cove and West Creek are seeded. Shellfishing is also fair to good in Little Peconic Bay off Nassau Point.

There are several privately owned or leased bay bottom parcels in Reach 8 that are used for clam or oyster cultivation. This type of activity is particularly noticeable in the nearshore waters to the southwest of Robins Island.

(iv) Aquaculture

There are no known aquaculture facilities in Reach 8.

(v) Navigation and Dredging

Navigation within Reach 8 is fairly straightforward. The waters of Hog Neck Bay, Cutchogue Harbor, Little and Great Peconic Bays are open and fairly deep. The average water depth in Hog Neck Bay is about 20 feet, although this drops near the shoreline. Average depths in Little Peconic Bay to the south of Hog Neck Bay increase to the 30s and 40s. A federal channel marker warns boaters of the shifting sand spit at the southernmost tip of Nassau Point. As you approach Cutchogue Harbor, the bottom gradually becomes shallower, a trend that continues as one moves westward into Great Peconic Bay. The Harbor itself has average depths in the low-teens, a figure which drops steadily as the shoreline is approached. The cove at Robins Island is relatively shallow, less than 10 feet in most places. By contrast, the North Race, the narrow channel between New Suffolk and the northern edge of the Robins Island sand spit, drops sharply to an estimated 20 feet. On

the west side of the North Race, the bay bottom becomes quite shallow nearshore. The shoreline between West Creek and Halls Creek typically has depths under 5 feet except for the dredged channels. The Bay depths increase on the west side of Robins Island, ranging from the mid-teens to the low 20s. However, the west and southwest sides of the island are marked to warn boaters of several submerged rocks that pose a threat to navigation. South of the island lie the South Race and Cow Neck Point, Southampton, the channel of which is extensively marked by the federal government. The depths in the South Race range in the mid-teens. Tide rips are common just north of the channel.

The Town maintains the navigation channels to Little Creek, East Creek, West Creek, and Wickham Creek. Suffolk County used to dredge Broadwater Cove and Mud Creek for much of their length but now limits dredging activity to their mouths and on an as-needed basis. The Town provides the County with a priority list of needed dredging sites yearly. Details of the dredging projects in Reach 8 are summarized below.

Dredging Projects within Reach 8

<u>Creek</u>	<u>Date</u>	<u>Cubic Yards</u>	<u>Method of disposal</u>
Broadwater Cove	1966 ^a	434,400	Beach nourishment to west, formerly upland disposal
	1976 ^a	11,000	
	1982 ^a	10,200	
	Total	455,600	
Little Creek	1967	51,000	Beach nourishment on both sides of inlet
	1968	3,700	
	1975	5,000	
	1976	40,000	
	1978	4,000	
	1979	5,000	
	1980	2,400	
	1981	2,400	
	1981	5,500	
	1982	7,000	
	1983	2,400	
	1983	2,300	
	1984	2,400	
	1984	6,000	
	1985	3,120	
	1986	5,760	
	1987	8,400	
	1991	4,000	
	1992	4,740	
1993	5,000		
2000	1,750		
Total	171,870		

Dredging Projects within Reach 8 continued

<u>Creek</u>	<u>Date</u>	<u>Cubic Yards</u>	<u>Method of disposal</u>
Wunneweta Lagoon	1991	2,700	
	1993	1,000	
	1999	2,400	
	Total	6,100	
Mud Creek	1966 ^a	434,000	Beach nourishment to the west, formerly upland disposal
	1976 ^a	11,000	
	1982 ^a	10,200	
	1987	6,600	
	1992	2,910	
	1999	3,500	
	Total	468,210	
East Creek	1966 ^a	434,400	Beach nourishment to the west, formerly upland disposal
	1976 ^a	11,000	
	1982 ^a	10,200	
	1999	2,800	
	Total	458,400	
Wickham Creek	1966	48,300	Beach nourishment to west
	1972	10,000	
	1979	3,600	
	1981	1,700	
	1982	2,200	
	1983	1,900	
	1984	1,400	
	1985	1,440	
	1986	2,640	
	1987	2,640	
	1992	1,500	
	1993	3,000	
	1999	1,000	
	Total	81,320	
Schoolhouse Creek	1976	12,000	Beach nourishment

Dredging Projects within Reach 8 continued

<u>Creek</u>	<u>Date</u>	<u>Cubic Yards</u>	<u>Method of disposal</u>
New Suffolk	1977	4,000	Beach nourishment on town beach to the south
	1979	1,500	
	1980	1,000	
	1981	2,000	
	1982	3,300	
	1983	1,000	
	1984	1,800	
	1985	2,500	
	1986	1,250	
	1987	1,500	
	1993	2,000	
	1994	2,260	
	Total	24,110	
West Creek	1966	92,500	Beach nourishment on both sides of inlet
	1976	9,000	
	1982	2,800	
	1999	2,250	
	Total	106,550	

^a *Broadwater Cove, Mud Creek, and East Creek were dredged as one project in 1966, 1976, and 1982.*

Source: AKRF, 1995, pII-26

4. Existing Zoning

The zoning pattern in Reach 8 is complex and not easily described. Much of it, particularly that which is zoned R-40 (one acre residential), simply identifies the parameters of older residential neighborhoods that were clustered on the edges of farm fields and around the shorelines of the creeks. Much of the development within the R-40 districts is non-conforming with regard to lot area. In the business districts, most of the uses are conforming.

The predominant zoning in the northern section of Reach 8 (described earlier) is Agricultural-Conservation (A-C). Although there are residences scattered throughout the northern section, most of the land is still in agricultural use. There is only one cluster of Limited Business (LB) zoning in this section and it is located at the intersection of Depot Lane and the Long Island Rail Road track. There are intrusions of residential zoning into the A-C district and in each case the residential districts extend northward into the A-C area from SR 25 between Cox's Lane and Alvah's Lane.

The northeast corner of the Reach, at Peconic Lane, contains commercial and residential zoning, which was described in the Reach 7 analysis. The SR 25 corridor divides the northern from the southern portions of the Reach. As can be seen from [Map II-6](#), much of the corridor itself is zoned as a strip, thus is described here separately. At the eastern end

of the Reach, aside from the commercial zoning at Peconic, the land around SR 25 is zoned A-C from Peconic Lane westward to Skunk Lane (Bay Avenue) on the south side and to Cox Lane on the north side of SR 25. Just east of the intersection of Cox and Eugene with SR 25, the zoning changes to General Business (B). The B district continues westward to a point just east of Stillwater Avenue, then changes to R-40. The R-40 district continues on to SR 25's intersection with Depot Lane, where it changes to commercial zoning: Residential-Office on the northeast corner, and Hamlet Business to the south and west. The crossroads of SR 25 and New Suffolk Road are zoned HB. To the north of this intersection, there is a sizeable, but underutilized or vacant block of HB and Hamlet Density (HD) zoning. The Village Green, the historic center of this hamlet, lies within a couple of hundred feet to the west of this intersection.

The business zoning in Cutchogue is split into two sections, the second section representing an unfortunate trend that emanated from a change of zone in the 1970s to create a shopping center on cheaper land outside the central hamlet business center. As a result, the business district is not consolidated, but rather spread out in a strip. With the exception of the crossroads area near the Village Green, (the intersection of SR 25 with Griffing Street and New Suffolk Road), none of the businesses are easily accessible to one another on foot.

West of the Village Green proper, the zoning changes back to R-40 and continues on to a point few hundred feet west of Alvah's Lane. There is a small strip of RO zoning on the north side of SR 25, west of Alvah's. The land in these districts is almost completely developed. West of this point, the zoning changes to A-C and continues as such on to Locust Avenue on the south side of SR 25. On the north side of SR 25 in the vicinity of Locust Avenue, there is a small block of R-80 zoning. This block of A-C is still in active agricultural production. It serves to provide a visual and physical buffer on the hamlet's western border.

South of the SR 25 corridor, down to the waterfront, the predominant residential classification is R-40. There are pockets of R-80 interspersed here and there. There also is a notable block of A-C zoning which runs south of the hamlet crossroads at SR 25 and New Suffolk Road. Located on either side of New Suffolk Road, this block extends between Wickham Creek to the east and West Creek to the west. This farmland acts as a physical and visual buffer between the hamlets of Cutchogue and New Suffolk. Within this portion of the Reach, there are only two marine zoning districts: the Marine I sites located on Broadwater's Cove (Zito's Marina: 2.7 acres), and Wickham Creek (Cutchogue Harbor Marina: 4 acres).

Within New Suffolk proper, the predominant zoning category is R-40. Again, most of the hamlet is developed and most of the development is non-conforming in lot area. West of New Suffolk Road the lots are larger. East of New Suffolk Road the lots are smaller, ranging in size between less than 40,000 square feet to less than 10,000 square feet. The eastern section of the hamlet is the older portion. It is here that the commercial and marine zoning is located, in close proximity to the waterfront facing Cutchogue Harbor. There is one Resort Residential lot, with a tourist home on it, at the southeast corner of New Suffolk Avenue and Road. The Hamlet Business district is one block deep and runs the length of 1st Street between King Street to the north and Jackson to the south. Across the street, on the east side of 1st Street, is a block of Marine zoning that essentially runs from School House

Creek south, along the shoreline to the southernmost foot of 1st Street for a depth of one block, to 1st Street. There is a mix of M-I and M-II districts here. School House Creek is divided into Tuthill's Docks (1.6 acres) and New Suffolk Marina (2.25 acres). The Cutchogue Harbor waterfront contains Captain Marty's (.10 acres) and Harbor Inn (3.25 acres) and other property that is associated with Robins Island (1.2 acres). Together with miscellaneous properties that presently are in residential use, the marine-zoned properties include about 8.92 acres of upland. The existing marine properties are being used in conformance with the marine zoning. It is worth noting here that unlike most marinas within Southold, the Anchor Inn property at the foot of New Suffolk Avenue contains underwater riparian rights, which were granted by the State of New York in 1839. The only other such property with rights to State riparian land is the Cross Sound Ferry Terminal in Orient, Reach 5.

Robins Island is zoned R-400, which is ten acre zoning. However, as detailed earlier, in *Section 2. Land use and development*, it is in single ownership, is covered by a conservation easement and will not be further subdivided.

Within the entire Reach there is a total of about 15 acres of marine business zoning.

5. Existing waterfront access and recreation sites

Reach 8 provides a number of waterfront public access points and opportunities for recreation. The location of the public access and recreational sites within Reach 7 are indicated on [Map II-11](#), and the facilities available at these sites are discussed below.

Town of Southold

- *Fort Corchaug Preserve, Downs Creek, Cutchogue*
This 51-acre park provides nearly 3,062 feet of shoreline on Downs Creek. The southern portion of the preserve contains the Fort Corchaug Archaeological Site, which is a designated National Historic Landmark. The fort site encompasses nearly 23 acres of land. Its archaeological significance is discussed in detail in *Section 9. Archaeological Resources*, below. The Town is developing stewardship plans for the use of the entire site. The plans call for protection and interpretation of the archaeological resources as well as the creation of recreational and educational opportunities on the less sensitive portions of the Preserve.
- *New Suffolk Town Beach, Jackson and 2nd St, New Suffolk*
This bayfront park overlooks Robins Island and offers views of Cutchogue Harbor, Nassau Point and Great Peconic Bay. The beach has seasonal lifeguard service, restrooms and is situated near the Town boat launch ramp on Jackson Street. There is a grassed upland area suitable for picnics. Restrooms are available. There is parking capacity for approximately 35 cars. A Town-issued parking permit is required.
- *Bay Avenue Road End & Adjoining Lot, Nassau Point Causeway*
In 1998, the Town accepted a private donation of an 110 x 200-foot lot on the north side of Bay Avenue at its terminus on Hog Neck Bay.
- *Mason Drive Road End, Haywaters Cove, Cutchogue*

A small packed-sand ramp is located here. It is in poor condition. Parking for 4 cars is permitted by Town permit.

- *Little Neck Road End, East Creek, Cutchogue*
An asphalt ramp in poor condition provides limited boat launching. Parking for 5 cars is permitted by Town permit.
- *Wilson Landing Road End, East Creek, Cutchogue*
A stone blend ramp in poor condition permits limited boat launching. Parking for 5 cars is permitted by Town permit.
- *Jackson Street Road End, New Suffolk*
This road end contains a concrete boat ramp capable of handling boats up to 25 feet in length. Parking for 15-20 cars with trailers is available across the street by Town permit.
 - *Grathwohl Road End, West Creek, Cutchogue*
An asphalt ramp permits limited boat launching. Parking for about 2 cars is permitted by Town permit.

Cutchogue - New Suffolk Park District*

- *Nassau Point Community Beach, Nassau Point Road, Cutchogue*
This site consists of two properties located on either side of Nassau Point Road beginning at its intersection with Bay Avenue. The western property is located directly on Broadwaters Cove. Consisting of 13.6 acres, this land is mostly wetland and marsh. The eastern property consists of 5.9 acres of beach directly on Hog Neck Bay. This beach is adjacent to, but north of, the Nassau Point Homeowner's Association beach. The site contains a picnic area, a playground, basketball courts, restroom facilities, and a parking area for approximately 100 cars. A park district permit is required since the park is open to district residents and their guests only.
- *Pequash Avenue Beach (Fleets Neck Beach), Pequash Avenue, Cutchogue*
This one-acre park is located at the terminus of Pequash Avenue, fronting on Cutchogue Harbor. In addition to the beach, the upland portion of the site contains a small picnic area, restrooms, and a parking lot for approximately 15 cars. A park district permit is required since the park is open to district residents and their guests only.

**An in-depth discussion of the territorial jurisdictions and operations of park districts within the Township can be found in Section II. D. Public Access and Recreation.*

Little Creek, Wunneweta Pond, Broadwaters Cove, Haywaters Cove, Mud and East Creeks, Wickham and West Creeks, and Downs and Hall creeks are part of the *Andros Patent*. The underwater lands of these creeks are under the jurisdiction of the Town Trustees. The Trustees also claim more than 4 acres of bay bottom on either side of the riparian grant at the foot of New Suffolk Avenue.

The majority of lands underwater in Great Peconic Bay belongs to the State of New York, with some land in the jurisdiction of the county and some privately held. Schoolhouse Creek at New Suffolk is a man-made creek, with approximately 3 to 4 acres of underwater land under Trustee foundation but in private ownership. The Lagoon at Nassau Point covers 11.2 acres of underwater land. It is a natural inlet under Trustee jurisdiction. The Lagoon appears to be privately owned but there are some questions about who owns it.

6. Inland recreation facilities

Within Reach 8 there are only three inland recreational facilities: the playing fields, playground and two tennis courts of the Cutchogue East Elementary school are located south of SR 25 midpoint between Skunk Lane (Bay Avenue) and Eugene's Road. A standard 18-hole golf course and two/four tennis courts are located at the North Fork Country Club. The Club is located south of SR 25, on either sides of Linden Avenue. The golf course fronts on and offers great views of West and Downs creeks as well as Great Peconic Bay. However, access to the Club's facilities is restricted to a limited membership and their guests. The Cedar's Par-3 Golf Club lies south of the Cutchogue Village Green on Case's Lane and Cedars Road. This nine hole course encompasses about 14 acres and is open to the general public for a fee.

7. New opportunities for public access and recreation provision

Like Reach 7, Reach 8 has a highly developed waterfront. Although there are many property owners' associations which own waterfront properties reserved for use by their members, the degree of existent development means there is a significant demand for access, but also limited opportunities to increase the number of access points. There is little vacant bay front left in Reach 8, and only slightly more creekfront. Accordingly, the Town should be open to a public/private partnership to acquire the 3.5-acre Harbor Inn Marina/restaurant property at the foot of Main Street in New Suffolk in order to establish a wider range of public recreational uses within New Suffolk. The use of this property could be combined with private investment to effect a revitalization of New Suffolk's waterfront that is in keeping with the scale of this community.

8. Natural resources

(i) Wetlands

Reach 8 contains a fairly extensive wetland system of approximately 140 acres within the Cutchogue Harbor area, encompassing tidal marshes that fringe Wickham Creek, East Creek, Mud Creek, and Broadwater and Haywater Coves. The various tidal creeks here are classified as mudflats, with narrow channels of littoral zone where the water is deeper. The wetland areas adjacent to these creeks consist primarily of intertidal marsh, with limited areas of high marsh. Smooth cordgrass and saltgrass dominate the vegetation in these marsh areas.

Cutchogue Harbor and its adjacent wetlands have been designated as a SCFWH. These coastal wetlands provide critical habitat to several species listed as endangered, threatened and of special concern in New York State. In addition, the wetlands serve as valuable feeding areas for waterfowl and shorebirds, as well as productive nursery areas for finfish and shellfish. Little Creek and Beach has also been designated as a SCFWH. Located further east and a tributary to Hog Neck Bay, the creek and wetland area is fairly small and

its shoreline is relatively undeveloped. The tidal marsh provides critical feeding habitat and protective cover for the Diamondback Terrapin (a species of special concern). The resources of these SCFWHs are discussed below.

Another extensive area of intertidal marsh and mudflats occurs along West Creek, which is located on the western end of Reach 8. West Creek is tributary to Great Peconic Bay. A narrow freshwater wetland extends northwards from the brackish portion of West Creek, along the western side of New Suffolk Road. A portion of this wetland is included in the *Suffolk County Farmland Preservation Program*.

Robins Island contains several freshwater and tidal marshes, an island pond and bog area. Being essentially undeveloped and lying between the coastal waters of Great Peconic Bay and Little Peconic Bay, Robins Island provides a unique blend of habitats for various kinds of wildlife. A wide variety of waterfowl and wading shorebirds feed and nest within the wetland areas. Historically, the island supported a heron rookery. Robins Island has also been designated as a SCFWH, as discussed below.

Historically, it was not unusual for wetlands within Southold Town to be diked and converted to agricultural use. This practice is most evident in Reach 5 along Narrow River Road in Orient. It also took place in Reach 8, within New Suffolk. In 2001, 80 acres of agricultural land on the east bank of West Creek were proposed to be returned to their former state after fifty years of cultivation. The proposal involves the acquisition of a permanent easement over the 80 acres of former wetland by the U.S. Department of Agriculture's *Natural Resources Conservation Service* (NRCS). The NRCS will remove part of the dike, which will permit tidal water to flood the property once again. Since the property has been invaded by phragmites, a wetland vegetation restoration program will be undertaken by the NRCS. (Source: Allan Connell, U.S.D.A., NRCS)

Reach 8: Tidal wetlands

<i>Location</i>	<i>Acres</i>	<i>Dominant Species</i>	<i>Tributary Area</i>
Downs and West Creeks	150	<i>Spartina alterniflora</i>	Great Peconic Bay
Cutchogue Harbor & Wickham Creek	40	<i>Spartina alterniflora</i> <i>Distichlis spicata</i>	Little Peconic Bay
Robins Island	19	<i>Spartina patens</i>	Great Peconic Bay
Cutchogue Harbor, East & Mud Creeks, Haywater & Broadwater Coves	98	<i>Spartina alterniflora</i>	Little Peconic Bay
Wunneweta Pond	3	<i>Spartina alterniflora</i>	Little Peconic Bay
Little Creek	23	<i>Spartina alterniflora</i>	Little Peconic Bay

Source: Unpublished Draft: Brown Tide Comprehensive Assessment and Management Program, SCDHS; as edited by J. Bredemeyer, Trustee, Town of Southold, March 1993.

(ii) Significant Coastal Fish and Wildlife Habitats

There are three designated Significant Coastal Fish and Wildlife Habitats within Reach 8. These are listed and discussed below. The location of these SCFWHs are illustrated on [Map II-14](#). This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2002) found in Appendix A of this LWRP and also at the NYS Department of State's Division of Coastal Resources website.

The habitat documentation for the SCFWH should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitat by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitat.

• **Little Creek and Beach Significant Coastal Fish and Wildlife Habitat**

The Little Creek and Beach habitat area is located just north of Little Hog Neck facing Little Peconic Bay. The fish and wildlife habitat is approximately 45 acres in size, consisting of sparsely vegetated sand beach, a tidal inlet, a small protected bay and creek (Little Creek), mud flats and salt marsh. There is low-density residential development, concentrated on the west side, bordering the area.

Little Creek and Beach is a small coastal beach/creek/wetland area, similar in nature to other creeks around the Peconic Bays shoreline, but unusual in that it is mostly undeveloped. The area is important as a habitat for various fish and wildlife species.

The habitat is a confirmed nesting area for diamondback terrapin which are relatively uncommon on the north fork. This species lays its eggs on the sand beaches bordering the marsh. The tidal creek and salt marsh provide feeding and cover for diamondback terrapin during this period.

Piping plover (E, T-Fed) nested on the beach in 1983, and have been documented only once again (1996, one pair) in the 1986-1996 period. Osprey (SC) nesting has been confirmed on Little Creek Beach. The tidal marsh serves an important feeding area for the terrapin, osprey, shorebirds, and other wildlife. The creek is also important for various species of marine shellfish and finfish. Fish species reported from this area include flounder, weakfish, and snappers. Little Creek is one of the better areas in the town for crabbing and is also locally important for clamming.

Nesting shorebirds inhabiting Little Creek and Beach are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Diamondback terrapin are vulnerable to disturbance by humans during egg laying.. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control

of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat of this area.

The creek is dredged annually; these activities should be undertaken within the dredge windows identified in the SCFWH assessments (found in Appendix A) to minimize potential impacts on aquatic organisms and to allow for dredged material disposal when wildlife populations are least sensitive to disturbance. Dredged material disposal in this area would be detrimental but such activities may be designed to maintain or improve the habitat by setting back vegetative succession.

Elimination of salt marsh vegetation, through loss of tidal connection, ditching, shoreline hardening, landfilling, dredged material disposal or excavation would result in a direct loss of habitat area. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Alteration of tidal flow patterns in the marsh (e.g. by modifying the inlet) could have major impacts on the fish and wildlife as well as the salt marsh. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Any activity that would substantially degrade the water quality in Little Creek would adversely affect the biological productivity of this area. All species of fish and wildlife are affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, stormwater or road runoff, and waste disposal. Barriers to fish migration, whether physical or chemical, would have a major impact on the fisheries in Little Creek.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

- **Cutchogue Harbor and Wetlands Significant Coastal Fish and Wildlife Habitat**

The Cutchogue Harbor and its adjacent wetlands are located west of Little Hog Neck, opening into Little Peconic Bay. This approximate 490 acre habitat includes the shallow open water area of Cutchogue Harbor (205 acres) and three adjacent, distinct tidal wetland/creek areas: Wickham Creek, Haywater Cove, and Meadow Beach (Horseshoe Cove). The Wickham Creek area contains approximately 70 acres of undisturbed tidal creek and Salt Marsh located behind a low beach on Cutchogue Harbor. The Haywater Cove area consists of approximately 190 acres of Salt Marsh islands, mudflats, open water and tidal Creek including East Creek, Mud Creek and Broadwater Cove. All three of these tidal creeks have been disturbed to some extent by adjacent residential and recreational development. The Meadow Beach area is an approximate 25-acre area, including a 15-acre wetland preserve owned by the Nature Conservancy, bordered by undeveloped wooded shoreline. Much of the Cutchogue Harbor and Wetlands area receives moderate summer recreational use, including recreational boating in the coves and creeks.

The Cutchogue Harbor and Wetlands complex represents a valuable ecosystem area in northern Long Island. Although the three wetland sites are relatively small, and subject to human disturbances, they provide suitable habitat for a variety of coastal wildlife species, including osprey (SC), least tern (T), piping plover (E, T-Fed) and diamondback terrapin.

Osprey have nested in the area for many years using man-made nesting platforms placed at Wickham Creek and Meadow Beach. The Meadow Beach nesting site has been especially productive in past years, and has served as a source of young birds for the NYSDEC's "hacking" problem in western New York. A nesting platform in Haywater Cove historically has been active and is an important potential nesting site.

Meadow Beach supported a relatively small nesting colony of least terns of 20-60 pairs during 1982-1985. These numbers declined between 1986-1991 (ranging from 13-24 pairs). Least tern have nested sporadically since 1991 (1 pair in 1993; 14 pairs in 1997). Up to 4 pairs of piping plover nested at Meadow Beach and Wickham Creek during the early 1980s, but similarly, numbers of this species have declined to an annual average of 1 nesting pair between 1987 and 1996. The peak number of nesting piping plover pairs in the area during this period was 2, occurring in 1994.

Diamondback terrapin nest in the Haywater Cove area, and up to 20 nests were reported from the marsh areas at the mouth of Wickham Creek in 1996. The Cutchogue Harbor Wetlands serve as valuable feeding areas for the species noted above, as well as for herons, egrets, waterfowl, shorebirds, and a variety of other wildlife species. Bird species that are probable or confirmed inhabitants of the area include green heron, yellow-crowned night heron, Canada goose, mallard, American black duck, clapper rail, killdeer, belted kingfisher, red-winged blackbird, and sharp-tailed sparrow. Double-crested cormorant reportedly use surrounding creeks.

Cutchogue Harbor and Wetlands are very productive areas for marine finfish and shellfish. The marshes, mudflats and tidal creeks contribute significantly to the biological productivity of Cutchogue Harbor and adjoining portions of the Peconic Bays. Historically, eelgrass beds were present in the southwestern portion on the harbor, supporting a large number of commercial scallop houses in New Suffolk to the west.

The Cutchogue Harbor area is one of the top three areas in Southold for the harvesting of both scallops and clams. The level of scalloping is significant in Long Island and the level of clamming is significant in the County. There is also a conch fishery of local importance. Blue crab are harvested locally for recreational purposes. The wetlands and tidal creeks serve as nursery and feeding areas for many estuarine fish species, including scup and winter flounder (see SCFWH assessments for fishing windows).

Any activity that would substantially degrade the water quality in Cutchogue Harbor or the adjacent wetlands and creeks, would adversely affect the biological productivity of this area. All species of fish and wildlife may be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, stormwater runoff, and waste disposal, including boat wastes. It is

essential that high water quality be maintained in the area, through control of sewage discharges from recreational boats and upland sources.

Alteration of tidal patterns in the Cutchogue Harbor Wetlands (e.g., by modifying the inlets) could have major impacts on the fish and wildlife species present. Dredging in Cutchogue Harbor should be undertaken within the dredge windows identified in the SCFWH assessments (found in Appendix A) to minimize potential impacts on aquatic organisms and to allow for dredged material disposal when wildlife populations are least sensitive to disturbance. Dredged material disposal that alters creek inlets or tidal flow would negatively impact the habitat value of this site. Such impacts are reported to exist already at a dredged material disposal site in the Meadow Beach area, where tidal flow has been altered causing erosion of the marsh and shoaling to the north.

Barriers to fish migration, whether physical or chemical, into Wickham Creek or Haywater Cove would have a major impact on the fisheries. Restoration of fisheries habitat through removal of such barriers, or other means, should be considered for the Cutchogue Harbor and Wetlands area.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Elimination of salt marsh and intertidal areas, through loss of tidal connection, dredging, excavation, or filling, would result in a direct loss of valuable habitat area. Dredged material disposal in this area would be detrimental, but such activities may be designed to maintain or improve the habitat for certain species of wildlife, especially nesting shorebirds. Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of the Cutchogue Harbor area. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Restoration opportunities may exist for eelgrass habitat in the western nearshore area of the harbor mouth. Eelgrass beds require high water quality for survival, and the existence of appropriate environmental conditions for eelgrass restoration should be carefully examined.

Nesting shorebirds inhabiting Cutchogue Harbor and Wetlands are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible.

Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

- **Robins Island Significant Coastal Fish and Wildlife Habitat**

Robins Island is situated between Great and Little Peconic Bays, Long Island. This island lies approximately one and one-quarter miles southwest of Little Hog Neck. Robins Island is an undeveloped marine island, approximately 450 acres in size. It includes approximately four miles of stony beach, several freshwater and tidal saltwater marshes, an island pond and bog, mature wooded areas, grassland and maritime shrublands. The island is privately owned with a protective easement on all land except pre-existing built areas, and one new single family house.

Undeveloped marine islands of this size are rare in New York State. Robins Island provides a secluded habitat for a variety of wildlife species, including several endangered and threatened species. The *New York Natural Heritage Program* has documented occurrences of a number of rare plants and ecological communities on the island, including salt-marsh spikerush, purple everlasting, seabeach knotweed, and the coastal salt pond community.

Osprey (SC) nests have often been observed on the shores of the island with 8 active nest sites currently documented. Robins Island is the only area on Long Island where osprey are known to nest on natural structures rather than man-made platforms.

Least terns (T), roseate terns (E), and common terns (T) were reported nesting on the island's beaches in 1976; however, only least tern have been documented since then. Small numbers of least tern nested here on two occasions in the late 1980s. In 1996, 206 pairs of this species were documented. Piping plover (E, T-Fed) have nested sporadically and in small numbers (1-2 pairs) since the mid-1980s.

During the 1970s and 1980s, black-crowned night herons, snowy egrets, yellow-crowned night herons, and green herons nested in an extensive heronry which is no longer present. These species still feed in and around the marshes located at the northwestern end of Robins Island. Red-tail hawks and great-horned owls may also nest on the island. Shorebirds utilize the shores and marshes as feeding grounds during migration, including black-bellied plover, ruddy turnstone, lesser yellowlegs, greater yellowlegs, sanderling, and semi-palmated sandpiper. The Robins Island nearshore area is an important overwintering area for populations of American black duck, and for sea ducks such as white-winged scoter, surf scoter, and black scoter. A colony of bank swallows nest in the sandy bluffs located on the western shoreline of the island. Approximately 400 acres of upland oak-hickory woods provide habitat for a variety of passerine birds and a population of white-tailed deer.

Wetlands on the island support one of the best populations of eastern mud turtle (*Kinosternon subrubrum*, E) in New York State. Spotted salamander are also found on Robins Island.

The waters in the vicinity of Robins Island provide recreational fishing and commercial bay scallop fishing opportunities. However, because access is restricted, there is currently no public recreational use of the island itself.

Human disturbance of any part of Robins Island, including the beaches, marshes or woodlands would adversely affect the wildlife species which nest and feed on and around this almost uninhabited island. Any activity affecting the water quality in this area would adversely impact the bay scallop and other fisheries here.

Any alteration of hydrology on the island, such as artificial openings to the bay or water diversions for construction or other activities, could negatively impact the rare coastal salt pond habitat. Elimination of open water or wetland areas, through excavation, filling, or shoreline hardening, would result in a direct loss of valuable habitat in coastal ponds and other habitats on the island. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

Nesting shorebirds inhabiting Robins Island are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (e.g., dogs and cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

The feasibility of restoring historical nesting bird populations on the island, such as common tern and roseate tern populations and the diverse heronry should be studied.

- **Downs Creek Significant Coastal Fish and Wildlife Habitat**

Downs Creek is located approximately one mile southwest of the hamlet of Cutchogue. The fish and wildlife habitat is an approximate 70 acre tidal estuary, containing salt marsh, open water, and mudflats. Historic Fort Corchaug lies at the head of the creek. The area surrounding Downs Creek is almost entirely undeveloped, with mature woodlands bordering the marsh. There is a golf course bordering Downs Creek to the east.

Downs Creek is a relatively small coastal wetland area, but is unusual in Suffolk County because it exists in a nearly natural, undisturbed condition and has never been dredged. This area is utilized by a variety of fish and wildlife species, including osprey (SC).

Osprey have nested on a man-made platform located near the mouth of Downs Creek since at least 1982. Piping plover (E, T-Fed) in small numbers nested sporadically at the mouth of the creek during the late 1980s through 1992, but have not been documented since then. Sharp-tailed sparrow are also reported to nest at Downs Creek. The estuary serves as a

feeding area for osprey, along with herons, egrets, waterfowl, shorebirds, and other wildlife.

Diamondback terrapin have been seen nesting here but the importance of this area to the species has not been documented. Downs Creek is also a highly productive area for marine finfish and shellfish. This area serves as a nursery and feeding area (from April-November, generally) for many estuarine fish species, including scup and winter flounder. Ribbed mussels (*Geukensia demissa*; also called bank mussels) and fiddler crabs are abundant in the tidal creek banks within the marsh. Ribbed mussels (*Geukensia demissa*) are commercially harvested for bait fish in the creek.

Any activity that would substantially degrade the water quality in Downs Creek would adversely affect the biological productivity of this area. To preserve the pristine nature of this creek, no dredging should occur unless necessary to stabilize the inlet. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, stormwater runoff, and waste disposal.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (e.g., no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Alteration of tidal patterns in Downs Creek (e.g., by modifying the inlet) would have major impacts on the fish and wildlife species present. Elimination of salt marsh and intertidal areas, through loss of tidal connection, dredging, ditching, excavation, or filling, would result in a direct loss of valuable habitat area. Construction and maintenance of shoreline structures, such as docks, piers, bulkheads, or revetments, or disturbance of adjacent woodland habitats may have a significant impact on the fish and wildlife resources of Downs Creek. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance overall wetland values.

(iii) Water Quality

There are three state-designated surface water classifications within Reach 8. Little Creek, Little and Great Peconic bays, Private Lagoon, Wunneweta Pond, Cutchogue Harbor, Broadwaters and Haywaters coves, Mud and East Creeks, Wickham Creek and the mouth of West Creek are all designated as having high quality SA waters. Schoolhouse Creek and the headwaters of West Creek are designated as having SC waters. The freshwater sections of West Creek are designated as C waters.

The five tributary creeks of Cutchogue Harbor are included on the NYSDEC *Priority Waterbodies List*. These are Broadwaters Cove, Haywaters Cove, Mud Creek, East Creek, Wickham Creek and Schoolhouse Creek. Cutchogue Harbor has consistently appeared on the NYSDEC *Priority Water Problem List* and the *Priority Waterbodies List*. This indicates that the designated use of the waterbody, shellfishing, is precluded by the water

quality of the Harbor. Water quality problems in Cutchogue Harbor have been identified as having a medium resolution potential in the *1996 Priority Waterbodies List*.

Cutchogue Harbor and its tributary creeks are well developed with residential housing. Homes are located between 50 and 150 feet of the mean high waterline along nearly the entire shoreline. All of the homes are serviced by on-lot subsurface septic disposal systems. The agricultural land bordering Little, East, Wickham and West creeks may be contributing sediments, fertilizers, animal wastes, agricultural by-products or pesticides in stormwater runoff following excessive rainfalls. NYSDEC's 1990 water sampling results indicated elevated fecal and total coliform bacteria levels in East Creek and high levels of fecal coliform bacteria in Mud Creek.

Due to poor water quality, East and Schoolhouse creeks have been designated as uncertified areas. Shellfish harvesting is prohibited all times of the year. Schoolhouse Creek was the first portion of Cutchogue Harbor to be closed to shellfish harvesting. In 1990, East Creek was closed. The New York State Department of Environmental Conservation is closely monitoring water quality in Mud Creek, to determine if further deterioration will warrant a closure in this area.

There are six marinas within Cutchogue Harbor and its tributaries. These include (from east to west) Zito's Marina at the northwestern corner of Broadwaters Cove; Cutchogue Harbor Marina at the mouth of Wickham Creek; the New Suffolk Shipyard and the Tuthill Docks on Schoolhouse Creek; Captain Marty's and the Harbor Inn marina/restaurant at Cutchogue Harbor. None of these marinas have pumpout stations although Cutchogue Harbor Marina was planning to install one. (O'Brien, January 26, 1993)

Since 1989 the waters around Cutchogue's Harbor Marina and Zito's Marina have been designated by NYSDEC as seasonally uncertified during the period of May 15th through October 31st. All the creeks and bays in Reach 8 have the potential to be impaired by stormwater runoff. Four stormwater outfall pipes discharge directly into Wunneweta Pond: one 4-inches in diameter, two 6-inches, and one 12-inches. There is one 12-inch storm drainage outfall entering Broadwaters Cove. A wetland drain and two 10-inch storm drainage pipes enter Mud Creek. Three outfall pipes discharge into East Creek: one 12-inches and the two 18-inches in diameter. One 12-inch storm drainage outfall empties into Wickham Creek. Three pipes enter West Creek: one 10 inches and the other two 12-inches in diameter. The runoff is mostly from Town and private properties.

The Town has been involved in a series of storm drainage improvement projects aimed at reducing road runoff to the Creeks in Reach 8. Creation of a freshwater wetland/vegetated pre-settlement basin at the intersection of Skunks Lane at Eugene's Road was designed to reduce runoff into Mud Creek. The installation of two catch basins and leaching pools in a gravel trench at the end of Nassau Point Road was designed to reduce runoff from this road into Hog Neck Bay. The installation of a catch basin and leaching pool in a gravel trench on Pequash Avenue was designed to reduce runoff into Cutchogue Harbor. All of these stormwater retention and filtration facilities are working as intended.

Reach 8 is a productive area for shellfish. The nearshore waters of Cutchogue Harbor and around Robins Island are particularly productive. Currently many of the Creeks and

nearshore coastal waters are certified for shellfishing. Details on shellfish harvesting dates are summarized below.

Shellfish Harvesting - Water Body Classifications within Reach 8:

Water body	Classification	Remarks
Little Peconic Bay	Certified	
Little Creek	Certified	
Wunneweta Pond	Certified	
Broadwater Cove	Seasonally certified	Closed from 5/15/-10/30
Haywaters Cove	Certified	
Mud Creek	Certified	
East Creek	Uncertified*	
Wickham Creek	Seasonally certified	Localized closure near Cutchogue Harbor Marina; open during 11/1-5/14. Head of Creek open year round
Schoolhouse Creek	Uncertified	
Cutchogue Harbor	Certified	
West Creek	Certified	
Downs Creek		Open
Halls Creek	Seasonally Certified	Closed 5/1-11/30
Great Peconic Bay	Certified	

- Source:
1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, New York, excerpted from Part 4, Title 6, NYCRR. Updated September 21, 2001.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.

** As of September 1999, 43 acres of uncertified land in the southern portion of East Creek will be designated as seasonally certified and open to shellfishing from January 1st to April 14th. (Source: Correspondence dated September 23, 1999 from Daniel E. Lewis, Marine Resources Specialist, Bureau of Marine Resources, New York State Department of Environmental Conservation)*

9. Historic resources

(i) State and National Registers of Historic Places

There are two properties listed on the State and National Registers of Historic Places within Reach 8.

- *The Old House in Cutchogue*

The Old House in Cutchogue, one of the oldest buildings in NY State, was designated a National Historic Landmark in 1961, and listed on the *National Register of Historic Places*

in October 1966. The following summary of its importance is extracted from the nomination form (OPRHP, 1966). The Old House is located just south of SR 25 in the hamlet of Cutchogue within the Village Green. It consists of a two story, rectangular frame building with plain clapboard siding. The first floor contains a kitchen and hall, each with large fireplaces and a central brick chimney. The second floor contains two bedrooms. Construction details throughout are unusually fine and reflect the work of a master builder.

The Old House in Cutchogue is notable as one of the most distinguished surviving examples of English domestic architecture in America. Originally built in 1649 and moved to its current location in 1659, the house was restored in 1940 and 1968. It is undergoing a third restoration now. It is in excellent condition. Of outstanding importance are the three-part casement window frames on the north wall of the second floor, said to be the finest example of the type found in this country.

The 1940 restoration was undertaken in connection with the Southold Old Town Tercentenary Celebration, through the efforts of the Tercentenary Committee, the Case Family and the Independent Congregational Church of Cutchoque. The church purchased the land and the building was donated by the Case family. Funds provided by the church and raised through private contributions paid for the restoration. The Old House is maintained as a house museum. It is open to the public on weekends from Memorial Day to July 1 and Labor Day to October 1 and every afternoon during July and August.

- *David Tuthill Farmstead, Cutchogue*

The David Tuthill Farmhouse was listed on the National Register of Historic Places in May 1984. The following summary of its importance is extracted from the nomination form (OPRHP, 1984). The farmstead is located on New Suffolk Lane in the hamlet of Cutchogue. It consists of the main house and five contributing buildings on an approximately one-acre lot. The farm complex is situated in an agricultural area to the south of the developed portion of Cutchoque.

The clapboard farmhouse was built in two sections. The original one-story 1798 farmhouse has a five bay center entrance, and a center chimney plan. Numerous six-over-six windows punctuate its clapboard exterior. Attached to the north elevation of the original farmhouse is a two-story 1880 wing. The interior of both sections retains numerous original features, including fireplaces, plaster finishes, simple wood trim, wide board wainscoting, and wide board floors. The rear of the property include the following structures: a one-story wash house, a privy, a one-story shop, a one-story garage, and a large barn with attached water tower.

The David Tuthill Farmstead is historically and architecturally significant for recalling the eighteenth century settlement and subsequent agrarian development of eastern Long Island and the community of Cutchoque. It is one of the most complete and best preserved examples of an historic eastern Long Island farm complex. The house is virtually unaltered and a full complement of farm support buildings remain within a still surviving agrarian landscape. Although these structures are modest in appearance, they are remarkably unaltered and are important examples of eighteenth and nineteenth century vernacular building practices and local agricultural practice.

(ii) Local historic resources

Reach 8 contains 14 Registered Local Landmarks, discussed above. It also contains a wealth of unrecognized structures of local significance. The SPLIA survey recognized at least 165 sites within this Reach. The sites include residences, a church, a rectory, a cemetery and the LIRR bridge on Bridge Lane. This bridge has been replaced at 20 to 60 year intervals since it was first constructed in 1858, shortly after the railroad track was laid. It is one of the last such wooden bridges left in Suffolk County.

New Suffolk encompasses a peninsula of about 180 acres in area. It was developed in the mid 1700s by settlers from Cutchogue. This hamlet started out first as a commons, then grew into a fishing village circa 1759. As the volume of local shipping grew, New Suffolk saw the addition of a shipyard and other port facilities. In time the waterfront in the vicinity of Captain Marty's Fishing Station was lined with scallop and oyster houses. By the 1820s New Suffolk was a terminal for packet boats to and from New York City.

New Suffolk can rightly lay claim to being a planned village. In 1836, a local development firm bought a large farm and subdivided most of the land. A grid-pattern was laid out in 200 by 300 foot blocks, with each street running to the water either to the east or the south. The main entry to the village was changed from Old Harbor Road to New Suffolk Road. The community became prosperous; it hosted its own post office, boarding homes and even hotels. During the Gilded Era (the late 1870s through the 1920s) New Suffolk began drawing wealthy summer residences who built homes there, particularly along waterfront south of Jackson Street. A prime example of this was Kimogenor Point. Located at the foot of Jackson Street, on the east side of West Creek, Kimogenor Point was purchased by a land development company around 1900. By 1920, the company was sold and the property came into possession of the property owners, some of whose descendants still hold the land.

The oldest house in New Suffolk was built in 1743. Today, more than 40 historically significant residences, barns, schools, ice houses and commercial structures still remain, most dating back to the 1800s. One of the casualties was the headquarters of the Holland Submarine Company, the brainchild of John P. Holland. Formed in 1900, this Company built the first successful submarine in the United States. The boats were built in Elizabethtown, New Jersey and shipped to New Suffolk for fittings and trial runs. The Company was housed on the site of the Goldsmith & Tuthill Shipyard. There was a two-mile test course laid out in Cutchogue Harbor parallel to Hog Neck (Nassau Point). By 1905, the Company's success led it to reform into the Electric Boat Company and to move its base of operations to Groton, Connecticut.

Robins Island also has an interesting history dating back to the pre-Revolutionary days. Principally used for farming and grazing cattle, the island was once owned by Ira Tuthill (one of the local "developers" of New Suffolk Village). Tuthill built and operated a brick factory on the Island. Some of the historic structures noted in the SPLIA survey were built with Robins Island brick. The island contains a number of structures (7) of historical significance.

10. Archaeological resources

The most significant site in Reach 8 is Fort Corchaug, a pre-historic Native American fort that was recently preserved from development. Fort Corchaug, currently listed on the *National Register of Historic Places* and designated a National Landmark, is the most studied and known of the Native American forts on Long Island. The fort is not only Long Island's most important Indian site, historians and archeologists say it is also believed to be the only one of its kind remaining in the Northeast. The fort was in use from 1640 through 1662 for protection from invading tribes and for a wampum workshop. Artifacts excavated from the site indicate that the Corchaug Indians had relationships with both Europeans and other Indian tribes. There is also evidence that Fort Corchaug area had been occupied prehistorically; however, research to date has only dealt with the historic component. The Fort Corchaug site holds great potential for future exploration.

11. Scenic resources

Much of the southern portion of Reach 8 is developed with low and medium density residential development. The mature, wooded vegetation surrounding most of this development minimizes the impact of these structures on the scenic qualities of the Reach. The numerous creeks and inlets as glimpsed from Skunk Lane, Bay Avenue, Nassau Point Road, Beebe Drive, West Creek Drive, Grathwohl Road, Linden Avenue and New Suffolk Avenue are the main scenic components of Reach 8. Extensive areas of wetland vegetation border these creeks.

Another major scenic component is that of Robins Island, particularly as seen from the road ends of 1st through 5th streets in New Suffolk hamlet and from the bridges of New Suffolk Avenue where they cross West, Downs and Hall's creeks. This Island dominates the views of the Peconic Bays from almost all the road ends fronting on Cutchogue Harbor. Its shoreline has been left relatively undisturbed with the exception of the northern docking area where the boathouse and the manor house are located in clearings.

As noted earlier, there is limited public access to the shoreline relative to the degree of development within Reach 8. This is particularly evident on Nassau Point, where the waterfront is entirely in private ownership with the solitary exceptions of the causeway on the east side (facing Broadwaters Cove and Great Hog Neck) and Meadow Beach on Horseshoe Cove on the west side (facing Cutchogue Harbor). Although there are some waterfront park properties, public visual accessibility of the shoreline of Reach 8 is primarily from public roads or road ends. For example, Bay Avenue Road and the Nassau Point Causeway. The latter is one quarter of a mile in length and offers scenic views of Hog Neck Bay to the east and Broadwater Cove to the west. East Road in Fleets Neck permits a close-up of Fisherman's Beach at the entrance to East Creek and Cutchogue Harbor to the south. In New Suffolk, scenic vistas are available from all of its road ends and the Town park at the foot of 1st Street. New Suffolk Avenue runs along Peconic Bay from New Suffolk hamlet to its intersection with SR 25 in Reach 9. This roadway provides travelers with scenic views of the Great Peconic Bay and West Creek along with associated wetlands. Both New Suffolk Road and Avenue are part of the Town's SeaView Trails network.

SR 25 offers views of historic Cutchogue hamlet center, as well as the open agricultural areas at its eastern and western borders. SR 25's route also is an historic one, as mentioned earlier in *Section 9. Historic resources*. The CR 48 corridor within Reach 8 shares with

Reaches 1 and 2 the broadest sweep of open farmland available within the Town of Southold. The vista south of CR 48 includes older farmhouses and barns along with vineyards, nurseries and vegetable crops. In Reach 8, the railroad track lies farthest from CR 48 than in any other Reach, as does SR 25. The North Fork is at its widest here, thereby imparting a greater sense of expansiveness than anywhere else in the Town. The sense of expansiveness to the south is heightened by the flatness of the land, and the distant tree line. South of the Long Island Railroad track, the Town Transportation Commission hopes to develop an off-road trail between Mattituck and Depot Lane. Such a route would offer expansive vistas of farm fields.

The road corridors of SR 25 and CR 48 are scenic byways pursuant to the *Scenic Byways Corridor Management Plan*. The Plan is described in *Section II.B. Planning Framework, 9. Transportation Planning: 1992-2002*.

12. Protected Resources

Protected lands within Reach 8 are listed. A total of 124 properties encompassing 1,810.77 acres of land are considered protected from development.

Protected Lands within Reach 8

Type of Ownership	Acreage	#of Parcels
Park District	29.99	4
Churches, Cemeteries	77.36	12
County Owned	16.36	8
Peconic Land Trust	5.6	2
Subdivision Park	11.86	1
Schools	27.27	2
County Development Rights	634.41	28
State Owned	0	0
Subdivision Open Space	19.99	3
Town Development Rights	343.72	23
Nature Conservancy	471.85	8
Town Owned	132.97	30
Museums	0	0
Peconic Land Trust Easement	32.74	2
Water Utilities	6.87	1
TOTALS	1810.77	124

Source: Town of Southold Geographic Information System, August 2002

Reach 8 contains a considerable amount of protected open space, but relatively little of it is publicly accessible waterfront. Key waterfront parcels were protected through the efforts of public agencies and private individuals, thereby maintaining a modicum of public access to large expanses of otherwise private waterfront within the Reach. Unlike Reach 7, there are few waterfront properties owned by homeowners' associations, but these few are key resources within Reach 8.

Reach 8 contains the largest amount of agricultural acreage. About 978.13 acres (43%) was protected from development as of August 2002. The protected farm acreage is found principally in New Suffolk and in the northern part of Reach 8, between SR 25 and CR 48. The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open agricultural and scenic qualities of the Town. It targets all A-C zoned lands larger than 10 acres in size. Most of this acreage is still in agricultural production. Additional details about the CPPP are provided in *Section II.B. Planning Framework, 8. Open Space Preservation Plan; 1989, 1998.*

The CPPP proposes to add to the preserved areas within Reach 8 by targeting the remainder of the unprotected farmland, most of which lies between SR 25 and CR 48. However, several farm lots south of SR 25 also are targeted for protection. The CPPP also proposes to acquire key waterfront parcels, notably on Nassau Point near Meadow Beach, on the west side of Cutchogue Harbor, within New Suffolk and around West Creek. In January 2000, the Peconic Land Trust completed a conservation project which protected 54 acres of the historic "Downs Farm" adjacent to the Fort Corchaug Preserve. Also recommended for protection are the last remaining farmfields west of the Fort Corchaug Preserve.

13. Development Constraints

There are a number of development constraints within Reach 8. However, due to ongoing and proposed extensions of the public water supply, it is anticipated that these constraints will be lessened considerably in the near future.

(i) Public services and facilities

Until recently, there was no public water supply within Reach 8. During 1998-9, the Suffolk County Water Authority began running mains along SR 25 from Peconic to the Cutchogue East Elementary School. The Water Authority plans on running mains to Little Hog Neck (Nassau Point) during 1999-2000. These extensions are likely to accelerate development of the remaining infill lots within this portion of the Reach, particularly those that are undersized (less than 40,000 square feet).

All other individual properties have their own on-site water supplies through private wells. Well depth and water quality are factors under the jurisdiction of the Suffolk County Department of Health. The average depth to water depends on the proximity to the shoreline. Much of the groundwater within Reach 8 is impacted by nitrates. In the southern part of the Reach, the source of nitrates is as likely to be from homeowners as from agricultural sources.

There are no public wastewater treatment facilities within Reach 8. Individual properties have their own on-site wastewater treatment systems consisting of cesspools and leaching tanks. Due to the age of much of the housing and the small lot sizes within this Reach, particularly the southern portion, the cesspools of waterfront lots may be located close to the shoreline and the groundwater table, thus presenting a non-point source of pollution to both the ground and surface waters of the bays, creeks and inlets.

(ii) Flooding

The potential for flooding in Reach 8 is extensive. Areas likely to flood include the shores of the following: Little Creek, Wunneweta Pond and the lagoon on the western side of

Nassau Point, Broadwater and Haywater coves, Mud and East creeks, Wickham Creek, and West Creek. The eastern and southern portions of New Suffolk hamlet are vulnerable to storm-related flooding during high tides due to the low elevations, mostly between 5 and 10 feet above sea level. Several other small natural and man-made inlets and ponds are also subject to flooding. Many local roads in the vicinity of these creeks are subject to flooding. For example, the southern portion of Stillwater Avenue floods near its intersection with Pequash Avenue.

Little Creek and the spit on the northern shoreline of Robins Island are designated as *Coastal Barrier Areas* (1990). Flood insurance is not available in these areas for new construction or substantially improved structures on and after November 16, 1990. Broadwater Cove is designated as an *Otherwise Protected Area* in the Coastal Barrier Resources system. Flood insurance is not available in these areas for structures, newly built or substantially improved on and after November 16, 1991, that are not used in a manner consistent with the purpose of the otherwise protected area.

Flood prone areas are indicated on *Flood Insurance Rate Maps* prepared by the Federal Emergency Management Agency. Normally, the potential for flood damage or lack of access due to flooding during storms might act as a deterrent to the development of residentially zoned lots. However, the federal flood insurance program has served to make the development of some low-lying properties more attractive by requiring raised construction above the 10 foot contour. As seasonal cottages are winterized and expanded into year-round dwellings, they also are being raised on pilings or mounded earth. However, the roads and surrounding terrain remain susceptible to flooding. This trend is likely to result in problems in the near future for emergency services personnel as the year-round population increases. Within Reach 8, the most troublesome areas in this regard are the eastern portion of New Suffolk, Kimogenor Point, portions of Grathwohl Road on West Creek and Dean Drive and Beachwood Road near the entrance to Hall's Creek.

The Town needs to develop a Flood Hazard Mitigation Plan to inventory potential troublespots and solutions.

(iii) Erosion

Beaches and wetlands are the dominant coastal landforms in Reach 8. However, there also are two distinct areas of low bluffs within the Reach. The location and characteristics of each of these landforms are described below.

Reach 8: Inventory of Coastal Landforms

Beach:

Location A beach runs along the entire coastline of Reach 8 with the exception of a few eroded areas on the eastern side of Little Hog Neck (Nassau Point), near the point and on the western side of New Suffolk

Width 0-75 feet.

Composition Mostly sand, gravel and small stones ranging from 0-64 mm.

Bluffs:

Location There are two distinct and separate bluff systems within Reach 8. A continuous bluff extends approximately 1 mile along the eastern side of Little Hog Neck, just north of Nassau Point. There is also a ring of bluffs that encircles about 60 percent of Robins Island.

Height Little Hog Neck (Nassau Point) - Up to 50 feet.
Robins Island - Up to 60 feet.

Tidal Wetlands:

Saltwater tidal wetlands are found in close association with every major inlet, creek or pond in this Reach. Larger tidal wetland areas are located near Little Creek, Haywater Cove, East Creek and Wickham Creek.

Source: Town of Southold, 1989

Bulkheading and groins are a common feature along the shoreline of Hog Neck Bay, Little Peconic Bay and Cutchogue Harbor. These structures were installed to protect individual properties, thus do not represent a coordinated approach to coastal protection. There are many different designs of structures, which have been constructed in varying sizes and types of materials. In many cases, unfortunately, these structures have resulted in the erosion of the beaches in front of properties, increased erosion to neighboring properties and an interruption in the natural flow of sand along the beaches in the Reach. Details of coastal protection structures within the Reach are outlined below.

Reach 8: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length	147,000 l.f.
Total Bulkheaded	25.4%

Coastline

Length	42,000 l.f.
Bulkheaded	44.2%
Stone groins	6
Wood/metal groins	104
Jetties	14

Creeks, Inlets

Length	105,000 l.f.
Little Creek	8% bulkheaded
Wunneweta Pond	30% bulkheaded
Haywater/Broadwater Cove	25% bulkheaded
Mud Creek	10% bulkheaded
East Creek	16% bulkheaded
Wickham Creek	16% bulkheaded
School House Creek	48% bulkheaded
West Creek	7% bulkheaded

Source: Town of Southold, 1989

The shoreline of Hog Neck Bay in Reach 8 curves southward from Indian Neck. This curve is interrupted at the inlet at Little Creek. The Little Hog Neck shoreline from the public beach on the Causeway, south to Nassau Point is bulkheaded along its entire length. Within this stretch there also are many groins. The shoreline here is backed by a very steep bluff that quickly rises to more than 50 feet. This bluff has eroded in places for a variety of reasons: from groundwater seeps that are not associated with coastal erosion, to careless land clearing, landscaping and building practices at the top of the bluff.

The fetch across Hog Neck Bay from Jessup Neck, Shelter Island is about 20,000 feet, and waves can hit the eastern shoreline of Little Hog Neck directly from the east in Shelter Island Sound. The direction of littoral drift in this part of the Reach is very sensitive to wave direction and can reverse many times during a year. According to local baymen, the tidal current along this shoreline always sets towards the south. As a result, Nassau Point itself seems to be elongating in response to littoral drift and the tidal current.

The west side of Nassau Point (Little Hog Neck) is punctuated by two natural inlets: the Lagoon and one dredged basin, known as Wunneweta Pond. The western shoreline is not as steep, nor as high as the eastern side. South of the Hog Creek inlets, the land rises to about 20 feet. From the inlets north, the elevation is lower. Although the western shore is open to waves from the southwest, Robins Island provides a measure of shelter. The coast is protected by a number of bulkheads and groins. Meadow Beach (at Horseshoe Cove), which is a Nature Conservancy preserve, is a small blunt spit that has been enhanced by placement of dredged materials. The small boat channel between Meadow Beach and

Little Hog Neck was dredged, but has generally maintained its depth without additional dredging. According to local residents, Meadow Beach has not eroded for at least the past thirty years.

North of Meadow Beach spit, a short inlet serves as the mouth for three creeks, East Creek, Mud Creek, and the Haywater/Broadwaters Coves. This inlet was first dredged in 1966 (434,000 cubic yards) and now is maintenance-dredged every one to two years. The beach on the west side of the inlet entrance lengthens to the east and into the channel, requiring dredging. The channel used to run in front of Fishermans Beach, but it now runs straight out from the inlet. A large shoal, not attached to the shoreline, has formed on the west side of the channel, and a smaller shoal, attached to Fishermans Beach, is forming. Beaches on either side of the inlet are regularly overwashed during storms, thereby flooding the houses behind the beach. Observation over time suggests the beaches have eroded back about 20 feet in the past 20 years.

Further to the west, the Fleets Neck shoreline is exposed to waves traveling west/northwest from Little Peconic Bay across Cutchogue Harbor. The shoreline here is bulkheaded, and the beach is primarily fashioned from placement of dredged materials. Bluffs behind the beach rise to about 50 feet.

Wickham Creek was first dredged in 1966 (48,300 cubic yards) and is now dredged regularly. Between Wickham Creek and Schoolhouse Creek, the shoreline is partially bulkheaded with the incidence of bulkheading decreasing as one moves towards Wickham Creek. This shoreline is open to waves coming from the east across Cutchoque Harbor. Schoolhouse Creek is privately dredged as needed. Sand accretes in the vicinity of New Suffolk Marina and the Robins Island ferry slip, which is dredged yearly by the owner of the island. The entrance to the private ferry slip was recently reinforced with rocks and the beach areas were stabilized with native beach vegetation.

The Town Beach at the foot of 1st Street is open to waves from the south coming across the North Race from Great Peconic Bay, a distance of about 37,000 feet. According to local residents, however, while the beach is exposed, it is stable and has not eroded. The shoreline west of the Town beach is backed by a low bluff. Based on observations of the spit at Kimogener Point (at the entrance to West Creek), littoral drift in this section of the Reach is generally from east to west. West Creek was dredged in 1966 (92,500 cubic yards) and continues to be dredged regularly. At least since the 1950s, the shoreline from West Creek to Downs Creek has been eroding except when dredged materials have been placed on it. Several deteriorating groins are located along this beach.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 8, three distinct land use situations were identified within the Reach:

- areas of existing stable uses
- areas subject to development pressure

- underutilized sites

The location of these areas and sites are described below and identified on *Map II-J-8*.

(i) Areas of existing stable uses

Most of the southern portion of Reach 8 near the shoreline has been developed as low to medium density residential uses. These areas are considered to be existing stable uses. Changes within these areas probably will be limited to infill development on the few remaining lots and renovation or expansion of existing homes, particularly those located on waterfront property. There is continuing potential for increased density as waterfront lot owners attempt to obtain area variances for slightly undersized lots under the guise of setting up “family compounds” or in response to the “spectre” of severe financial hardship. The wetland areas distributed throughout this Reach are also identified as areas of existing stable uses and they will be protected as natural areas.

(ii) Areas subject to development pressure

Most of the northern part of Reach 8 is subject to development pressure. The remaining large lots located just south of SR 25 in the southern part of Reach 8 also are subject to development pressure. Some of these lots are still in agricultural production. However, as public water mains continue to be extended, these areas probably will experience heightened development pressure due to their close proximity to very desirable neighborhoods and the availability of potable water. In the New Suffolk area, in general, there are few vacant infill lots left. However, existing homes, some seasonal, are being renovated and expanded to the maximum allowed lot coverage. The lack of public water probably has been the biggest deterrent to increased development pressure in New Suffolk. Now that public water is available, requests to subdivide lots and to build on undersized lots are likely to increase.

(iii) Underutilized sites

The Town of Southold has identified underutilized sites within Reach 8. One privately-owned parcel in particular, adjacent to Captain Marty’s (formerly known as the Marina Bay Club site), is considered underutilized and in need of revitalization. This 3.5-acre site once housed the Holland Torpedo Company, which designed and built some of the first submarines ever built in the United States. Previous redevelopment proposals have been dropped due to potential environmental problems and constraints on the site. Redevelopment action in this area should seek to maintain the marine-related character of the New Suffolk waterfront and the continuance of water-dependent uses, but at a scale appropriate to the community. Future development also should be consistent with the property’s Marine II zoning designation. Towards that end, the New Suffolk Civic Association has drawn up preliminary land use plans to be used as a guide for interested developers. The plans call for a mix of public and private uses, which would permit shorefront access but also help to maintain the tax base within the school district. The plan calls for rebuilding the post office and general store in their former locations near the intersection of New Suffolk Avenue and 1st Street. This Plan also suggests land uses that will not cause excessive amounts of automobile traffic or other adverse environmental impacts.

Total public or public-private acquisition of the 3.5-acre property are two options that could lead to the revitalization of this waterfront. A third option is for the Town to accept a donation of all or part of the site from the owner. In all cases, ownership of some or all of the property will facilitate obtaining Brownfields grants to pay for environmental clean up of the site prior to redevelopment.

(iv) Areas of Special Concern

The Town of Southold has identified several areas of special concern within Reach 8. These are geographic areas which may feature natural or cultural resources in need of protection or where key development (or redevelopment) strategies would revitalize the surrounding neighborhood. These are examined in more detail below and in *Sections III and IV*.

- *The Creeks*
The primary issues of concern here involve preservation of water quality (so as to maintain the shellfish resource), harbor management (so as to reduce boater conflicts within the creeks), the preservation of scenic resources (in the face of infill development and revitalization efforts) and the over-intensification of waterfront development. Each of these issues affects the creeks to varying degrees. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences, and the filtration of stormwater runoff.

- *The Significant Coastal Fish and Wildlife Habitat areas*
Due to the close proximity of residential development to these sensitive habitats, and the importance of these habitats to the health of the Peconic Estuary as well as to the resident flora and fauna, the Town must find ways to ensure that these habitats are not further impacted by human activity. Given the potential for increased septic flows as water front homes are built or expanded, the location of septic systems should be the focus of greater scrutiny. Finally, public education as to the negative impacts of the deposition of dog wastes on the beaches and road ends will assume greater importance as the year-round population increases. Finally, the preservation of contiguous blocks of habitat will become more critical as existing fringe habitat is lost to residential development.

- *Cutchogue Harbor*
Lack of a policy or regulations on bay moorings is of growing concern, particularly as marinas seek to expand their customer base by offering access to off site moorings. The potential issues facing the Town include complaints from waterfront owners on the bay about concentrations of moorings in front of their properties, the impact on the scenic vistas, traffic congestion within the Harbor and conflicts with baymen and commercial fishermen with traps or nets in the vicinity. Also of concern are the long-range impacts of unregulated moorings on the shellfishing resource.

- *Entrance to East and Mud Creeks*
The potential loss of public access and scenic vistas due to development of the beachfront is of ongoing concern to the immediate neighborhood, which has long fought the proposed development of the beach adjacent to Trustee-owned land.
- *New Suffolk waterfront*
The revitalization of this small and unique waterfront is of utmost concern to the residents for a number of reasons, ranging from improving the tax base to maintaining a cohesive sense of community. Until recently, the lack of public water posed a serious constraint to new or redevelopment along the waterfront. However, the extension of public water mains to New Suffolk has changed that equation. The high degree of environmental sensitivity, not to mention the unique historic character of the New Suffolk area, in general, highlights the need for careful and limited redevelopment.

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 8 that should be examined in the LWRP. These issues are examined below. Further detail about potential responses to these issues is provided in *Sections III, IV and V*, later in this document.

(i) Agricultural protection

The entire block of farmland within Reach 8 is crucial to the town and the agricultural industry. This Reach contains the greatest concentration of vineyards due to the particular confluence of soils, average days of sunlight, and air moisture. Loss of this land to continued residential infill will deal a serious blow to the Town's goal of maintaining a core block of land for agricultural purposes. The threat is greatest south of SR 25 due to the proximity of that farmland to desirable residential neighborhoods and the water. But the threat to the land to the north should not be discounted. The chipping away of smaller lots into minor subdivisions is taking place now and is of ongoing concern. The seriousness of the threat to this agricultural land is obvious from looking at the proposed acquisitions of such land in the northern part of Reach 8, as shown on the *Community Preservation Project Plan* map.

(ii) Harbor management issues

The Harbor Management issues in Reach 8 are two-fold. One is striking a balance between use of the creeks for boating and use for shellfishing. The extent of residential development along most of the shoreline within this Reach precludes simple solutions. It probably will be necessary to devise harbor management plans, particularly for the Broadwater/Haywater/Mud and East creek complex and the New Suffolk harbor area. The second issue is the need for policy and regulations on bay moorings. Given the lack of sufficient marina dockage to meet the demand from within this Reach, mooring conflicts will inevitably rise. The spillover into the bays outside existing marinas has begun to generate complaints and concerns about the environment, particularly where the boats are used as live-aboards or for over-night stays. A management plan for designating mooring fields may have to be considered, along with regulations to ensure that easy access to pumpout stations are provided.

(iii) Public access and recreation

The public access and recreation within this Reach is heavily used. Demand is expected to increase as infill development of the remaining subdivision lots continues. The ultimate demand for public access will depend, in the end, on the amount of agricultural land that is converted into residential use. The limited opportunities for increasing public access suggest that the Town move aggressively to pursue them.

(iv) Protection of habitats and wetlands

Reach 8 features important wetlands and habitats around the creeks and within Cutchogue Harbor. They include the designated SCFWHs at Little Creek and Beach, Cutchogue Harbor and Robins Island. Protection of these habitats in the face of continuing residential development will require the initiation of continuing public education programs about how to respect these habitats. The use of four-wheel drive vehicles on the beaches near nesting areas should be discouraged.

(v) Protection of water quality

The Town and the State need to coordinate efforts to filter stormwater runoff before it is discharged into creeks and coves. The Town has taken the lead in this area by successfully experimenting with reed beds of various designs and composition. The State has begun to follow suit, however, at a very slow pace. To date, their efforts have not led to any construction of stormwater retention facilities other than standard recharge basins alongside SR 25.

The detrimental impacts from poorly located or malfunctioning cesspools and leaching basins are of great concern within this Reach. Given the degree of development that has already occurred, the under-sized nature of many of these lots, and the potential for infill development, it is evident that the Town will have to develop watershed management plans for individual creeks, particularly the Broadwaters-East Creek complex, which has the most intensively developed shoreline within Reach 8. As summer cottages are expanded into larger, year-round homes, and septic systems are upgraded and enlarged, the placement of these systems must not further endanger the water quality of the creeks. However, if the Town is successful in preserving from development the remaining open space around the other creeks within the Reach, it will not be necessary to develop watershed management plans for those creeks.

(vi) Flooding and erosion

Flooding within Reach 8 is of major concern in a few key areas: Fisherman's Beach and in the eastern section of New Suffolk hamlet, along the New Suffolk Avenue shoreline and near the bridges. Although Fisherman's Beach road is privately owned and maintained at this time, as the seasonal dwellings are converted to year-round dwellings, the pressure to improve emergency services to this area will most likely increase. Within New Suffolk proper, the low shoreline elevation and that shoreline's vulnerability to storm-driven waves from the east can only be countered by either elevating all structures to 10 feet above sea level or retreating from the shoreline. The shallow lot depths on New Suffolk's eastern shore preclude the latter option. However, as structures are elevated to meet FEMA requirements, the Town will have to devote more resources and energies into devising safe emergency evacuation procedures and routes for the waterfront. The same holds true for

the shoreline south of New Suffolk Avenue. During storms, particularly those hitting the beach during high tides, floodwaters typically flow across the Avenue into the creeks, effectively cutting off use of this street. A Flood Hazard Mitigation Plan is needed.

Erosion is a problem along the Little Hog Neck shoreline, particularly the east side. The extensive bulkheading and groins that line this shoreline act to prevent the addition of sand to the shoreline drift. These defense structures may be aggravating the problem rather than mitigating it. Unfortunately, residential construction continues to take place at the bluff face, sometimes resulting in the destruction of stabilizing vegetation. Once these bluffs start eroding, it is difficult to reverse the process. Given the desirability of the Little Hog Neck (Nassau Point) for upscale residences, it is highly likely that this shoreline will continue to be re-bulkheaded and re-fortified as time goes on.

(vii) Protection of scenic resources

The scenic resources of Reach 8 are found along SR 25, CR 48, and the local, creek-side roads. Protection of those resources depends on preserving the agricultural land and the industry from further intrusions from residential development. Although some of the creek-side views that are visible from the roads are in public ownership, a great deal of it is not. The Community Preservation Project Plan denoted waterfront sites worthy of acquisition. Most of the sites are located in the western part of the Reach where the most undeveloped land is available. Finally, as mentioned earlier, most of the agricultural land in the northern part of Reach 8, alongside CR 48, is slated for preservation.

(viii) Protection of historic resources

The historic resources of Reach 8 are highly significant, reaching back to the earliest days of the native American community as well as the English settlers: Fort Corchaug and The Old House at the Village Green. Both of these places are included in the *National Historic Register of Places and Structures*. Extensive planning efforts are being made to improve access to the former site without destroying the value of the site for archeological purposes.

(ix) Transportation management

Traffic congestion within Reach 8 is of considerable concern. If residential development continues, it is likely that congestion problems will worsen. Presently, the State DOT is expanding the capacity of the SR 25 roadway by adding turning lanes, but without widening the existing travel lanes or shoulders. There was considerable concern within the business and residential community about these proposed (and future) road improvements. Design of road improvements can affect the sense of small-town character within a hamlet center for better or for worse.

REACH 9: DEEP HOLE CREEK TO LAUREL LANE, TOWN OF RIVERHEAD LINE

A. INVENTORY AND ANALYSIS

1. Location

The Reach 9 shoreline runs from the west side of Deep Hole Creek, at Marratooka Point, to the Laurel Lane road end at the Riverhead Town line. Its shoreline fronts on Great Peconic Bay. The western boundary of the Reach continues northward down the centerline of Laurel Lane to its intersection with SR 25, then continues in a straight line contiguous with the Southold-Riverhead Town Line to its intersection with Sound Avenue. Here the boundary turns eastward and runs along Sound Avenue to its intersection with CR 48. The northern boundary continues along CR 48 to its intersection with Elijah's Lane, where it turns to the south to the intersection of Elijah's and SR 25. The eastern boundary of Reach 9 turns east briefly to SR 25's intersection with Locust Avenue where it runs south again to New Suffolk Avenue, where the road name changes to Deep Hole Drive. The eastern boundary continues south to the imaginary terminus of Deep Hole Drive at the mouth of Deep Hole Creek.

Reach 9's northern boundary is bordered by Reach 1; its eastern boundary by Reach 8. The Reach contains three navigable creeks: Deep Hole, James and Brush's, and one un-navigable creek: Horton. The Reach also contains two large freshwater lakes: Marratooka and Laurel.

2. Land use and development

The land use pattern within Reach 9 is described below and illustrated on *Map II-5*. The Reach contains a wide range of residential, commercial, light industrial and agricultural uses, which are distributed throughout the Reach in a complex, but distinctive, pattern. In discussing this Reach, it is helpful to view it as having three parts: an eastern, a central and a western section. The eastern section is bounded on the west by Camp Mineola Road, and the Village Lane neighborhood, and it contains Deep Hole Creek and Marratooka Lake. The central section runs from these streets to Sigsbee Drive, Factory Avenue and Sound Avenue where it intersects with CR 48. The central section includes all of James Creek. The western section runs to the Riverhead Town Line and includes Laurel Lake and Horton and Brush's creeks.

The central section of Reach 9 is the most densely developed, followed by the eastern and the western sections. However, across the entire southern boundary of the Reach, the coastal shoreline is extensively developed with low to medium density residential development. There is little vacant or protected land here. The western section of the Reach as a whole is less developed than the other two, but the waterfront lot sizes in the western section tend to be smaller than those found in the eastern or central section. This is a reflection both of past zoning and the original seasonal nature of much of that development. The typical lot sizes along Great Peconic Bay range between half acre to about two acres. However, on the navigable creeks, the average lot size drops to between 10,000 square feet and 40,000 square feet. With the major exceptions of the east sides of Horton and Brush's creeks, the land around all the creeks of Reach 9 is extensively developed with residences.

Eastern section:

Here, the bulk of the residential dwellings are found to the south of SR 25, with only two exceptions; that of Elijah's Lane Estates and Village Lane, each of which runs north of SR 25 to the railroad track. These two subdivisions encompass about 45 and 31 building lots, respectively. These are probably the two most recent major subdivisions within this part of the Reach, and each of them is almost completely developed. The Elijah's Lane subdivision lots generally are an acre in size with a few exceptions. The Village Lane lots are closer to half an acre.

South of SR 25 are four distinct communities, two of which lie between SR 25 and New Suffolk Avenue and two of which lie south of the Avenue and adjacent to Deep Hole Creek. The Cardinal Drive/Eastward Court cluster lies midway between Locust Avenue and Marratooka Avenue. It includes about 65 lots, most of which are developed. The lots here range in size from 10,000 to 80,000 square feet. To the west, on either side of Marratooka Avenue, there are about 38 lots almost all of them developed. The lot sizes here range from less than half-acre to two acres. The larger lots are generally fronting on the lake.

South of New Suffolk Avenue and east of Deep Hole Creek lies the largest of the residential communities in this portion of the Reach. Referred to here as the Deep Hole Drive area, it contains about 150 lots that were subdivided at various times and most of which are developed. Lot sizes here generally are in the quarter- to half-acre range. The west side of the creek is bounded by a group of neighborhoods that are referred to here, collectively as Lupton Point. Approximately 75 lots are in this area. Lot sizes range widely from less than a quarter of an acre to more than two acres, and almost all are developed.

There are small, but significant blocks of farmland left within this portion of the Reach. One such block lies on the west side of Locust Lane between SR 25 and New Suffolk Avenue. The second block lies between the Cardinal Drive and Marratooka Avenue subdivisions on either side of New Suffolk Avenue. The third block lies on either side of the Mattituck Airbase runway. This land is used mostly for horse pasture and hay. North of SR 25, between the residential neighborhoods on Elijah's and Village lanes, lies the fourth and the largest block of agricultural land in the eastern section of this Reach.

There are only three legitimate commercial land uses within the eastern section of the Reach: the automotive wholesale business on the northwest corner of SR 25 and Elijah's Lane; the gasoline service station and convenience store on the south side of SR 25 between Marratooka Road and Sunset Lane; and the Mattituck Airbase on the south side of New Suffolk Avenue west of Marratooka Road. The former real estate office on the south side of SR 25, across from Village Lane, was a non-conforming use. Of these uses, the Airbase represents the most significant in terms of economic and physical impact on the community. Although small, with only one, short, north-south runway, the Airbase is one of the premier centers for rebuilding small-aircraft engines in the Northeast. In addition to hiring a skilled labor force, the base houses many small planes that are used by local pilots. Other than Elizabeth Field on Fishers Island (Reach 10) and Charlie Rose's grass airfield in Orient (Reach 4), Mattituck Airbase is the primary air access point to the North Fork. The next closest airfield is Gabreski Airport at Westhampton Beach to the southwest. Due to the presence of horse pasture and agricultural land on either side of the airbase property, the Airbase serves as a major buffer between the densely populated central portion of Reach 9 and the Deep Hole Drive residential community.

Central section:

The central section of Reach 9 is almost entirely developed. The development is a mix of residential, various institutional, utility, commercial and light industrial uses. There is no farmland left in this portion of the Reach. Much of the residential housing here represented the original hamlet of Mattituck. Some of the housing has been converted to business uses or a combination of residential and business uses. The housing located near the business center is almost all year-round residential, as opposed to the more seasonal nature of housing near the waterfront.

There are a number of institutions within the central portion of the Reach: several churches, cemeteries, the Matituck-Cutchogue public school complex, an American Legion, the library and the post office. The businesses found along Old Sound Avenue, Love Lane and SR 25 east of Love Lane originally represented the heart of the business district within Mattituck hamlet. In recent years however, the shopping center to the west has grown into a significant competitor. When it was built, the shopping center was a satellite business district outside of the main center of business. Today, although the business district's boundaries and primary activities have shifted in the direction of the shopping center, the Love Lane district is still vibrant. It contains several small retail and personal service shops, a health club or gym, a food market, several professional, financial and medical offices as well as the post office and two eating places. The railroad station is centrally located at the northern end of the district, where Love Lane intersects with Pike Street. The Mattituck Fire Department is based here on the southwest corner of Pike Street and Wickham Avenue.

To the immediate north and south of the railroad tracks are a number of buildings occupied by light industrial uses: a contractors' yard, a lumber yard, a flooring and carpeting business, a small manufacturing plant, a heating and air conditioning business, a book publishing company, a sanitary waste disposal company, etc. Contractors and custom workshops of tradesmen typically operate out of these buildings: some long-term, some not. It is not unusual to find small, older residences interspersed throughout this portion of the Reach. It is evident that the railroad was a significant transportation mode in its day (1840s onward), given the nature and types of businesses that grew up alongside or near the track. Its subsequent decline as a major freight and commuter route is reflected in the relative decline of new investment alongside the track within the past several decades.

To the east, towards Wickham Avenue, there is an equipment rental business, a church, the local library, several medical, professional and business offices, a liquor store, a florist/garden center and two restaurants. This portion of the business district is a mixed conglomerate of commercial, concrete-block structures and converted residences. The businesses in this portion of the Reach are scattered along SR 25, between Love Lane and the high school at its eastern border. Although the businesses technically are within walking distance of one another, most customers appear to drive from one to the other.

The westerly portion of the center of Reach 9 between New Suffolk Avenue and Sigsbee Avenue contains a large number of businesses also. The south side of SR 25 contains two strip small strip shopping centers containing a wide range of uses. Further west, there are many individual businesses. Some of the businesses are expanding, others are in transition. The uses include a bank branch office, a retail furniture store, a heating/air conditioning company, a fuel oil company, a delicatessen and restaurant, a strip center with financial, and insurance offices and a haircutting

salon. West of Marlene Drive lies a bowling alley, and a heating/air conditioning firm. The character of the south side of SR 25 between New Suffolk Avenue and Sigsbee resembles a typical strip development in that access to each business is possible only by car. There is little curbing and few sidewalks. The physical layout and the distance between businesses discourages pedestrian traffic. All of the developed properties are oriented towards SR 25, even though some of them have visual access to James Creek.

The north side of SR 25 from Legion Street west is almost entirely taken up by a large shopping mall that contains a wide range of retail businesses. These include: a major grocery store, a national chain drugstore, several affiliated clothing retailers, a movie house with ten screens, a liquor store, haircutting salon, two restaurants, a bagel place, several small service offices for small businesses and two bank branch offices along with ATM machines and drive-up teller windows. To the west of the mall property, by Factory Avenue, there is a gasoline self-service station.

The southern portion of the center is almost entirely residential in character except for Strong's Marina, near the mouth of James Creek. There is only one other known business: a seasonal motel consisting of a main house and a cluster of small buildings with efficiency units. Located on 1.8 acres on the west side of Bay Avenue several hundred feet north of Peconic Bay Boulevard, this motel is the only tourist accommodation available within Reach 9.

In sum, the central portion probably contains the greatest number of individual businesses within the Town. This business center ranks as the largest generator of revenue within the Town, even surpassing the Village of Greenport.

Western section:

The western part of Reach 9 contains the bulk of the farmland and open space of the entire Reach. Because of the large extent of land involved, the lands to the north and south of SR 25 are described as two separate subsections. To the south, almost the entire shorefront of the western section is developed. Peconic Bay Boulevard runs parallel to that shoreline from its terminus at Bay Avenue on the west side of James Creek to the Riverhead Town line. The road provides the principal access to the shorefront residences. There are only four public road ends within this stretch of shoreline. They are discussed in more detail in the next subsection. Other than the shoreline development, there are only three clusters of residential development, each one extending north from Peconic Bay Boulevard (towards the railroad track and SR 25) on local roads running inland from the shoreline. These are the residences to the west of Horton Creek, on either side of Bray Avenue; the Delmar Drive neighborhood; and the residences clustered between the west side of Brush's Creek and Laurel Avenue. The Bray Avenue neighborhood is the oldest of the three, and contains the smallest lots, typically between less than 10,000 square feet to about 40,000 square feet in area. The Delmar Drive subdivision is a typical suburban plat of the 1970s, consisting mostly of half-acre lots. Unfortunately, its construction split in two a large block of farmland stretching from Bray Avenue to Brush's Creek. The neighborhood around Brush's Creek, particularly on the west side, contains a broader range of lot sizes: from 10,000 square feet to 80,000 square feet.

There are four blocks of farmland/open space within this part of the western section. The first lies south of SR 25, between Sigsbee and Bray Avenues. This block consists of protected land around Horton Creek and about 50 acres on the east side of the creek, most of which is in old field

vegetation, but some of which is used for nursery stock. The second tract of open land lies between Bray Avenue and Delmar Drive. This tract currently is the largest block of contiguous farmland within Reach 9. It also happens to be one of the largest contiguous groupings of open land in one ownership within the Town. However, this property is being developed as a limited residential cluster of 29 homes surrounded by a standard 18-hole golf course, tennis courts and clubhouse. A small portion of this grouping of farmland lies between the railroad track and SR 25. Most of this land is used for the boarding and stabling of horses. The third block of open land is mostly farmed, and it lies west of Delmar Drive and east of Brush's Creek. However, north of the railroad track, the land is principally wooded. The fourth block of land also is farmed, although recently, greenhouses have been introduced to the landscape here. This land lies south of SR 25 and the railroad track, but north of Peconic Bay Boulevard, along the east side of Laurel Avenue on the Town line.

North of SR 25, there are only three noteworthy clusters of housing. The first runs along either side of the southern end of Aldrich Lane, near SR 25 and represents about 35 homes, only a third of which are less than 40,000 square feet in area. The second, and most recent, contains about 50 potential residences, some of which are under construction. This grouping occupies the entire southeast corner of Sound Avenue and Aldrich Lane. Most of the lots are about 40,000 square feet in area, and were created in accordance with the Town's subdivision cluster ordinance. The third and oldest cluster is around Laurel Lake. This is a small grouping of fewer than 25 lots, the greatest number located on the northeastern shoreline. Almost all the lots in this part of the Reach range in the half- to one- acre size.

The predominant land use in the northern part of the western section of Reach 9 is agriculture. What is not developed or farmed is in woodland. A major part of this woodland surrounds Laurel Lake, a large kettlehole dating back to glacial times.

There is a limited amount of commercial development within the western part of the Reach and it is found in three separate clusters. The larger one is located to the north and south of SR 25, west of Sigsbee and Factory avenues and continuing westward to where the LIRR railroad bridge crosses over SR 25. This cluster represents the western extension of the Mattituck hamlet business corridor in the center of the Reach. Starting from the east, the south side of SR 25 contains a wide range of businesses including a small engine repair business specializing in marine engines, a restaurant, a water filtration company, insurance offices, a fast-food outlet, a gas station and a real estate agency.

The north side of SR 25 contains a wide range of business uses including (from east to west) an ice cream shop, a repair garage a used boat lot, a few residences, a former shopping mall converted into a bank's backroom headquarters and more residences. Further to the west are professional and publishing offices, a used car lot, medical offices, a business office, an auto body shop, a furniture stripper, well-drilling business, retail bicycle shop, a contractors' yard, a landscaping and tree-trimming business, a shipping concern, a car wash, and a former residence used for medical offices.

The second, much smaller cluster of commercial land uses is found north of SR 25 (on a spur named Franklinville Road, which was part of the original roadbed of The Kings Highway) and west of Aldrich Lane. This small retail center probably was the original business center of the

hamlet of Laurel, which was effectively split in two when the Town of Riverhead broke away from the Town of Southold in 1792. Franklinville Road contains a saddle shop, a sizeable veterinary clinic and animal hospital, a popular steak house, a real estate office and a dog grooming shop. On Aldrich Lane, just north of its intersection with Franklinville Road, lies a 2-acre cemetery.

The third cluster of commercial land uses is very small, but highly visible. Located at the intersections of Sound Avenue, CR 48 and Cox Neck Lane, this grouping contains a mix of light industrial, retail, medical offices and a restaurant: all scattered around the intersections. The light industrial group (cesspool excavation, construction and fencing businesses) is on the south side Sound Avenue, west of Cox Neck Lane. The retail stores and medical offices are located in a strip building on the northeast corner of CR 48 and Cox Neck Lane. The restaurant lies between (and to the south of) CR 48 and Old Sound Avenue, east of Cox Neck Lane.

Two marinas are located in the western part of the Reach, both on Brush's Creek. One is a private, homeowner's marina. The other offers docking to boats under 25 feet in length. Both are discussed in the examination of existing waterfront access and recreation sites in *Section 3. Existing water-dependent/water-enhanced uses and water uses*, below.

Concluding notes on land use

Overall, there is not much vacant or underutilized land within Reach 9. Most of the undeveloped and unprotected land in this Reach is in use for agricultural purposes. There are 1,073 acres in agricultural production throughout Reach 9. Only 100 acres, 9%, is protected from development. In recent years, more farmland has been lying fallow, and there is significant pressure to convert this farmland to residential or commercial purposes. This is discussed again, later, in *Section B*. Finally, within the central and western sections of the Reach, there are vacant or under-developed properties within the business-zoned districts. These sites are discussed in *Subsection 5. Existing zoning*, below.

There are several lots in the central portion of the Reach that have the potential to be developed or redeveloped. The mix of homes with businesses presents a challenge: to integrate new or expanded businesses without destroying the residential value of the surrounding homes. The character of this part of Mattituck has been shaped by this juxtaposition, so eliminating residential dwellings is not an optimal solution. Enhancement of the streetscape through the addition of landscaping, street trees, defined curb-cuts and complimentary architectural detailing would help maintain the small town feel of the business districts. Redevelopment of business properties and conversion of residences into businesses should be done in a way that encourages pedestrian access and provides for adequate off-road parking.

Redevelopment of some of the commercial properties along Old Sound Avenue just west of Pacific Street would benefit from careful site design to maximize usage of the lots as well as to protect the rural quality of the neighborhood. Many of the properties in the strip business zone on the south side of SR 25 between New Suffolk Avenue and Sigsbee Drive contain significant redevelopment or expansion potential. These sites would benefit from traffic calming measures, more street trees and landscaping, defined curb-cuts, sidewalks and integrated architectural design.

It is somewhat puzzling that there is so little orientation towards or recognition of the waterfront that borders the Mattituck business district. The waterfront is not visible from any portion of the

main roads except from CR 48 at the head of Mattituck Creek. Although the heads of Mattituck and James creeks lie within 3,000 feet of one another, and they form the north and south boundaries of Mattituck's business district, their close proximity is not visually evident. For one thing, the development pattern has effectively blocked much of the waterfront views from public thoroughfares.

3. Existing water-dependent/water-enhanced uses and water uses

The water-dependent uses in Reach 9 include three commercial marinas and two public waterfront parks. Two of the marinas are located on James Creek, the other on Brush's Creek. Both of the waterfront parks are located on Great Peconic Bay.

There also are a number of water dependent parks located on the freshwater lakes of Marratooka and Laurel. These are described in *Subsection 6. Inland recreation facilities*, below.

Despite the intensity of commercial development within striking distance of the water, particularly in the business district of Mattituck, there are no commercial water-enhanced uses in this Reach. There is one water-enhanced park that offers a view of James Creek from the tennis courts and the baseball field.

(i) Recreational boating

There are three commercial marinas in Reach 9. Together, these marinas provide approximately 145 in-water slips and at least 60 dry rack units. A discussion of each marina is provided below. A discussion of the problems related to Bay moorings can be found in *Section II.D. Public Access and Recreation*.

- *Strongs Marina*
Located off the James Creek channel, Strongs is the largest and only full-service marina in this Reach. In addition to having 90 in-water slips, a dry rack capacity of 60, and a ramp, Strongs provides a variety of boating amenities, and the full range of services as with full repair services, fueling, and a pumpout facility. Winter storage is available in-water (a bubble system), on upland, and in dry racks. In addition, upland recreational amenities are available.
- *Village Marine*
Further north up James Creek is Village Marine. With 25 slips, Village Marine is a small marina providing a fairly broad spectrum of amenities such as a ship's store, repair services, fueling, and limited upland winter storage. Although no pumpout services are available, customers can use the restrooms in the main building.
- *Brush's Creek Marina*
This marina is not advertised or operated as such. Located on Brush's Creek just below the bridge, it provides dockage for about 25-30 small craft. No amenities or services are available other than water and electricity.

There is only one known private marina located within Reach 9, and it is located near the mouth of Brush's Creek. Creekfront waterfront property owners probably rent some of their excess dock space. The Mattituck Yacht Club, located on the western border of the Mattituck Park District ball

field and beach on the west side of Horton Creek, provides waterfront access to its membership. Most of the boats here are small sailboats that are stored on the beach.

There are a total of 25 creek moorings located in Reach 9. About 17 of these are located in James Creek, with 6 in Deep Hole Creek, and 2 in Brush's Creek. James Creek can handle boats around 25 feet in length and is considered to be near full-capacity. Much of James Creek is bulkheaded and private docks compete with moorings for space in the somewhat limited space within the creek. The moored boats in Deep Hole Creek tend to be smaller, in the 15-20 feet range. The Trustee's records seem to indicate a drop in the number of moorings since 1991.

Bay moorings number about 40 in this Reach and are concentrated off Deep Hole Creek and James Creek.

Boat moorings regulated by the Town

<i>Location</i>	<i># Moorings-1991</i>	<i># Moorings-1999</i>
Deep Hole Creek	13	6
James Creek	30	17
Brush's Creek	2	2

Town of Southold, January 1991, 1999.

Although there are four public road ends within Reach 9 that front on the shoreline, there are no public boat launching ramps at any of them. This situation is due primarily to the shoreline configuration, which is not conducive to ramp construction. However, Strongs Marina allows use of their boat launching ramp by the public for a \$10 fee.

(ii) Commercial fishing

There are no known commercial fishing operations within this Reach, although baymen have been known to fish for eels during the winter when the creek freezes over.

(iii) Commercial and recreational shellfishing

The shellfish beds within this Reach are not particularly productive. Fair to good shellfish beds exist in Deep Hole Creek. However, this creek is closed between May 1st and November 30th because of poor water quality. James Creek also is closed during the same time period due to a number of factors, which include the large volume of direct stormwater discharge from SR 25 at the very head of the creek, groundwater pollution from the cesspools and lawns of the many undersized lots that fringe its shore, and the presence of a two marinas, one at the head and the other at its mouth. Horton Creek does not provide the proper ecological conditions for shellfish, primarily due to in-sufficient tidal flow and low salinity. The creek mouth is practically silted closed, thus the water flow is mostly outward to the Bay, except during very high or storm driven tides. Brush's Creek also does not have ideal conditions for shellfish at its upper reaches and is closed year round. The creek's lack of productivity probably is attributable to the extensive bulkheading at its mouth, the high number of cesspools on undersized lots near the shoreline, the narrow configuration of the creek and the limited tidal flow (hence low salinity) particularly near its head.

In the shallow waters of Great Peconic Bay, clams are harvested year-round.

(iv) Aquaculture

There are no known aquaculture operations taking place within Reach 9.

(v) Navigation and dredging

The entire shoreline of Reach 9 fronts on Great Peconic Bay. The greatest depth in this part of the Bay is just under 25 feet with the norm being in the mid-teens. The overall depth decreases as one moves further west. Close to the shoreline, however, the depth is very shallow, ranging from 1 to 5 feet on the average. Mean tidal range is 2.5 feet.

Navigation within Reach 9's open waters is relatively obstacle free and the lack of federal navigation markers bears this out. There are no underwater hazards, but it is advisable to stay seaward of an imaginary line drawn between Marratooka and Brush's points if underway in a boat with significant draft. The shallowness of the Bay near the shoreline of Reach 6 means that regular dredging of the channel entrances to Deep Hole, James and Brush's creeks is necessary; otherwise these creeks would be closed to all but small boats with very shallow drafts. The channel markers to each of these creeks are privately placed and maintained. The Suffolk County Department of Public Works dredges all the aforementioned navigation channels to a depth of 6 feet on an as-needed basis after consultation with the Town. Details of the dredging of these channel projects are summarized on the next page.

Navigation within Deep Hole and James creeks is fairly straightforward, there being sufficient depth to take boats up to the creek heads within marked channels. However, Brush's creek is spanned by Peconic Bay Boulevard at a point less than 1,000 feet north of Peconic Bay. The bridge and culvert were replaced by the Town in 1996. Prior to that time, small, shallow motorboats under 20 feet in length could pass through the culvert except during extreme high and low tides. In 1999, the U.S. Coast Guard responded to complaints from local boaters and determined that the new bridge does not permit the same degree of passage due to differences in design and construction. The Town has been ordered to rebuild the bridge and culvert to the previous specifications. Presently the Town has begun work on the new bridge.

Dredging Projects within Reach 9

Creek	Date	Cubic Yards	Method of disposal
Deep Hole Creek	1964/5	243,500	Beach nourishment on both sides of inlet
	1972	21,100	
	1975	4,000	
	1976	14,000	
	1980	5,000	
	1980	10,000	
	1982	8,800	
	1983	6,300	
	1987	7,680	
	1991	4,600	
	1993	10,600	
	1999	2,200	
	Total	337,780	
James Creek	1964/5	272,500	Beach nourishment on both sides of inlet, formerly upland disposal.
	1979	3,000	
	1980	6,700	
	1983	9,400	
	1985	5,250	
	1986	1,570	
	1993	1,370	
	1999	1,600	
	Total	301,390	
Brush's Creek	1966	86,400	Beach nourishment on both sides of inlet
	1975	7,500	
	1979	5,000	
	1980	1,900	
	1981	5,800	
	1983	1,500	
	1984	4,800	
	1985	6,750	
	1986	3,000	
	1991	3,000	
	1992	1,530	
	1993	6,500	
	2000	1,000	
Total	134,680		

Source: AKRF, 1995, PII-26

4. Existing Zoning

Reach 9 contains the whole range of zoning districts permitted within the Town. As with the earlier discussion on land use, it is convenient to describe existing zoning by sections.

Eastern section:

The eastern section of Reach 9, which extends as far west as Camp Mineola Lane and Village Lane, is zoned primarily for residential use (see *Map II-6*). Most of the existing residential neighborhoods are zoned R-40, reflecting their creation prior to 1986 when the Town adopted two-acre zoning. The bulk of the undeveloped land in this section of the Reach is zoned either R-80 or A-C. The R-80 district is located on the west side of the Village Lane subdivision, and on the farmland located between Marratooka Avenue and Cardinal Drive, the farmland on the southeast corner of New Suffolk Avenue and Marratooka Avenue and on either side of the Mattituck Airbase runway, as well as the runway property itself. The bulk of the airbase's operations to the north are located on land zoned for Light Industrial (LI) use. The Town Board is considering a petition from the property owner to change the vacant road frontage of this parcel to R-80.

The northern part of the eastern section (north of SR 25) is primarily zoned Agricultural-Conservation, except for the Village Lane subdivision, the adjoining lot on the west side of Mill Road and Section I of Elijah's Lane Estates, all of which are zoned R-40. Sections II and III of the Elijah's Lane subdivision are located on A-C zoned land, of which Section III is clustered. Other than the Airbase property, the only other commercially-zoned properties are defined as Limited Business, LB. These lots are located in two separate places. One is on the northwest corner of SR 25 and Elijah's Lane. There are two lots here. The corner lot contains a one-story industrial building in use as a wholesale automotive parts operation. The second lot contains a telecommunications tower and a wooden barn used for storage. The third LB property is located on the southwest corner of SR 25 and Marratooka Avenue. This site contains a gasoline station with a convenience store, a use that is permitted in this district by Special Exception only.

Central section:

The central section of Reach 9 contains mostly residential and business zoning, followed by some industrial and marine zoning. Overall, within this part of the Reach, most of the bayfront and James Creek-front is zoned R-40, with just a small amount of R-80 zoning. Typically, as elsewhere in the Town, many of the lots in the R-40 district are non-conforming. The two marinas are zoned M-I, the less intensive of the two marine districts.

On either side of SR 25, and to the north along the south side of CR 48, the zoning pattern reflects Mattituck's growth as a village and, to some extent, the Town's goal of maintaining that character. At the eastern border of the central section, the zoning on either side of the state road is R-40 and R-80 with the exception of the LB property at the corner (the gasoline station noted earlier). Most of the lot uses here conform to the zoning.

A short transition zone of R-40 and Residential Office (RO) begins immediately after the public school complex before giving way to a substantial Hamlet Business (HB) district. The HB district essentially runs from the south side of SR 25 (to as far west as New Suffolk Road) then northward to the LIRR tracks, and eastward to Old Sound Avenue. There are many residential homes lying within the RO and HB districts, particularly between SR 25 and the LIRR track. The largest developed parcel of property in this part of the Reach is the former Reeve Lumberyard. Consisting

of two acres of land with several lumber storage structures, the site's location on the south side of SR 25 just east of its intersection with Wickham Avenue is of some concern. Potential redevelopment of site is discussed in more detail, later, in *Subsection B. 1.(ii) Areas subject to development pressure*.

At the intersection of Love Lane, SR 25 and Old Sound Avenue, SR 25 bends to the southwest and here the relative symmetry of the zoning is disrupted. The northerly side of the road is zoned RO for several hundred feet, almost to the corner of Legion Avenue. Most of these lots are developed with older residential homes on non-conforming lots. Some of these homes have been converted to offices.

The southerly side of the road, by contrast, is zoned general Business, (B). This district more or less parallels the RO district opposite it. It is shallow, only 200 feet deep, and is only partially developed. There are some underutilized sites within this stretch, which will be discussed later. Further west, near Bay Avenue, the zoning briefly shifts to R-40 (a cemetery), then to B. The B zone runs to the west of Factory Avenue and Sigsbee Drive. Its depth is just 200 feet on the south side of SR 25. To the north, the zone runs the depth of the properties to the LIRR right-of-way. Some of the lots are non-conforming, but most of them appear to be developed (use-wise) as conforming business properties.

The northern end of the central section, on either side of the LIRR track and between the track and CR 48, contains a curious mix of R-40, RO, HB and LI (Light Industrial) zoning. The patchwork quilt pattern in this area reflects an attempt to categorize pre-existing development, which strongly resembles that of traditional small towns in America. The properties are small, but appropriately developed. There is little, if any, vacant or underutilized land here. Small, but well-kept and established residential neighborhoods are interspersed with the businesses. The main business street within this area is Love Lane.

The southerly part of the central section basically frames James Creek. The zoning is entirely residential, R-40, with the sole exception of the M-I zoning where Strongs Marina is located. There is only one non-conforming commercial use here; that of the Mattituck Motel. A seasonal motel consisting of a main house and a cluster of small buildings with efficiency units, it is located on 1.8 acres on the west side of Bay Avenue several hundred feet north of Peconic Bay Boulevard. This facility is the only tourist accommodation available within Reach 9. There are no known Bed & Breakfasts or other such facilities.

Western section

The western section of the Reach is predominantly characterized by agricultural, open space or residential land uses. From the shoreline landward, for the entire length of Peconic Bay Boulevard, the primary land use is residential, except for the Mattituck Park District and the Husing properties to the east and south of Horton Creek. These two properties are adjacent to one another and are zoned R-80. Together, they form a sizeable block of open space between the two densely developed neighborhoods of Sigsbee Road and Bray Avenue. Further west, there are a number of public and private roads running north from Peconic Bay Boulevard. As seen on the map, the entire bayfront and most of the residential neighborhoods are zoned R-40. Only two of the newer subdivisions are zoned R-80. The majority of the lots in this area are equal to or less than 40,000 square feet.

Behind the shoreline development and up to SR 25, the predominant land use is agriculture. All of this land is zoned A-C. North of SR 25, adjacent to the central business district, there is a large block of B, General Business, zoning which runs from Old SR 25 northward to the LIRR railroad track. A considerable amount of this land is undeveloped. The developed properties are conforming for the most part. While a number of the lots are undersized, most of the uses within this section are in conformance with the business zoning. The majority of the lots are developed, although a few of them could accommodate significant expansions.

North of SR 25, along Factory Avenue, there is a small R-40 district, which contain residences and a church. The R-40 district continues north of the LIRR track up to CR 48, reflecting the pre-existing residential development on the outskirts of the original business center. However, behind the residences and moving westward, the zoning changes to LIO (Light Industrial Office) and LB (Light Business). This is a large block of land, most of which is undeveloped. Until recently, the bulk of the LIO and LB zoned property was farmed. Development of these properties in conformance with their zoning would have major impacts on the intersection (of CR 48, Cox's Neck Road and Old Sound Avenue) as well as the character of the neighborhood.

West of this area, the remainder of the Reach is split zoned. The eastern half is zoned R-80, the western mostly A-C. Only the strip of residential development on the west side of Aldrich Lane north of Franklinville Road is zoned R-80. Franklinville Road itself contains a small amount of Hamlet Business zoning, all of it west of its intersection with Aldrich Lane.

Despite the high population density within Reach 9, there are only 6.3 acres of marine business zoning, all of it Marine I. Reach 9 probably has the least amount of marine business zoning relative to the population density. The large number of private waterfront lots, hence private dockage, only partially offsets the demand for boating access.

5. Existing waterfront access and recreation sites

Although it contains little in the way of marine zoning, Reach 9 actually contains a considerable amount of publicly accessible waterfront. However, much of this access is limited to residents of the Mattituck Park District. There are three Mattituck Park District facilities, which are described in detail below. There are no public boat launching sites, although one commercial marina on James Creek will permit self-launchers to use their ramp for a fee. The location of the public access and recreational sites within Reach 9 are indicated on [Map II-11](#), and the facilities available at these sites are discussed below.

Town Of Southold

- *Marratooka Road end.*
This road runs along the east border of the Mattituck Airport and runs west of Deep Hole Creek. There are no facilities available at this site.
- *Bay Avenue road end*
This road runs along the east border of the parking lot of Veteran's Park, which is described below. A chain-link fence and narrow vegetated border separates the road from the parking field. A guard rail blocks entry to the beach except for pedestrians. The beach

is sandy, but at the water's edge it is more pebbly and sand-starved due to the length of the groin on the edge of the Mattituck Park District property to the west.

- *Sigsbee Road end*
This road end runs along the eastern border of the property owned by the Sigsbee Road Private Beach Association. A guard rail permits pedestrian access to a sandy beach, which is pebbly and sand-starved at the water's edge due to an extended groin on the edge of the Sigsbee Road Private Beach property to the west.
- *Laurel Lane road end*
Jurisdiction over this road end is split between the Towns of Southold and Riverhead. The road end has been bulkheaded with concrete to a point near the high water mark. A metal stair permits access to the beach at low tide.

Mattituck Park District*

- *Bay Avenue Park, Bay Avenue, Mattituck*
This 4-acre Mattituck Park District site is located on the west side of James Creek. It contains a little league baseball field and two tennis courts. It can handle parking for approximately 20 cars on the grass strip between Bay Avenue and the field. There is a small wetland on the site, which fringes a natural upland drainage swale that extends under the road to the west.
- *Veterans Park, Bay Avenue, Mattituck*
This 5-acre Mattituck Park District facility is located at the terminus of Bay Avenue, fronting on Peconic Bay. From the beach there is an expansive view of Robins Island and Southampton. The sandy beach is over 500 feet long. Behind it lie an extensive grassed picnic and playground area, shuffle board and bocci courts and a playing field. There are a number of wooden buildings on the site, which include a pavilion for restrooms, a lifeguard station, a workshop and equipment storage. The parking area can handle approximately 60 cars. The parking area does double duty as a fire ladder competition and training site.
- *Mattituck Park District Beach*
This 4.8-acre site is located on the south side of Peconic Bay Boulevard to the west of the narrow drain from Horton Creek to Peconic Bay. The beach is nearly 500 feet long, and supports facilities consist of a lifeguard equipment shed and a parking area for about 50 cars. Between the parking lot and the street there is regulation softball field with fencing, portable metal bleachers, an equipment shed, portable toilet and night lights. The field is maintained jointly by the Park District and the softball leagues that contract with the District to use it.

**For an in-depth discussion of the territorial jurisdictions and operations of park districts within the Township, the reader is referred to Section II.D. Public Access and Recreation.*

Private

- *Mattituck Yacht Club*
This .25-acre site contains a rudimentary wooden building housing the club's sailing-related equipment. Used principally during the summer months by club members, the

structure can be reached from the adjoining Mattituck Park District Beach property near Horton Creek, which was described earlier. Access to this site is restricted to club members.

Most of James and Brush's creeks are part of the *Andros Patent*. Although the underwater lands of all the creeks within Reach 9 are under the jurisdiction of the Town Trustees, not all the creek bottoms are owned by the Town. Parts of James and Brush's creeks are in private ownership, particularly near the head. Most of Horton's Creek is owned by The Nature Conservancy, with small portions in private hands. The underwater lands of Marratooka Lake and Laurel Lake are also owned by the Town Trustees. Within Great Peconic Bay, the majority of underwater land is held by the State of New York. However, midway between the shoreline and the Town line, there are sizeable chunks of land in County and private ownership running in an unbroken band from the Riverhead Town line to Robins Island and eastward.

6. Inland recreation facilities

There are several inland recreation facilities within Reach 9. These are described from east to west.

The Mattituck school complex on the north side of SR 25 comprises 11.4 acres. Located in the central portion of Reach 9, the school grounds contain three baseball fields, soccer fields, an outdoor track, several tennis courts, a couple of outdoor basketball half-courts, a playground and a gymnasium, all of which are used extensively by the community after school hours.

There is a privately owned bowling alley, Mattituck Lanes, on SR 25. The .85 acre site contains a 16 lane bowling alley. The only such facility in the Town, it is used for league play throughout the week. In the fall of 2004 this facility was closed. It is slated for re-use as a large pharmacy (CVS).

Reach 9 also contains several unique lakeside facilities. These facilities are described below.

Marratooka Lake:

The facilities below are described starting from the southern-most point of the lake and moving clock-wise around it.

- ***Town of Southold***

Marratooka Lake Park South, New Suffolk Avenue, Mattituck

This 1.9-acre Town-owned property is located on the south side of Marratooka Lake. A long, narrow lot with nearly 698 feet of lakefront, it is primarily utilized for passive recreational activities such as picnics, bird watching, etc. This bucolic setting also is a popular spot for wedding photo shoots.

- ***Mattituck Park District***

Marratooka Lake Park, Main Road, Mattituck

This 4-acre site is located on the north side of Marratooka Lake, diagonally across the lake from Norris Park. Accessed from SR 25 a few hundred feet east of Reeve Avenue, this park provides 900 feet of lake front access, and is a popular spot for winter ice skating.

- ***Mattituck School District***
This site adjoins the east border of the Park District property described above. Encompassing 5 acres of upland and wetland, the property has nearly 180 feet of lake front. The land is not used by the school for more than school-related projects. The property is mowed, except for the wetland cattail fringe, and since it drops off sharply from SR 25, it offers passing motorists a brief glimpse of the lake.
- ***Town of Southold***
Marratooka Lake Park North, SR 25, Mattituck
This 10.7-acre park was given to the Town in 1999 by The Nature Conservancy. The site is adjacent to the school district property described above and lies directly opposite the other Town park on the south side of the lake. It offers more dramatic terrain than the other three parks: densely wooded headlands, which drop precipitously towards the lakeshore. The Town is developing plans for passive recreational and educational uses of the site, which boasts an extensive shorefront of 900 feet.

Laurel Lake:

The facilities below are described starting from the southern most point of the lake and moving clock-wise around it.

Town of Southold

- ***Laurel Park Ballfields, SR 25, Laurel***
This 11.4-acre park is located on the southerly side of the lake. It contains two regulation Little League baseball fields along with fencing, benches, viewing stands, and scoreboard. There is a portable restroom available, an equipment storage shed and a public telephone. To the side are picnic tables and a small playground. There is no defined parking area, but the grassy site can handle about 40 cars.

The northernmost end of this property borders Laurel Lake for a distance of 395 feet; however, the terrain here is such that public access to the lake has not been developed. Nor are there any plans to do so. The southernmost end of this property (between the ballfield and SR 25) is used for a small visitor information booth, known as the Laurel Park Information Center, which is run by the Town and the North Fork Promotion Council.

State of New York, Department of Environmental Conservation

- ***Laurel Lake Fishing Access, SR 25, Laurel***
This 12.7-acre site lies adjacent to the west side of the Laurel Park Ballfields. The asphalt access to this property from SR 25 runs alongside the ballfields. State permits are required to fish from here. The site offers 278 feet of shoreline on the lake. Approximately 20 cars can park in the dirt clearing at the edge of the woods. There are no other facilities on this property. A NYS Freshwater Fishing license is needed to fish here.

Mattituck School District

- *Laurel Elementary School, SR 25, Laurel*
Located on the northeast corner of Franklinville Road and Aldrich Lane, this 8.6-acre site contains an outdoor playground for younger children directly behind the school building. To the rear of the site are soccer playing fields.

Mattituck Park District

- *Walter B. Sabat Baseball Facility, Laurel*
This facility is located on the east side of Aldrich Lane behind the former Laurel school. The site encompasses 6 acres of land. The two baseball fields here are also used as practice soccer fields. Although there is no formal parking area, there is sufficient space for about 75 cars. Night lighting, an equipment storage shed and a portable restroom are also on the site.

In the private sector, there is a bowling alley on the southwest corner of SR 25 and Marlene Lane across from the shopping center and a health club/exercise studio on Pike Street near Love Lane. Both sites are within the central section of the Reach.

7. New opportunities for public access and recreation provision

The Mattituck Park District has done a commendable job of acquiring and developing recreation facilities within Reach 9. As the population of Mattituck increased, so have the demands on these facilities. The Mattituck-Cutchogue school district is the largest within Southold Town, and Mattituck hamlet the most populated, exceeding even Greenport Village. It is anticipated that the continuing influx of new families will necessitate the acquisition of more land for recreational purposes, including access to the water. The intensity of existing development within Reach 9, particularly along the shoreline, makes this situation particularly challenging.

For starters, there are no public boat launching ramps within Reach 9 that permit access directly onto Great Peconic Bay. Access is only by way of a private boat ramp located at the mouth of James Creek, at Strongs marina. However, due to the close proximity of the Mattituck Park District beach at Veteran's Park, the Town could consider constructing a boat ramp at the end of Bay Avenue. This would provide at least one launching facility directly onto Great Peconic Bay. Another potential boat launching site could be the Sigsbee Road end. Again, given the close proximity of the Mattituck Park District beach at Horton Creek, and the private Sigsbee Road beach, both to the west of the road, a boat launching ramp would provide public access to the Bay.

Another option is the acquisition of all or part of the Husing property adjacent to the Park District property at Horton Creek. This property could provide much needed additional recreational open space and public beach access to the Bay. Finally, should the Norris Estate be put on the market, acquisition of all or part of this property should be given serious consideration. Currently, the Norris Estate has the largest remaining Bay frontage in the eastern part of Reach 9. There are no public beaches and limited public recreational facilities in the eastern section of this Reach, so any potential acquisition in this area should be pursued.

With careful redesign, the existing road end access at the foot of Laurel Lane on the border between Southold and Riverhead Towns could be better utilized by the public. Presently the beach is practically non-existent at high tide due to the fact that the concrete bulkhead juts out

beyond that of any of the adjoining properties. At some point in the future, instead of rebuilding the concrete bulkhead, it should be removed and the road end rebulkheaded in line with the adjoining lots. A deeper and more usable public beach should result.

8. Natural resources

(i) Wetlands

Reach 9 contains extensive wetland complexes, both salt and fresh. The saltwater or tidal wetlands are found in close association with the major tidal inlets and creeks: Deep Hole, James and Brush’s Creek. Because its outlet to Great Peconic Bay has become blocked at the mouth, Horton Creek’s wetlands are not greatly influenced by tidal action.

Marratooka Lake and Laurel Lake are among the largest freshwater bodies in Southold Town. Marratooka is of historic interest as one of the earliest common areas in New York State known to be set aside by settlers for the purpose of watering cattle and horses. The underwater lands of Marratooka Lake are owned by the Town Trustees.

Reach 9: Tidal wetlands

<i>Location</i>	<i>Acres</i>	<i>Dominant species</i>	<i>Tributary area</i>
Brush’s Creek	14	<i>Spartina alterniflora</i>	Great Peconic Bay
James Creek	12	<i>Spartina alterniflora</i>	Great Peconic Bay
Deep Hole Creek and unnamed Creek	27	<i>Spartina alterniflora</i> <i>Phragmites communis</i>	Great Peconic Bay

Source: *Unpublished Draft: Brown Tide Comprehensive Assessment and Management Program*, SCDHS; as edited by J. Bredemeyer, Trustee, Town of Southold, March 1993.

(ii) Significant Coastal Fish and Wildlife Habitats

Although there are significant local habitats, there are no New York State designated coastal fish and wildlife habitats within Reach 9.

(iii) Water quality

There are four state-designated surface water classifications in Reach 9. Great Peconic Bay, Deep Hole Creek, and the southern, tidal portion of James Creek are designated high quality SA waters. The northern portions of James Creek, the tidal portion of Brush’s Creek, and the tidal portion of Horton Creek are designated SC waters. The freshwater sections of Brush’s Creek, Horton Creek, James Creek are designated as C waters. However, the freshwaters of Laurel Lake and Marratooka Lake are designated as A waters.

Laurel and Marratooka Lakes, along with the tributary creeks to the Great Peconic Bay, are included on the NYSDEC *Priority Waterbodies List*. Marratooka has consistently appeared on the NYSDEC *Priority Water Problem List* as well. Laurel Lake first appeared on the *Priority Water Problem List* in 1993, and it is on the *1996 Priority Waterbodies List*. These listings indicate that the designated use of the waterbody for finfishing was being threatened by the declining water quality. Non-point source pollution, particularly from urban stormwater runoff, is thought to be the

principal cause in both lakes. However, the water quality problems in Marratooka have been identified as having a medium resolution potential, whereas the problems in Laurel have been identified as having a high resolution potential in the *1996 Priority Waterbodies List*.

The Great Peconic Bay first appeared on the *Priority Water Problem List* in 1993, and it is on the *1996 Priority Waterbodies List*. These listings indicate that the designated use of the waterbody, for shellfishing, was being impaired by the water quality of the Bay. The waters of Great Peconic Bay have been impacted by non-point source pollution, particularly from urban stormwater runoff. Other pollution sources are from direct discharge from road drainage pipes, residential on-site wastewater systems that are located close to the shoreline, boat pollution (bilge water, gray water and head discharges) and high concentrations of waterfowl. Water quality problems in the Great Peconic Bay have been identified as having a high resolution potential in the *1996 Priority Waterbodies List*.

According to the SCDHS' unpublished *Draft Brown Tide Study*, the waters of Great Peconic Bay characteristically exhibit good water quality in comparison with coastal waters located further west in Flanders Bay. This is due to a relative decrease in contaminant loading, increased tidal exchange with Gardiner's Bay and the geometric and bathymetric characteristics particular to Great Peconic Bay. Similar to Little Peconic Bay, the waters of Great Peconic Bay are generally well mixed except for an area located immediately west of Conscience Point in Southampton, according to a study conducted by the Marine Sciences Research Center at Stony Brook (Siddal, et al., 1986). Coliform bacteria levels in the coastal waters of Great Peconic Bay are usually within New York State's standards for shellfish harvesting. Non-point source inputs, including stormwater runoff, on-lot subsurface sewage disposal, and boat wastes are identified by the SCDHS unpublished *Draft Brown Tide Study* as the primary sources of pollution in Great Peconic Bay.

There are seven major tributaries of the Great Peconic Bay which, if polluted, may adversely impact the water quality in the coastal portion of the bay. These include West Creek, Downs Creek, Halls Creek, Deep Hole Creek, James Creek, Horton Creek, and Brush's Creek. The first three are located within Reach 8, the last four within Reach 9.

Deep Hole Creek's shoreline is extensively developed with many lots in the half-acre range. This creek also is impacted by the direct discharge of stormwater runoff from surrounding roads. No fewer than ten road drainage outfall pipes discharge directly into the creek. (The breakdown is as follows: a 3-inch, a 4-inch, five 12-inch, and three 18-inch road drainage outfall pipes.) As a result, Deep Hole Creek is open only seasonally for shellfish harvesting, from December 1 through April 30.

The waters of James Creek also are seasonally uncertified for shellfish harvesting between May 1 through November 30. Pollution sources to this creek include a 36-inch drainage pipe from SR 25 and the two marinas: one located at the entrance, the other at the head. James Creek also is impacted by the fact that most of its shoreline is developed with undersized lots in the 10,000 to 40,000 square foot range. The large number of developed lots and their shallowness means there are many on-site septic systems near the shoreline. The residential subdivisions on the east bank of the creek experience tidal flooding during storms, and the low-lying nature of the area contributes stormwater runoff from the local roads as well.

Due to poor water quality resulting from non-point source pollution, Brush's Creek is altogether uncertified for shellfish harvesting. The homes bordering the west shoreline of Brush's Creek typically are on lots of less than 40,000 square feet in area and lie within 200 feet of mean high water. All are serviced by on-lot subsurface septic disposal systems located between the house and the creek waters (Laporta, NYSDEC, January 23, 1991). Further, a 12-inch stormwater drainage pipe discharges into the creek from Peconic Bay Boulevard.

Reach 9: Shellfish Harvesting - Water Body Classifications:

<i>Water body</i>	<i>Classification</i>	<i>Remarks</i>
Great Peconic Bay	Certified	
Deep Hole Creek	Seasonally certified	Open during 12/1-4/30
James Creek	Seasonally certified	Open during 12/1-4/30
Brush's Creek	Uncertified	

- Source:
1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, New York, excerpted from Part 4, Title 6, NYCRR.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.

Horton Creek is not well flushed by tidal action due to the fact that its entrance is almost entirely closed off. A culvert under Peconic Bay Boulevard allows water to drain out or to flow in, but in severely limited volumes. Horton Creek has little residential development along its shoreline, but the severely limited flushing action combined with the 24-inch stormwater outfall pipe draining Peconic Bay Boulevard has resulted in a less than ideal environment for shellfish habitat. As a result, there is no current shellfishing in Horton Creek.

9. Historic resources

(i) State and National Registers of Historic Places

There is one property in Reach 9 that is listed in the *State and National Registers of Historic Places*.

- *Andrew Gildersleeve Octagonal Building, Mattituck*

The Andrew Gildersleeve Octagonal House was listed on the *National Register of Historic Places* in August 1976. The following summary of its importance is extracted from the nomination form (OPRHP, 1976). The House is located at the center of the hamlet of Mattituck.

It was built as a combination dwelling and attached store in 1854 and is currently surrounded by Mattituck's modern hamlet business district of small shops. The main portion of the Gildersleeve building is a classic mid-nineteenth century octagonal structure flanked by two frame wings. The structure was enlarged in 1891, and again in 1910. The building was unoccupied from 1937 until the early 1970s, during which time the structure suffered from neglect. During the late 1990s the building was renovated and it has since hosted a range of retail and office uses.

The Gildersleeve Octagon Building is a significant historic and architectural landmark on eastern Long Island. It played an important role in the economic and social life of Mattituck, functioning in

the past as a store, post office, boarding house and residence. As the least altered octagonal structure surviving on Long Island, the building epitomizes the design concepts made popular by Orson Squire Fowler in the decade preceding the Civil War.

(ii) Local Historic Resources

Reach 9 contains a wealth of locally significant historic resources. The SPLIA survey found 99 structures within this area, several of which dated back to pre-Revolutionary times. Four of them are Designated Town Landmarks. The majority of the structures date back to the 1800s, and they consist of residences and commercial buildings as well as churches, schools and cemeteries. Included in this list is the Wines/Ruland Farm, a bicentennial farm. Mattituck's business center outside of the shopping center still contains a surprising number of historic commercial and residential structures, some of which were adapted to serve modern uses. Prior to the building of the railroad (1846) and the cutting through of Love Lane (1853), Mattituck's business district seems to have been located along various points near the junction of Main Road and Sound Avenue. Long Island Landmarks, published in 1969 by the New York State office of Planning Coordination mentions the "distinctive rural mood of" of SR 25 in this area and describes it as "...lined with architecturally important buildings."

The small community of Laurel was once known as Franklinville when it was settled in the 1830s. It includes within its borders two of Ben Franklin's mile markers.

10. Archaeological resources

According to the New York State Office of Parks, Recreation and Historic Preservation, a portion of Reach 9 is archeologically sensitive, near the head of Mattituck Creek. Indian graves have been reported west of Brushes Creek.

11. Scenic resources

Much of Reach 9 is developed with low and medium density residential development. The predominantly wooded nature of this development, particularly along the western shoreline, and the intermingled agricultural uses has minimized the impact of these structures on the scenic quality of the Reach. The four creeks and the two lakes are considered to be important scenic components of Reach 9. However, the views of these creeks from public properties or roadways is sharply circumscribed by the lack of publicly-owned frontage, with one major exception: that of Marratooka Lake, which contains the greatest amount of public-owned open space around its shoreline.

Another major scenic component in views from the waterfront in this Reach is that of the Southampton shoreline and Robins Island: two land masses that frame the horizon on Great Peconic Bay. The two district parks and the three road ends located on the Bay each offer sweeping vistas of this scene. And, certainly, the waterfront homeowners in this Reach enjoy this view. However, as noted earlier, the limited amount of public access to the shoreline means there are few opportunities to view the shoreline. Visual accessibility from the public and private roads in Reach 9 is very poor given the extent to which these roads parallel the shoreline. A factor in this is the fact that there are only four public road ends in this entire stretch of shoreline.

SR 25 is an important scenic route through Reach 9, offering contrasting views of farmfields, woodland and hamlet centers with mixed residential and commercial land uses. As noted elsewhere, certain portions of Mattituck's strip commercial areas detract from the otherwise

attractive streetscape corridor. Peconic Bay Boulevard roughly parallels both SR 25 and the Great Peconic Bay shoreline. It is a densely developed corridor, but one which has retained a rural charm due to the retention of woodland by most of the property owners along the road.

To the north, Old Sound Avenue, which forms the boundary between Reaches 1 and 9, is the prototypical winding, two-lane country road fringed with farms, woods and country homes. This scenic character continues from the Riverhead Town line to its terminus with CR 48, where the road's character changes abruptly into a four-lane, divided modern highway with four-foot shoulders on either side of twelve-foot travel lanes. Nevertheless, in the eastern portion of Reach 9, the openness of the roadway lends itself to the sweeping vistas of gently undulating farmfields to the north and south of the road.

Two Seaview trails run through the eastern portion of Reach 9: the New Suffolk-Oregon Road Loop and the proposed off-road trail between Mattituck and Cutchogue. The first trail takes advantage of the winding, rolling terrain of New Suffolk Avenue as it passes residential neighborhoods, farms, Deep Hole Creek and Marratooka Lake. The latter trail would run along farm roads that parallel the LIRR track.

12. Protected resources

Protected lands within Reach 9 are listed below. A total of 80 parcels encompassing 647 acres of land are protected from development.

Protected Lands within Reach 9

Type of Ownership	Acreage	# of Parcels
Park District	26.78	8
Churches, Cemeteries	25.11	11
County Owned	168.32	14
Peconic Land Trust	0	
Subdivision Park	4.17	2
Schools	35.57	2
County Development Rights	20.9	1
State Owned	18.65	6
Subdivision Open Space	99.89	8
Town Development Rights	94.23	4
Nature Conservancy	21.65	1
Town Owned	32.05	18
Museums	0	
Village Owned	0	
Water Utilities	99.8	5
TOTALS	647.12	80

Source: Town of Southold Geographic Information System, August 2002

There is a considerable amount of protected open space located within Reach 9. A fourth of this land is in agricultural production, although a significant portion was preserved with the intent of protecting the groundwater aquifer. A lesser amount of the open space is devoted to protecting public access to either coastal or lake waters. While small, this portion of the open space inventory is well-used, well-chosen and well-utilized.

The distribution of the protected land within the Reach varies. The eastern part of the Reach contains only small pocket parks or drainage recharge basins within the residential subdivisions. The central section contains a limited amount of protected land, but most of it is strategically located around Marratooka Lake. The 16 acres of school property to the north of the Lake is considered protected, thus providing a vertical greenbelt from CR 48 south to the Bay over the Norris Estate, which is not protected from future development. Of the 1,074 acres of agricultural land in this portion of the Reach, 115 acres, about 10%, is protected.

Within the central section of Reach 9, the protected open space consists of small parcels that are clustered open space for a subdivision, Park District properties on James Creek and Peconic Bay and two cemeteries.

The western portion of the Reach contains the greatest amount of protected land, most of it located around Laurel Lake. The SCWA owns over 99 acres around the Lake for watershed purposes. Altogether, the 647.12 acres of protected land represents a small percentage of what has been marked as being in need of protection. The Town's *Community Preservation Project Plan* (CPPP), which was adopted in July of 1998, aims to protect the open, agricultural and scenic qualities of Southold. It targets all A-C zoned lands larger than 10 acres in size. Most all of this acreage is in agricultural production. Additional details are provided in *Section II.B. Planning Framework, 7. Open Space Preservation Plan: 1989, 1998*.

To be more specific to Reach 9: in the eastern section, all of the agricultural land between Elijah's Lane and Village Lane is targeted for potential acquisition or protection. South of SR 25, two small farms have been targeted: one between Cardinal Drive and Marratooka Avenue, the other on the southeast corner of New Suffolk Avenue and Marratooka Road. In the central section, the Mattituck Airbase property and the Norris Estate have been targeted as worth preserving for their open space values should those properties be proposed for residential development. A large block of wetland and upland near the head of James Creek also has been targeted for preservation. In the west, most of the undeveloped land, whether in agricultural use or woodland, is proposed to be protected. The primary exception to this is all the commercial-zoned property lying between SR 25 and the LIRR track. However, north of the LIRR track, the CPPP proposes the preservation of a large block of LB- and LIO-zoned property, which lies within the Special Groundwater Protection Area surrounding Laurel Lake.

It is worth emphasizing that the agricultural acreage in Reach 9 is highly vulnerable to development. As noted earlier, only 10% of it is protected.

13. Development constraints

There are some development constraints within Reach 9. These are examined below.

(i) Public services and facilities

Up until the last two years, there was no public water supply within Reach 9. Individual properties had their own on-site water supplies through private wells. With the acquisition of critical watershed land on the east side of Laurel Lake, the Suffolk County Water Authority has been steadily expanding its water service throughout Reach 9. As shown on [Map II-10](#), water mains service the entire length of Peconic Bay Boulevard starting at the Riverhead Town line and continuing up Bray Avenue, Sigsbee Road and Marlene Lane and Bay Avenue. Service is

proposed to be extended to Delmar Drive. Where lack of water was a constraint to development in the past, this obstacle has been substantially removed. Although the Love Lane business district is not yet serviced with public water, it is anticipated that this situation will change in the near future.

There are no public wastewater treatment facilities within Reach 9. Individual properties have their own on-site wastewater treatment systems. In the older subdivisions within this Reach, many of these septic systems are old. They may be in poor condition, and due to the small size of many of the lots, located close to the water's edge. Particularly along the creek and bay shorelines, these systems are thought to be significant contributors to ground and surface water pollution near the bay, the lakes and the creeks. Further development or redevelopment in these areas may result in increased levels of groundwater contamination, which may affect the creeks and lakes.

(ii) Flooding

The potential for flooding in Reach 9 is greatest in the low-lying areas near the creeks. Areas likely to flood include the low-lying portions of the shoreline and several of the local roads around Deep Hole Creek, the east side of James Creek and near the mouth of Brush's Creek. The extensive bulkheading in these creeks only protects the shoreline from erosion; it does not prevent flooding.

The most vulnerable area within the Reach is probably Marratooka Point, at the west side of the entrance to Deep Hole Creek. This is due to the low topography, the numerous small, developed lots and the exposed nature of this land spit. Areas susceptible to flooding are indicated on *Flood Insurance Rate Maps* that are prepared by the Federal Emergency Management Agency. The Town needs to develop a Flood Hazard Mitigation Plan (FHMP) to inventory potential trouble spots and solutions.

(iii) Erosion

Beaches and wetlands are the dominant coastal landforms in Reach 8. The characteristics of the landforms are described below. The predominate drift direction appears to be from west to east, although this drift pattern varies and becomes less evident the further one travels to the western part of the Reach. It is interesting to note the prevalence of not only bulkheads, but double bulkheads in the western part of the Reach. The pattern is not consistent throughout the shoreline, suggesting that the actual need for the bulkheading in the first place, never mind the double set, is less than perceived by some property owners. The first bulkhead typically is found on the beach, at the toe of what might have been a low bluff or beachhead. It usually lies above the high tide mark. The second bulkhead is typically found about twenty feet landward of the first one, and a few feet higher in elevation, thereby creating a short landing effect between the two structures. The land behind the structures is often filled and leveled and planted with vegetation. It appears that some of the bulkheads may have been installed to correct erosion problems that resulted either from coastal storm damage or from destabilization of the headland edge due to the placement of septic systems or other structures too close to the edge. As the smaller seasonal homes are renovated and enlarged, the incidence of bulkheading may begin to increase in an attempt to maximize lot coverage on narrow or shallow shorefront building lots.

Reach 9: Inventory of Coastal Landforms

Beach:

Location A beach runs along the entire coastline of Reach 9.

Width Up to 100 feet.

Composition Primarily sand.

Tidal Wetlands:

Saltwater tidal marshes are found in close association with every major inlet, creek or pond in this Reach. A few of the larger tidal wetland areas are located near West Creek, Downs Creek, Deep Hole Creek, James Creek and Brushes Creek.

Source: Town of Southold, 1989

Bulkheading and groins are a common feature along the shoreline of Great Peconic Bay. These structures seek to protect individual properties and do not represent a coordinated approach to coastal protection. The structures exhibit many different designs, varying sizes and types of construction materials. In many cases, these structures have resulted in the erosion of the beaches in front of properties, increased erosion to neighboring properties and an interruption in the natural flow of sand along the beaches in the Reach. Details of coastal protection structures within the Reach are outlined below.

Reach 9: Inventory of Erosion and Flood Protection Structures

Total Waterfront Length 108,400 l.f.

Total Bulkheaded 22.7%

Coastline

Length 20,000 l.f.

Bulkheaded 60%

Stone groins 18

Wood/metal groins 169

Jetties 0

Creeks, Inlets

Length 88,400 l.f.

Deep Hole Creek 27% bulkheaded

James Creek 39% bulkheaded

Brush's Creek 12% bulkheaded

Hortons Creek None

Marratooka Lake None

Laurel Lake None

Town of Southold, 1989

Reach 9 is fully open to Great Peconic Bay, and the shoreline is shaped by a large embayment or bight (a gentle concave curve between two points). The bight runs between Marratooka and Brush's Points, a distance of about 16,000 feet. Based on an open water fetch of 32,500 feet across Great Peconic Bay, a hurricane force wind (75 miles per hour) can generate waves up to 4 to 5 feet high. This wave height is limited because the bay is only 20 to 25 feet deep. Shallow water retards wave growth.

The shoreline between Deep Hole and James Creeks is heavily bulkheaded with many groins. Predominate direction of littoral drift here is west to east. The mouth of James Creek is protected by two jetties; with the west jetty built in the 1940s. When the channel was first dredged in the 1940s, a layer of cohesive peat and clay acted as a jetty on the east side of the channel to a certain extent. This layer has been eroded, and a shoal has formed in the channel, about 300 feet into the creek. During the 1950s, the eastern shore eroded back about 1,000 feet. In 1964, two jetties were built on the east side to stabilize the channel and that shoreline. As a result, the western shoreline at the mouth of James Creek now extends about 1,000 feet farther into the Bay than does the eastern shoreline. The channel is dredged about every three years, and the dredged material is usually placed on the eastern shoreline. While the erosion that is taking place around James Creek is of concern to local waterfront residents, a strong consensus within the community has not yet coalesced around the issue. Due to the large numbers of private jetties and groins, a great deal of individual cooperation will be necessary to reach a regional solution benefiting the whole. Unless the rate of erosion escalates, there appears to be little incentive to mitigate it.

Between James and Brush's Creeks, the shoreline is heavily bulkheaded with about 70 groins. Brush's Creek was first dredged in 1966 (86,400 cubic yards) and it continues to be maintenance-dredged regularly. The dredged material is placed on either side of the inlet depending on the erosion pattern at the time. The shoreline between Brush's Creek and the town line also is heavily bulkheaded and has about 10 groins.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Reach 9, three distinct land use situations were identified within the Reach:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

The location of these areas and sites are described below and identified on [Map II-J-9](#), located at the end of this chapter.

(i) Areas of existing stable uses

Most of the existing residential neighborhoods throughout Reach 9 are almost completely developed. Changes within these neighborhoods will be limited to infill development and to renovation or expansion of existing residences, particularly those located on waterfront property. However, there is continuing potential for increased density as waterfront lot owners attempt to obtain area variances to subdivide larger parcels into slightly undersized lots. The wetland areas

distributed throughout this Reach are also identified as areas of existing stable uses since most them will be protected as natural areas.

(ii) Areas subject to development pressure

Much of the land within Reach 9 that has been identified in the CPPP as eligible for acquisition can be characterized as subject to development pressure. Obviously the few remaining vacant lots and large estates located on the waterfront probably are under the most pressure. The Norris Estate south of Marratooka Lake and the Husing Estate on the east and south side of Horton Creek are prime examples.

Other vulnerable areas are farmlands adjacent to or otherwise suitable for residential development. A case in point is the 220 acres of prime agricultural land south of SR 25 and west of Horton Creek that are slated to be converted into a luxury subdivision development and a standard regulation 18-hole golf course with the following accessory uses: practice putting green, lockers, tennis courts, swimming pool, and clubhouse with dining facilities. Pressure to convert the adjoining farmland to the west into residences may increase once the golf course is built.

Another area subject to development pressure is the remaining vacant land surrounding Laurel Lake. This property is of great concern to the Town because of its location over the deepest fresh water aquifer within Southold. While the Suffolk County Water Authority has purchased more than 87 acres of this land for a wellsite and an additional 102 acres have been purchased by the State, County or Town, and close to 95 acres of development rights have been obtained, much of the land around the Lake remains vulnerable.

There is a fair amount of vacant business-zoned property on the outskirts of Mattituck's existing business district. In recent years, these properties have been the focus of more development pressure. However, their development has resulted in an increase in vehicular traffic since most of these properties are not within convenient walking distance of other traffic generators. The property of most concern is the 71-acre, split-zoned property located on the south side of Old Sound Avenue where it intersects with CR 48 and Cox's Neck Lane. Located within the Special Groundwater Protection Area that encompasses Laurel Lake, this property's development under the LB and LIO zoning has the potential to threaten the future water quality of the groundwater aquifer. The SCWA's wellsite sits directly west of this property. On October 19, 1999, the Town Board rezoned this property from Limited Business and Light Industrial Office to Residential-80. Another property of concern is that of the former Reeve Lumberyard in the central section of the Reach. Given the character of surrounding community, the property and the neighborhood would benefit from redevelopment of this site to compatible uses.

(iii) Underutilized sites

Within Mattituck's commercial zoning districts, there is considerable redevelopment potential as the business community responds to changing consumer tastes and demands. The central part of Reach 9, the original hamlet center, is almost completely developed. Until very recently, most new business development was occurring outside of the center, in a strip along SR 25. However, as the population increases and consumer preferences for the ambiance of a small-town, main street are articulated, we can expect to see revitalization of properties within this portion of the Reach. In recognition of this, the Mattituck business community already has embarked on a strategy of beautifying and maintaining the integrity of the streetscape within the Love Lane business center.

The visual access to James Creek by business-zoned properties fronting on the creek could be improved. Presently, the traveler on SR 25 near James Creek has no clue of its existence.

(iv) Areas of Special Concern

The Town of Southold has identified several areas of special concern within Reach 9. These are geographic areas which may feature natural or cultural resources in need of protection or where key development (or redevelopment) would revitalize the surrounding neighborhood. These are examined in more detail below and in *Sections III* and *IV*.

- ***The Creeks***

Poor water quality and its impact on the shellfishing resource will be an ongoing concern. The continued demand for waterfront is likely to escalate the redevelopment and expansion of existing waterfront homes. If these activities result in greater septic flows to groundwater, more impervious surface area, and greater volumes of stormwater run-off, not to mention more bulkheading, then the Town will have to develop resource and harbor management strategies to mitigate the negative impacts on the environment. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences, and the filtration of stormwater runoff.

- ***James Creek***

James Creek is heavily used by boaters. The continued growth of the two existing marinas coupled with the addition of new docks on the creek will require the adoption of a harbor management plan in the near future. Of the two marinas, Strongs has the larger land area and greatest potential for expansion and intensification. Further, at the head of James Creek, the business district should be examined to see if more water-enhanced uses could be introduced.

- ***Horton Creek***

Although The Nature Conservancy owns more than 21 acres of Horton Creek, most of the western boundary of the creek is heavily developed with residential lots. Protection of this creek's ecological health for greenbelt and other conservation purposes (it is the site of an active osprey nest) probably will depend on the degree to which the Husing Estate, which surrounds the creek's borders to the north, east and south, is developed.

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues in Reach 9 that should be examined in the LWRP. These issues are examined below. Further detail about potential responses to these issues is provided in *Sections III, IV* and *V*, later in this document.

(i) Agricultural protection

Most of the farmland within Reach 9 is crucial to the Town and the agricultural industry. This Reach contains a mix of crops ranging from nursery stock, grapes to vegetable and fruit farms. Greenhouses are an important addition to the agricultural scene here, too. Loss of this land to residential infill will result in increased levels of traffic at the main gateways into Southold Town as well as a loss of important players in the agricultural industry. In light of the continued subdivision of much of Riverhead into tract housing development, preservation of a rural gateway

into Southold Town will depend on protecting the agricultural and rural character of the land at the border.

(ii) Harbor management issues

The Harbor Management issues of concern in Reach 9 are centered primarily on James Creek. A harbor management plan will be necessary in order to accommodate further infill development, the expansion of existing homes, expansion of the existing marinas and the need for sheltered dockage without destroying the shellfish and wetland resources within the Creek. The extent of existing residential development along most of the shoreline within James Creek precludes simple solutions. Bay moorings are of lesser concern due to the lack of general public access to such moorings and the unsuitability of this part of the Town for mooring extensive numbers of large boats.

(iii) Public access and recreation

The public access and recreation within this Reach is heavily used. Since the population within Reach 9 is likely to continue to increase through infill, the renovation of seasonal dwellings, and new subdivisions, the need for enhanced public recreational access to the water is expected to increase beyond the capacity of existing facilities, most of which were created by the Mattituck Park District. However, opportunities for creating new access points are extremely limited, thus may be quite costly. The Town may have to establish cooperative partnerships with property owners, the Park District and other governmental agencies at the state or county level in order to obtain these properties. Since the ultimate demand for public access will depend, in the end, on the amount of agricultural land that is converted into residential use, the more aggressively the Town pursues development rights and other land preservation options within this Reach, the less pressure there will be on existing and future access points.

Another potentially key issue within Reach 9 is enhancing commercial use of the scenic values of the waterfront. As stated earlier in this Inventory and Analysis, it is interesting to note that of all the commercially zoned waterfront or waterview properties within the Town, those in Mattituck have the least orientation towards the water. For example, at the head of James Creek, most of the properties abutting SR 25, and the marsh at the head of the creek, face the road. The view across the marsh has been blocked off or ignored. Yet, with careful site design, the commercial property in this vicinity could offer the community an enhanced view of its own waterfront and reap the economic benefits of that enhancement, all without destroying the Creek's charm for the residential property owners further south.

(iv) Protection of habitats and wetlands

Reach 9 features coastal wetlands and habitats that may not be of the highest quality, but which are worth protecting from further degradation. Protection of these natural resources in the face of continuing residential development and human intrusion will require the initiation of continuing public education programs.

Although not coastal, protection of the Marratooka and Laurel Lake habitats are of primary concern as well. Much of Marratooka Lake's shoreline has been protected through the years. The existing residential development does not impinge on the shoreline, thus preserving the lake's integrity. With regard to Laurel Lake, it is hoped that the Town's ongoing partnership efforts with

the Peconic Land Trust and Suffolk County to preserve the groundwater watershed around Laurel Lake through the acquisition of development rights will be successful.

(v) Protection of water quality

Direct discharge of stormwater runoff from state and local roads, along with seepage from poorly located on-site wastewater treatment systems, into the creeks, lakes and bay is having a negative impact on the water quality within Reach 9. Clearly, the Town and the State need to coordinate their efforts to filter stormwater runoff before it is discharged into the creeks and the lakes. The Town has taken the lead by successfully experimenting with reed beds of various designs and compositions. The State has begun to follow suit, however, at a very slow pace. To date, their efforts have not led to any construction of natural stormwater retention facilities other than the standard fenced-in recharge basin. This situation is of particular concern in the vicinity of James Creek where a 36-inch drainage outfall pipe from SR 25 dumps directly into the head of the creek alongside the marina. The extent of development and impervious surface within this section of Reach 9 poses a particularly daunting challenge as to how and where to impound great quantities of stormwater. Although the Town has offered to work with the State DOT and the property owners to try to locate and design adequate stormwater retention and retention facilities, this particular project has been relegated to the back burner due to the incipient difficulties and costs associated with its resolution.

Discharges from local roads into Deep Hole, James, Horton and Brush's Creeks also need to be addressed. As discussed in other Reaches, the Town needs to develop a ranking of road runoff remediation projects, and a capital improvement program to fund those projects.

The detrimental impacts to the creeks and lakes from poorly located or malfunctioning septic systems and leaching basins are of great concern within this Reach. Given the degree of development that has already occurred, the undersized nature of many of these lots, and the potential for infill development, expansions of existing development and new subdivisions, it is evident that the Town may have to develop watershed management plans for individual creeks, particularly the James and Brush's creeks. Deep Hole Creek is of lesser concern given the stability of this area, although the development of agricultural land on its northwest border may change the balance here.

(vi) Flooding and erosion

Flooding within Reach 9 is of concern in a few key areas: Marratooka Point at the entrance to Deep Hole Creek, the east side of James Creek, the bayfront to the immediate east and west of the entrance to James Creek and the bayfront near the Riverhead Town line where the numerous groins and bulkheads along the shoreline may be working at cross purposes to one another. The Town needs to develop a Flood Hazard Management Plan.

(vii) Protection of scenic resources

The scenic resources of Reach 9 are found along CR 48 in the eastern section where the farmbelt begins, along the shoreline of Marratooka Lake as viewed from SR 25 and New Suffolk Avenue and along Old Sound Avenue in the western section. The general public's opportunities to view the scenic vistas of Great Peconic Bay are basically limited to two park district beaches and four public road ends. Creation of additional scenic vistas is contingent on acquisition of key waterfront parcels. The *Community Preservation Project Plan* denoted waterfront sites worthy of acquisition:

namely the Norris and Husing Estates. Almost all of the agricultural land within the Reach has been targeted for acquisition as well. These acquisitions will help protect the character of designated *Seaview Trails*: the New Suffolk-Oregon Loop and the off-road link proposed to run along farm roads parallel to the LIRR track from Mattituck to Cutchogue.

Much of the scenic quality of SR 25 has been degraded, particularly between the LIRR overpass and New Suffolk Avenue. A concerted effort needs to be made by businesses and government to improve the streetscape and the landscaping within this corridor.

(viii) Protection of historic resources

Mattituck's historic resources within Reach 9 reflect both its agrarian roots as well as its commercial vitality. Many of the grand summer homes and vernacular farmhouses that can be found within Reach 9, mostly north or south of the Main Road, and occasionally on the water, are likely to be preserved by people appreciative of their unique character. But, within the business center, Mattituck's historic commercial structures were thought to face a less certain future. Recently however, there have been promising signs whereby derelict buildings are being rescued, two notable examples being the former Glenwood Hotel and the Octagon Building. The efforts of the merchants on Love Lane to revitalize their streetscape may indicate a trend towards maintaining this area's unique mix of commercial and residential uses within close proximity.

(ix) Transportation management

Traffic congestion within Reach 9 is of primary concern to the Town. Declining traffic safety and increasing incidences of speeding are perhaps the two most important issues. The CR 48 and SR 25 corridors are the most troublesome.

The CR 48 corridor, by nature of its design, a four-lane highway with wide shoulders and a large grassed median, encourages speeding. It used to terminate abruptly at Cox's Neck Lane, where it fed into a narrow, domed and winding two-lane road that dips into a wooded hollow before climbing back onto higher ground near the Riverhead Town line. To complicate matters, the intersection with Old Sound Avenue and Cox's Neck Road is not a simple four-way intersection. There are business-zoned properties around the intersection, which will add to the traffic congestion and traffic hazards as they are developed. In response to complaints by both the Town and the surrounding business community, the County recently repainted the road to funnel two lanes into one prior to the intersection with Cox's Neck Lane. This has improved the safety for the moment. Further east on CR 48, where it passes the Love Lane business district, drivers tend not to obey the speed limit, thus resulting in speeds inappropriate for a business center.

On SR 25, the traffic problems are similar. The volume of traffic at the Factory Avenue intersection and the entrances to the adjacent shopping center are such that turning lanes were recently added in order to facilitate the safe stacking of vehicles waiting to turn off SR 25. However, the design has not resulted in a noticeable improvement in either traffic safety or reduction of travel speeds. A similar problem exists a bit further northeast where SR 25 makes a 90 degree turn to the east at a point where Sound Avenue and Love Lane intersect with SR 25. This is a dangerous curve that is well marked with lights and striping. Nevertheless, drivers too frequently attempt this turn at dangerously high speeds. The degree of speeding and lack of safety are probably the biggest deterrents to pedestrian activity back and forth across SR 25 within Reach 9.

The installation of a traffic light at Factory Avenue is viewed, at best, as a temporary stop-gap measure. It would be more constructive in the long run for the NYSDOT to undertake an in-depth traffic calming study of the SR 25 corridor from Bray Avenue to Mill Road. Maintaining the character of SR 25 will require joint cooperation between the Town and the NYSDOT in order to modify design specifications, where possible, in order to maintain local community character while continuing to provide for safe highway conditions.

REACH 10: FISHERS ISLAND

A. INVENTORY AND ANALYSIS

1. Location

Reach 10 includes a number of islands, most small and uninhabited. The largest, Fishers Island, extends approximately 7 miles in length and averages three quarters of a mile in width, for a total of approximately 5 square miles (3,200 acres). It is located about 12 miles to the northeast of Orient Point and 4 miles south of Connecticut. It is accessible only by plane or boat. The other islands, all uninhabited except for the first, include: North Dumpling, South Dumpling, Pine Islands (also known as Hungry Point Islands), Wicopesset, Latimer Reef, Flat Hummock, Race Rock.

2. Land use and development

(i) Background

The Island was discovered by Adrian Block, a European settler in 1614. In 1641, Connecticut granted John Winthrop, Jr. Fishers Island, and in 1644, he purchased it from the Pequot Indians. Winthrop raised sheep for food and wool. After Winthrop died in 1676, his son, Fitz-John, installed a lessee farmer from England, William Walworth, on the island. Walworth brought with him a system of cultivation which was continued on the island for nearly 200 years. He established farmland out of the heavily forested island. Walworth and his family vacated the island nine years later due to the threat of pirates. Fishers Island remained in the Winthrop family until 1863, when ownership passed to Robert R. Fox, and then to Edmund and Walton Ferguson.

In 1783, brickmaking was established, using the vast amounts of available clay, as the largest and only industry. This business was discontinued in 1889. In 1870, a life saving station was erected at the western end of the island, which overlooked the waters between Fishers Island and Little Gull Island. The Race Rock lighthouse, located approximately one mile west of Fishers Island, was constructed in 1878 as a navigational aid for travel in the Race. In the early 1900s a permanent Coast Guard Station was built on the west end of the island.

In 1898, the Fergusons sold 216 acres on the western end of the island to the Federal Government. This land was developed as Fort H.G. Wright, established as part of a larger coastal defense project. Over the years Fort Wright drew a large number of residents to the Island. The 1890s brought a growing summer population and the construction of the Fishers Island Yacht Club. The E.W. & W. Ferguson business was established: it managed the Mansion House Hotel and Cottages, a ferry service, and the electricity, water and telephone enterprises. This business was renamed Fishers Island Farms in 1918. Following the death of the Fishers Island Farms president in 1965, the business was purchased and became the Fishers Island Utility Company which continues to own and operate the water, telephone and electrical utilities. The ferry is operated by the Fishers Island Ferry District, a public entity financed through a special tax district. The town contracts with the Ferry District to operate Elizabeth Field airport and to manage other structures in the Town's ownership that were part of Fort Wright.

The eastern two thirds of Fishers Island was developed in accordance with a residential park plan drawn by the Olmsted Brothers Company (Frederick Law Olmsted) in 1926. This land area came under the control of the Fishers Island Development Corporation (FIDCO) during the 1930s.

Today FIDCO owns approximately 240 undeveloped acres, the road network on the east portion of the island, land on West Harbor at the Fishers Island Marina/Yacht Club, and the land used by the Fishers Island Country Club.

Today, Fishers Island continues its tradition as a summer resort community. Over the years, the nature of the resort character has changed from a hotel-based resort to a seasonal residential community with a small year-round population. This has resulted in a unique resort community in which the vast majority of summer residents own property and there is virtually no traditional tourism, such as weekly rentals and day trips.

The nature of the summer resort community is clear in an examination of the population and housing statistics for Fishers Island. In 1987, of 464 residential units in existence, 89% were single family dwellings; an estimated 73% of which were used seasonally. The year-round population was approximately 285, while between the months of May and October, the summer resident population was estimated to reach about 2,000. House guests and visitors increased this population dramatically, sometimes doubling this seasonal population. (The Trust for Public Land, 1987, p2).

Fishers Island's small year-round population generally commutes to the city of New London by ferry for most of their major medical, financial, and shopping needs since the retail, professional, and medical services available on the island are of a limited nature. However, the community sustains a wide range of typical services such as a school for grades K-12, a library, a volunteer fire department, a sea-going ambulance boat, a small movie theater, a museum, several churches, a garbage transfer station, and compost facility.

(ii) The Fishers Island Growth Plan

Since the early 1980s, the residents of Fishers Island have formalized their concerns about future development on Fishers Island through a series of updates to a community based growth plan. In 1984, the Fishers Island Civic Association contracted with the Trust for Public Land to compile a report that examined the current state of development on Fishers Island and the Island's capacity to accommodate future growth within its unique natural character. This report was updated in 1987. In 1988 the Fishers Island Growth Plan Committee, sponsored by the Fishers Island Civic Association, produced the *Fishers Island Growth Plan*. The plan included a series of assumptions aimed at protecting the unique environment and community character of Fishers Island. These Plan Assumptions were endorsed by the Fishers Island Development Corporation and other important local organizations, although the Growth Plan does not represent the policy of the Town of Southold in that the Plan has not been formally adopted or endorsed by the Town Board. The Plan Assumptions were:

- 1.) *Fishers Island must have a healthy year-round population. It must be self-sufficient in providing all necessary year-round service functions, e.g., school, fire department, groceries, EMS, medical, etc., and also be able to expand those services to meet the needs of the summer population. To meet these requirements, Fishers Island needs more people than currently live on the Island year-round. It is desirable that the year-round community includes a diverse composite of age, sex and ability levels.*

- 2.) *Efforts must be made to slow the growth of the summer population. All citizens and organizations should bear this goal in mind when making decisions, which could influence growth.*
- 3.) *The Island should remain a residential community, and tourism is to be discouraged. (Commercial activities on Fishers Island should continue to focus their operations exclusively on serving the resident population).*
- 4.) *The natural environment must be unequivocally protected. The uniqueness and fragility of our ocean, harbors, wetlands and water supply must be respected. To that end, Fishers Islanders, both year-round and part-time, must be made aware of the need for environmental protection.*
- 5.) *The Fishers Island school is a major asset and should be strengthened through enhanced programs and a larger student body. The character of the Island's society would be changed to everyone's detriment without the school.*
- 6.) *For the foreseeable future, our Island's official governance will remain the same, i.e., we will continue to be a hamlet within the Town of Southold. This means we will need to work closely with the Town Board to obtain special legislation when necessary and to see that the Board understands that Fishers Island's priorities are frequently different from those of the rest of Southold. It is the responsibility of the Fishers Island representative on the Town Board to ensure that Fishers Island's uniqueness and best interest is clearly communicated to the other Board members. We should seek representation on any other Town boards or committees that are important to the welfare of the Island. In addition, we should explore special vehicles which might enhance local control.*
- 7.) *To protect and strengthen Fishers Island, all people and organizations must be made aware of their interdependency, so that they will be encouraged to work for the common good even when some individual sacrifice might be necessary.*
- 8.) *All Fishers Island residents should generously support the programs of the Island Museum and similar organizations which use private initiatives and land protection strategies to preserve the remaining open space on Fishers Island.*

(Fishers Island Growth Plan Committee, 1988, p2)

The *Fishers Island Growth Plan* was updated in October 1994. The Growth Plan Committee, who worked with the original committee and many Island organizations, associations, clubs, businesses and interested individuals, reaffirmed the residents' concerns regarding growth. The Growth Plan presented a community consensus that the unique character of Fishers Island that has drawn people to the Island, "the residential orientation, the lack of tourism, the natural beauty, safety for our children and the small village atmosphere," is steadily eroding (Fishers Island Growth Plan Committee, 1994, p1). The Growth Plan Committee determined that the original Growth Plan Assumptions remain largely valid and stressed that:

- *Fishers Island must have a viable year-round population*

- *Efforts must be made to slow the growth of seasonal population*
- *The Island should remain a residential community*
- *For the foreseeable future, our Island's official governance will remain the same; we will continue to be a hamlet within the Town of Southold and*
- *The natural environment must be unequivocally protected*

(Fishers Island Growth Plan Committee, 1994, p1)

The initial inventory and analysis by the Trust for Public Land (1987) and the direction set by the community in the *Fishers Island Growth Plan* form the basis of this Reach analysis.

(iii) Development issues

The Growth Plan Committee identified three main threats to its unique character:

- *Increased house and population density*
- *A declining year-round population*
- *Tourism*

(Fishers Island Growth Plan Committee, 1994, p3)

Fishers Island is divided into approximately 1,000 existing building lots. The *Fishers Island Growth Plan* indicated that an additional 77 building lots could be created under the current zoning regulations. Island-wide, there are approximately 500 residential housing units now in existence with several planned for construction in the next few years. Of the buildable lots on the east end, 214 remain unimproved.

Seasonal growth is occurring, both through new seasonal residential development, with new house starts at about 3 to 6 a year, and an increasing market in seasonal rental of existing property, for both short and long term periods. These trends have the effect of increasing the overall seasonal population, boosting property values and negatively impacting the environment and community character of the Island. Traffic is increasing, services are being stretched and the environment threatened. (Fishers Island Growth Plan Committee, 1994, p3, 26).

At the same time that seasonal development pressure has increased, Fishers Island has experienced a decline in its year-round population. Over the last 20 years, the year-round population has declined from just over 500 to under 300. One of the important causes of the declining year-round population has been the limited availability of affordable housing and employment opportunities. This housing shortage has been caused by the rapid increase in the demand for and price of residential property that has been fueled by the increasing summer population. Although the decline in year-round population has stabilized, helped by the establishment of an affordable housing program and improvements to the ferry service to New London, the low year-round population is of ongoing concern.

Since the late 1800s, Fishers Island has been a seasonal residential resort community. The year-round population and local businesses have served the needs of the seasonal residents. As the market increases for summer rentals, there is an increasing pressure to establish facilities to cater for the needs of transient tourists. Development of this nature would change the Island's current residential character. A conscious effort to resist this change is being made by the residents of Fishers Island, and currently the Island's services and infrastructure are geared to fulfilling the

needs of year-round and seasonal residents, with little or no provision for tourism of the type evident on other New England islands.

It is clear that current trends will result in changes that could alter the environment and community character of Fishers Island. The focus of the Town of Southold LWRP is to ensure that the impacts of these changes on the Island's coastal resources, both natural and cultural, are minimized. To this end the LWRP focuses on the protection of the Island's unique natural environment and its water-dependent uses.

(iv) Land use and development

The primary land use on Fishers Island is residential. Residential uses are spread throughout the island and consist of low density development on the eastern and central portions of the island, and medium to high density development at the western end of the island. The western portion of the island contains several clusters of limited commercial, retail and institutional uses. These include a public school, a post office, churches, a small inn and local bar, and a seasonal general store. There are several large recreational areas including the Fishers Island Club located at the eastern end of the island, the Hay Harbor golf course located off Oriental Avenue and the Hay Harbor Club. Elizabeth Field airport is located at the southwestern corner of the island. (*Section II. C. I. (iii) Business and industrial uses* describes the types of business activity that are permitted to take place in residential zones. Since the Town permits home occupations, it should be presumed that there is more economic activity taking place on Fishers Island than meets the eye in the small business district.)

The entire eastern portion of the island, beyond West Harbor, is privately owned and access is controlled. This area has been developed over the years by the Fishers Island Development Corporation (FIDCO). They owned the land and sold lots more or less in accordance with a development plan designed by the Olmstead Brothers Company in 1926. Formed in the 1930s, FIDCO is owned by over 100 present (and a few past) east and west end property owners and is governed by a Board of Directors elected annually by the stockholders. It seeks to maintain and improve the character, atmosphere and quality of life on Fishers Island. FIDCO maintains the park-like quality of the development plan by site and design review of each proposed residence and restrictions on subdivisions. FIDCO controls access to the east end by issuing vehicle permit stickers to east end property owners, members of the Fishers Island Club, businesses that service the east end residents and to year-round residents of the island.

In 1958, the Southold Town Board adopted the Olmsted development map as an "open development" area or subdivision, pursuant to *Section 280-A.4 of New York State Town Law*. This requires the Planning Board to approve the creation of each lot. Planning Board records show that there was a period of time when FIDCO was creating and selling lots without Planning Board approval. This practice stopped in June 1982, when the Planning Board working in conjunction with the Suffolk County Department of Health Services, adopted a set of maps for the FIDCO property. New lots that had been created without the benefit of Planning Board approval before that date were shown on the map. However, problems with the filing of these maps meant that the Planning Board could not proceed with the review of any subdivision applications within the open development area. Accordingly, these maps were resubmitted and approved by the Planning Board in September 1991. (Valerie Scopaz, Town Planner Sept 17, 1991).

FIDCO acts as both a Property Owners Association for the eastern end of Fishers Island and as a holding company for various land holdings and infrastructure assets located throughout the island. It still owns 225 acres on the eastern end of Fishers Island. This acreage is split up into about 55 building lots. This represents much of the remaining undeveloped land on Fishers Island. In the past FIDCO has sold building lots as a source of income to cover property taxes and expenditures. The Corporation's income/expenditure has been balanced for a number of years and it now maintains a policy of not selling any of its undeveloped land. FIDCO has extensive controls on all property on the east end of the Island through the restrictive covenants it has placed in all property deeds. Any construction on these properties must be approved by FIDCO's building committee. FIDCO owns the land on which the Fishers Island Club (and golf course) and Fishers Island Marina/Yacht Club are located. FIDCO also has partial ownership of the Fishers Island Utility Company which provides the island with telephone, water, and electric services.

As mentioned earlier, there are about 1,000 existing building lots on the island. Approximately half of these lots remain undeveloped; 214 of which are within the FIDCO controlled section of the island. (Fishers Island Growth Plan Committee, 1994, p3, 26). Many of these lots were purchased by homeowners as an open space buffer around their homes.

It is estimated that future subdivisions could create an additional 77 building lots within the current zoning regulations. Two of the largest sites still available for subdivision are the airport site and the Naval facility, although development of these properties in the near future is unlikely. While future growth potential is difficult to predict and the development potential of some of these undeveloped lots may be limited by environmental constraints, there is a potential for a significant increase in the number of developed residential lots on Fishers Island. If this were to occur, many of the negative impacts on environmental and community character that have been identified by the residents of Fishers Island will likely occur.

The lack of adequate, affordable housing and rental properties for year-round residents is a critical issue. In 1987, the Fishers Island Civic Association spearheaded the purchase of the Walsh Park Property on North Hill for the development of affordable housing for year-round residents. The Walsh Park Benevolent Corporation (WPB) was formed to facilitate the purchase and to administer the project. The site has since been developed by the Corporation to provide 12 affordable housing units and to protect some open space on the site. Nevertheless, the lack of affordable housing still remains an issue in the maintenance of a year-round community on Fishers Island. The WPB is currently experimenting with incentives such as establishing an inventory of rental housing that would be leased to people wishing to sample year-round life on Fishers Island in hopes of attracting them to stay permanently.

Infrastructure left behind by the departure of the US Army in the 1950s remains an integral part of the built fabric of Fishers Island. Approximately 50% of the former military housing is now occupied by year-round residents, the rest by summer people (Ken Edwards, Southold Town Planning Board 1998). The Fort Wright area includes a significant collection of abandoned military buildings that are ripe for redevelopment. This area is now owned by the Town of Southold, the Union Free School District, the Ferry District and private individuals.

The former ferry dock adjacent to the Goose Island Marina on West Harbor is an underutilized property. During the summer it functions as an informal parking area for users of the adjacent Dock Beach. Dock Beach, along with an upland lot across the street, was purchased by the Town

of Southold in 1999. Plans are underway to enhance the shorefront property by creating a park that would include a safer parking arrangement, picnic tables, a scenic overlook, low maintenance plantings which would not impair the sweeping harbor views and possibly some interpretive material. The upland lot will likely remain in its current vegetated state. The existing dock on the shorefront parcel is currently set aside for dockage by Southold Town residents for a period not to exceed 2 hours.

3. Water-dependent/water-enhanced uses and water uses

Fishers Island contains a number of water-dependent uses including a ferry, US Coast Guard Station, recreational boating facilities, aquaculture and a US Navy Research establishment. The water-dependent uses are concentrated in West Harbor and Silver Eel Pond. These uses are discussed below. Water uses include commercial lobster harvesting and recreational shellfishing.

West Harbor

West Harbor is the main maritime center on Fishers Island and is the focus of water-dependent use and recreational boating activity. The Harbor encompasses upwards of 165 acres, and has an average depth of approximately 3 feet near the head of the Harbor and 10 feet at the mouth. The tidal range is about 2.5 feet. The West Harbor channel is federally marked and maintained. It has a navigable depth of 12 feet for a width of 100 feet. The channel to West Harbor was dredged in 1971 when 43,100 cubic yards were dredged and disposed of at sea.

All three of the marinas located on Fishers Island are within West Harbor and their use is available to the public for a fee. These marinas provide slips for approximately 89 craft. Each marina is described below:

- *Fishers Island Marina/Fishers Island Yacht Club*
The Fishers Island Marina/Fishers Island Yacht Club is located in West Harbor. This facility is located on land owned by FIDCO and is run by the Fishers Island Yacht Club under an agreement with FIDCO. The Fishers Island Yacht Club leases a building on the site. Fishers Island Marina offers a total of 70 slips, the largest dockage on the island, with the capacity to handle both small and large craft up to 70 feet. Approximately 10 transient slips are available. The Marina provides boater amenities including showers and restrooms. No pumpout facilities are provided, in part because the Island has no adequate way to treat sewage from a pumpout facility.
- *Goose Island Marina*
Goose Island is a small marina offering 7 slips, located adjacent to the Fishers Island Marina. It provides boating amenities, including restroom, showers and ice, and basic repair service. It has the only fueling station on the island. Winter wet storage is provided. There is also a seasonal deli/restaurant on the site. Occasionally, there are slips available to transient boaters. No pumpout facilities are provided.
- *Pirates Cove*
Pirates Cove Marina is located at the southern end of inner West Harbor. It provides a total of 12 slips and provides boating amenities, a ships store, basic repair service and upland winter storage. Slips are made available to transient boaters, although no overnight occupancy is allowed as the marina is located inside of Goose Island. No pumpout facilities are provided.

West Harbor contains the largest single concentration of moorings for recreational boats in the entire Town of Southold. The moorings are maintained in two fields located in the central area of West Harbor, although several moorings are maintained outside of these fields by waterfront property owners. Granted the authority by the Town Board to approve applications for mooring permits and set fees on the island, the *Fishers Island Harbor Committee* has approved mooring permit applications for a total of 90 moorings. About 30 of these moorings are used by off-island boaters. There is a concern over the pollution impacts of these moorings, where some people live aboard their boats. Most of the boats in West Harbor are large, with only 25 of the local moored craft under 25 feet in length, boats of 25-35 feet in length total 26 and there are 16 over 35 feet in length. The largest of the two mooring fields is located to the west of Goose Island channel and is maintained primarily for island residents vessel storage, while the other is located to the east of Goose Island channel and is used for vessels with people living aboard. There are five moorings designed for transient use in West Harbor, and there is a safe anchorage outside the designated mooring area in West Harbor. There are also a number of private docks and finger piers in West Harbor.

Fishers Island's only boat ramp is a Town of Southold boat launch located on Peninsula Road at the head of Pirates Cove in West Harbor. Most island residents keep their boats in the water, rather than on a trailer. Therefore, this ramp is used primarily for seasonal and storm hauling and launching of boats. The Fishers Island Oyster Farm uses the ramp to move gear and oysters in and out of West Harbor. The ramp consists of concrete slabs extending far enough into the water so that the facility can be used during most tides. A regular schedule of maintenance of this ramp by the Town should ensure its optimum functioning and availability during bad weather. There is no parking at this ramp except across the road on property belonging to FIDCO. Perhaps an agreement with FIDCO and the Town could be arranged to provide adequate and more formalized parking.

The former ferry dock, adjacent to the Goose Island Marina, could provide a suitable deep water site for a additional Town of Southold boat ramp, provided the facility was designed to blend in with the proposed adjacent park and to further protect the safety of the children using the adjacent swimming beach.

There is a commercial aquaculture company based in West Harbor, the Fishers Island Oyster Farm. This company has a 5-acre site in the middle of West Harbor where oysters are cultivated using a system of longlines, buoys and nets. Transient anchoring is restricted in the vicinity of this aquaculture site. This company has a direct marketing operation. Additionally, this company has a land-based hatchery and field nursery system used for raising seed clams and scallops. Historically, this enterprise has sold "seed" to several Long Island towns and baymen groups in support of their local shellfish replenishment programs.

Seven of the private docks in West Harbor are used by commercial lobster fishermen and aquaculturists year-round. In most cases, the docks are owned by the fishermen or their families. The working waterfront is in the process of being gentrified.

Silver Eel Pond

Silver Eel Pond is a small tidal inlet of approximately 5.5 acres, with an average depth of 14 feet. Silver Eel Pond does not have a marina or moorings and has a very limited, temporary docking space at the ferry landing, the main water-dependent use in the Pond.

The Fishers Island Ferry District owns and operates two ferry boats which transport most of the population and freight and all of the motor vehicles to and from Fishers Island. The two ferries run between Silver Eel Pond, Fishers Island and New London, Connecticut. The Ferry District schedules 37 trips per week during the spring and early fall and 43 trips per week during the peak season. The number of trips drops to approximately 34 per week over the winter. The recent establishment of a commuting schedule from the island to the mainland has improved islander's accessibility to the New London.

Major reconstruction of the ferry terminal at Silver Eel Pond commenced on January 10, 2000. The project includes reconstruction of the easterly two thirds of the Fishers Island Ferry Terminal wharf, including the removal of the existing decking, support framing and removing and replacing the support, batter and fender piles as necessary, approximately 7,000 square feet, waterward of the high tide line (HTL), pouring a reinforced concrete backwall with drainage grates behind the existing steel bulkhead, installing tie-backs, grading, providing a crushed stone surface driving course and various alternate bid items as deemed affordable and beneficial at the time of award.

The ferry service is the major linkage of year-rounders islanders to banking facilities, retail shopping, medical care, and in some cases employment. At New London, travelers can board the Cross Sound Ferry to Orient in Southold Town or the Amtrak train to either Boston or New York. Easy access to the major New England thruways is available from the ferry docks as well.

There is a U.S. Coast Guard facility located adjacent to the ferry terminal. The station is open from May 15 to September 30. Crews of four persons rotate out from the permanent base in New London. It functions primarily as a Search and Rescue Detachment, enforcing safe boating activity in the active summer season. There have been recent discussions on the future of this facility in Congress and its long term future may be in doubt.

Other locations of water-dependent/water-enhanced uses

There is an active U.S. Naval annex located east of the airport, on the south shore of the island. The 67-acre facility is the Fishers Island Annex of the *Naval Undersea Warfare Center* (NUWC). The facility is used as an acoustical sounding test site where the Navy conducts towed array and sonar testing. The facility includes an underwater platform, located almost a quarter mile off Wilderness Point, and an underwater roadway to the shoreline that is used to simulate the raising and lowering of electro-magnetic and electro-optic sensors from submarine conning towers. The facility also includes an upland test pool which draws saltwater from a nearby tidal pool.

Island Pond is utilized as a commercial oyster hatchery and nursery by the Ocean Pond Corp. Seed oysters are grown to the size of 2-5 cm. employing a system of mesh trays and submerged nets. There is no direct market harvesting of shellfish from Island Pond. The majority of seed oysters grown in Island Pond are grown to maturity by the Fishers Island Oyster Farm based in West Harbor. Additionally, Ocean Pond Corp conducts significant research on development of disease resistant strains and rapid growth.

Hay Harbor covers about 60 acres and has an average depth of 7 feet. The tidal range is about 2.5 feet. Boat access to the harbor is limited by a shallow channel and adjacent shoals and flats. This channel has been dredged. The Hay Harbor Club is the main water-dependent use on Hay Harbor. This membership club provides a sailing dock, sailing program, swimming dock and a beach, as well as upland recreational facilities. Hay Harbor has approximately 5 moorings maintained by waterfront property owners. Hay Harbor has no facilities and overnight anchoring is prohibited due to water quality problems. There are also a number of private docks and finger piers in Hay Harbor.

There are approximately 7 other moorings along the north shore of the island that are maintained by shorefront property owners. East Harbor also provides safe anchorage. It is very popular among the cruising community with upwards of 30 boats anchored in the harbor on summer weekends. Shellfish harvesting, swimming and beach-combing (although the beach is marked private – no trespassing) are very popular activities with visiting cruisers. Water pollution from increased Canada Geese population and stormwater runoff from the adjacent golf course are of concern.

There are three lighthouses associated with Fishers Island: Race Rock light station and North Dumpling Island to the west and Ratimer Reef to the north east. The light on North Dumpling Island is on a privately owned island.

4. Existing zoning

Fishers Island is zoned primarily for low density residential development (see [Map II-6](#)). The residential designations include Residential Low-Density (R-120), (R-80), and (R-40), which are the equivalent of three, two and one acre zoning respectively. There are two areas zoned Hamlet Density Residential (HD) located on the western end of the island: one covers two small parcels near West Harbor and the other is composed of several parcels on Whistler Avenue where most of the former military housing is located. The entire eastern portion of the island, east of West Harbor, is zoned R-120. While there are many nonconforming lots in the eastern end, these were grandfathered in when the Olmstead plan was adopted.

The R-80 and R-40 zones are restricted to the west end. Much of the residential development in the western portion of the island was built on small lots that were created before current zoning regulations, thus do not conform to the minimum lot size restrictions established under the R-40 and R-80 zoning designations. The airport and the naval annex are zoned Residential Low-Density D (R-400 – ten acre density). The shorelands surrounding the mouth of Silver Eel Pond are zoned Marine II. This zone includes the ferry terminal and Coast Guard station. The area around the Goose Island Marina is also zoned M-II. The areas of the island that support business and commercial uses are zoned B, LB, and HB. However, most Fishers Island businesses are located on residentially zoned properties.

5. Existing waterfront access and recreation sites

The shoreline and waters surrounding Fishers Island are the primary recreational asset to the community, serving the needs of both the island's year-round population and its seasonal residents. Swimming, boating and fishing are popular recreational activities. There are no *Andros Patent* lands at Fishers Island. All underwater lands are within the jurisdiction of the State. There are no State or County park facilities on the island, but there are a variety of public and private recreational opportunities available to the community.

There are four established beach areas on Fishers Island. South Beach is an informal public beach on land owned by the Town of Southold. Access to the beach is from local roads and adequate parking is available. There are no other facilities available here.

Dock Beach on West Harbor is a public beach recently acquired by the Town. Residents of Fishers Island and the Town can use the beach. Dock Beach provides limited lifeguard services primarily in conjunction with a children's summer recreation program.

The other two beaches, Isabella and Chocomont are located on the east end of the Island. These beaches can be utilized only by island residents who have an access permit to the eastern portion of Fishers Island. FIDCO provides maintenance services at these beaches. Parking areas are provided and trails to the beach are maintained. There are no facilities or lifeguards at these beaches.

The Hay Harbor Club provides waterfront access in Hay Harbor for their membership only. This membership club provides beach access, a swimming dock, a sailing dock and a sailing program. The Club also has tennis courts, located upland from Hay Harbor and a golf course, located on the southern shoreline of the Island. Hay Harbor is a popular area for waterskiing. There is currently no access to Hay Harbor waterfront for non-club residents.

The Fishers Island Club, located on the east end of the Island, provides a private beach with lifeguards.

West Harbor is the focus for recreational boating on Fishers Island. There are three marinas located within West Harbor: Pirates Cove, Goose Island and Fishers Island Marina/Fishers Island Yacht Club. These marinas provide slips for a combined total of approximately 89 craft and a range of services is available. West Harbor also contains the largest single concentration of moorings in the Town of Southold. Details on the marinas and mooring areas in West Harbor is provided in the discussion of water-dependent uses. Hay Harbor has approximately 5 moorings maintained by waterfront property owners, while there are approximately 7 other moorings along the north shore of the island maintained by property owners. There are also a number of private docks and finger piers on the island. These are concentrated in West Harbor and Hay Harbor.

6. Inland recreation facilities

FIDCO owns a substantial amount of the recreational open space area of the island. FIDCO owns about 240 undeveloped acres at the eastern end of Fishers Island plus all the land and most of the buildings that comprise the Fishers Island Club. This membership club features an 18-hole golf course and tennis courts. The Club also provides a private beach with lifeguards. The other private golf course is the 9-hole Hay Harbor Golf Course, part of the Hay Harbor Club. There is also a private driving range on Middle Farms. Both golf courses are located adjacent to the shoreline. There was a general concern about the impacts of golf course management practices on water quality and wetlands on and around the golf courses. The *Fishers Island Watershed Protection Plan*, discussed in *Subsection 13, Development constraints*, addresses this concern.

The Fishers Island School is a focus of recreational and other community activity. The 7 acre site operates as a hub of the Island's recreational and continuous education programs. The site has two lighted tennis courts, a basketball court and a small playing field. There is an additional field (across the street on the parade grounds) being maintained by volunteers. The school building

contains a two-lane bowling alley, which is being renovated and leased for operation by a group of volunteers.

The Island People's Project is a non-profit organization that is responsible for an extensive summer recreational program for children on the island. They arrange for water safety and swimming instruction for a fee at Dock Beach on West Harbor and provide ball fields near the center of the hamlet area for league ball games.

Informal public access and recreational opportunities are available on the trail network provided on parcels held by the Henry L. Ferguson Museum Land Trust. These trails offer the opportunity for nature observation.

7. New opportunities for public access and recreation provision

South Beach on the southwesternmost shore of the island is used on a year-round basis by island residents. The sandy beach is accessible after crossing 15 to 20 yards of large cobble, depending on the tide and time of year. Some thought has been given to enhancing parking at the access point adjacent to the first green of the Hay Harbor Club Golf Course and creating a pathway for easier passage to the beach, particularly for senior citizens who enjoy walking there.

Discussion among islanders continues about the future of the Navy annex on the south shore of the island just east of the Hay Harbor Club Golf Course. Unlike the airport area, the other large parcel available for subdivision on the west end of the island, the Navy Annex is owned by the federal government, and its sale and development are not subject to a majority vote of the islanders. Currently, there is no public access to this site. In the future, islanders would like to maintain the wild, untamed and rural look of this property with the possibility of developing it for passive recreational uses. The Town of Southold should seek or secure *first right of refusal* from the federal government in the event this property is ever declared surplus.

Islanders continue to discuss the benefits and costs of an enhanced network of non-motorized vehicle paths on the west end of the island and the installation of such a path on the east end of the island. Such a system of pathways would provide transportation alternatives, improve traffic safety, and increase recreational opportunities.

8. Natural resources

The natural resources of Fishers Island are an important element of the unique character of this Reach. The *Long Island Sound Coastal Management Program* (DOS, 1994, p103) identified Fishers Island and its surrounding waters as one of seven distinct ecological complexes in the Long Island Sound Region. The *Fishers Island Complex* is located off the eastern tip of the North Fork of Long Island, separated from the mainland by the Race and Plum Gut. The entire island and associated nearshore areas are included within the complex. The importance of the natural resources of the island are more than just regional as The Nature Conservancy has named the Peconic Bay/Block Island Sound area, including Fishers Island, as one of the world's "Last Great Places," and has included the region in its program designed to protect and manage natural habitats.

Fishers Island is surrounded by the highest quality marine waters in the Long Island Sound region. A wide variety of ecological communities exists on and around the island. Along the shore are coastal salt ponds, brackish and salt marshes, a sheltered bay and coves, maritime sandy beaches,

rocky intertidal communities, and small offshore islands. Inland areas of the island host freshwater ponds, coastal plain pond shores (rare), shrub swamps, and red maple-hardwood swamps, while oak forests, oak-hickory forests, shrub thickets, and marine scrublands are the most prevalent upland natural ecological communities on Fishers Island. A maritime beech forest (globally rare), shrub thickets, and managed maritime grasslands (fire-maintained) are also present. A detailed examination of the location of plant communities within the watershed of the Fishers Island water supply is included within the *Fishers Island Water Supply and Watershed Study, Ecological Component* (Tucker and Horning, 1993). This report provides an excellent indication as to the importance and diversity of the ecology of Fishers Island.

The varied ecological communities on Fishers Island support a rich mix of plant and animal life. In addition to many common species, Fishers Island contains a significant number of rare, endangered, or threatened species of plants and animals. The *Fishers Island Water Supply and Watershed Study, Ecological Component* (Tucker and Horning, 1993) identified that “the total flora of Fishers Island is about 720 species, including both native and naturalized species” (Tucker and Horning, 1993 p22). Within this rich mix of flora, the presence of rare species is a distinctive feature of the Island. The large number of rarities known to exist on Fishers Island, (45 species of plants listed as rare, endangered, or threatened), makes it “one of the most significant concentrations of rare plants in the state” (Tucker and Horning, 1993 p22).

Fishers Island is home to over 90 breeding bird species, including osprey, fish crow, and at least eight other protected species. The beach areas are used by many varieties of sea birds, wading birds, waterfowl, shorebirds, and passerines. Nesting sites for least tern, common tern, piping plover, and osprey have been identified. There are gull rookeries on the offshore rocks. The small, undeveloped group of islands off the north shore hosts one of the largest nesting concentrations of double-crested cormorants in New York State. Seals in the hair seal family concentrate in the area during the winter months, using exposed rocks and small islands for haulout sites. Many of the island’s rare species are concentrated in wetlands. River otter, beaver, and mink have been observed in freshwater ponds.

The forests are large enough to host area-sensitive species, such as ovenbird and red-eyed vireo, and provide breeding habitat for black-crowned night heron, and, possibly, barn owl. Redback salamander and black racer have been observed in the oak-hickory forests, as well as two rare sedges. Shrub thickets provide breeding habitat for snowy egret, gadwall, and northern harrier, among many other species. One such thicket hosts seaside angelica, a rare plant. A maritime grassland community on the island provides habitat for osprey and two rare plant species. Although several common mainland species, such as toads, chipmunks, and woodchucks, are absent from Fishers Island, white-tailed deer are occasionally seen.

(i) Wetlands

Fishers Island contains approximately 420 acres of wetlands, 98 acres of which are regulated by New York State. Tidal wetlands border the inlets and bays, and include intertidal mudflats and salt marshes, as well as rocky intertidal communities on the offshore rocks. Brackish marsh, shrub swamps, and red maple-hardwood swamps are located in the inland portions of the island.

The main areas of tidal wetlands on Fishers Island are located near Hay Harbor and West Harbor, particularly in the peninsula areas where both intertidal and high marsh or salt meadow areas can be found. The harbor areas themselves are classified as littoral zones. Additional areas of intertidal marsh and high marsh are located to the east of West Harbor, along the east side of Beach

Pond, and at scattered sites near East Harbor. Some intertidal marsh is located along Barley Field Cove and on the eastern portions of Chocomont Cove. There are also two sections of formerly connected tidal wetlands on Fishers Island, the larger one north of Barlow Pond and the smaller one near East Harbor. Coastal shoals, bars and mudflats are found in the coastal waters surrounding most portions of the island. The largest exception to this is the area on both sides of the ferry dock on the western portion of Fishers Island.

There are upwards of 200 freshwater wetlands on Fishers Island. The main areas of freshwater wetlands are composed of three interconnected wetlands south of Peninsula Avenue and west of Isabella Beach; wetlands within and proximate to Barlow Pond, Middle Farms Pond and Treasure Pond; and a wetland area near the southern portions of the Fishers Island Club golf course.

(ii) Significant Coastal Fish and Wildlife Habitats

There are three designated Significant Coastal Fish and Wildlife Habitats (SCFWHs) within Reach 10, either on Fishers Island or around it. These are Fishers Island Beaches, Pine Islands and Shallows SCFWH, Dumpling Islands and Flat Hammock SCFWH, and the Race SCFWH. The main features of these SCFWHs are described below. This discussion is based on information contained in the Department of State's Coastal Fish and Wildlife Habitat Rating Forms (DOS, 2005) found in Appendix A of this LWRP and also found at the NYS Department of State's Division of Coastal Resources website and information provided by the Henry L. Ferguson Museum.

The habitat documentation for the SCFWH should be reviewed and incorporated into the planning and design of any proposed projects. Proposed plans and designs should address any potential impacts to the Significant Coastal Fish and Wildlife Habitat by incorporating design guidelines and standards for the protection of the Significant Coastal Fish and Wildlife Habitat.

- **Fishers Island Beaches, Pine Islands, and Shallows Significant Coastal Fish and Wildlife Habitat**

The Fishers Island Beaches, Pine Islands, and Shallows habitat incorporates much of the shallows area along the north shore of Fishers Island on Fishers Island Sound up to 14 feet deep at mean low water, including two beach areas and a small group of rocky islands. A beach area on the island's south central shoreline on Block Island Sound is also included. The habitat is approximately 786 acres.

The shallows area provides important habitat for eelgrass (*Zostera marina*) in what is the most extensive series of beds of this submerged aquatic vegetation along the New York State shore of Long Island Sound. The maximum depth at which eelgrass was identified during the 2002 United States Fish and Wildlife Service Eelgrass Survey along the north shore of Fishers Island was 14 feet in depth at mean low water.

The north shore portion of the habitat commences at Stony Beach on Hay Harbor near the western end of the island and extends easterly to East Point. The Middle Farms Beach area (a.k.a. Beach Pond Fishers Island) is an approximately 17 acre sand, gravel and cobble beach interspersed with shrubs adjoining Island Pond and Beach Pond. The Mud Pond Beach (a.k.a. East End Fishers Island) area is approximately 8 acres in size, consisting of beach and rocky strand with a protective barrier of dense shrubs between the beach area and Mud Pond and

further on, between the beach and golf course. The western part of this area has been posted to protect beach nesting shorebirds. The area is mostly under private ownership and is partly abutted by the golf course of the Fishers Island Club. The third area, Hay Harbor Spit (a.k.a. Stony Beach), is an approximately ten-acre spit of sand, gravel, and pebbles dividing Hay Harbor from Fishers Island Sound at the far western end of the island. There is very little human disturbance here, due to inaccessibility. The Pine Islands are located along the north shore of Fishers Island, approximately one and one-half miles from the eastern end of the island. These small islands (each less than three acres in size) consist almost entirely of exposed rock with small clumps of trees and salt marsh. The Pine Islands are currently undeveloped and privately owned.

Several rare plant species have been documented by the New York Natural Heritage Program in the Stony Beach area, including saltmarsh aster (*Aster subulatus*), large calyx goosefoot (*Chenopodium berlandieri* var. *macrocalycium*), and fireweed (*Erechtites hieraciifolia* var. *megalocarpa*).

The Fishers Island Beaches, Pine Islands, and Shallows habitat is an important nesting area for a variety of shorebirds. An estimated annual average of 11 pairs of nesting least tern (T) were observed along the habitats beaches from 1993 to 2001, with a peak of 26 pairs in 1993. Small numbers of common terns (T) nested at Stony Beach in the early 1980s, but they have been absent since 1985. One pair of nesting common terns (T) was documented at Beach Pond on Fishers Island in 1999. Roseate terns (E) were observed at Mud Pond Beach in 1984 but nesting was not documented. Piping plover (E, T-Fed) also nested historically within the habitat area.

In addition to colonial waterbirds, there are double-crested cormorant, herring gull, and greater black-backed gull rookeries on the rocks offshore of all three of these beach areas; most predominantly near Hay Harbor. Other species nesting within the habitat include American oystercatcher and black skimmer (SC). There are three active osprey (SC) nests on poles adjacent to Middle Farms Beach and one active osprey (SC) nest adjacent to Mud Pond Beach. Other bird species using these beach areas include great blue heron, little blue heron, green-backed heron, black-crowned night heron, great egret, snowy egret, mallard, American black duck, gadwall, green-winged teal, wood duck, common goldeneye, red-breasted merganser, spotted sandpiper, solitary sandpiper, greater yellowlegs, lesser yellowlegs, belted kingfisher, eastern kingbird, tree swallow, barn swallow, and brown thrasher. No significant human activities are associated with the fish and wildlife resources on these three beaches.

In addition to significant bird concentrations, a concentration of harbor seals has been regularly documented at and in the vicinity of the Pine Islands during the winter months and early spring. The exposed rocks in this area provide an important haulout area, which seals use for resting and sunning. This location serves as an activity center for seals feeding in the Fishers Island vicinity, and is part of a larger harbor seal use area which includes Gardiners Island and Orient Point. There are no significant human use activities associated with the wildlife resources of Fishers Island Beaches, Pine Islands, and Shallows.

Beds of eelgrass (*Zostera marina*) provide critical habitat for bay scallops. The 2002 U.S. Fish & Wildlife Service eelgrass survey for Eastern Long Island Sound, Connecticut, and New York documented moderate to heavy densities of this submerged aquatic species within much of the marine shallows areas along the north shore of Fishers Island. These eelgrass meadows

represent the only substantive populations of this species along the New York State shoreline portion of Long Island Sound. Historically, eelgrass beds were documented along the south shore of Fishers Island- as well as within some of island's coves and harbors- according to the survey results though these sites no longer support eelgrasses.

Any activity that would substantially degrade the water quality in the Fishers Island Beaches, Pine Islands, and Shallows habitat would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity or sedimentation, non-point source run-off, and waste disposal (including vessel wastes). Efforts should be made to improve water quality, including reduction or elimination of discharges from vessels and upland sources. Vegetated upland buffer zones should be protected or established to reduce non-point source pollution and sedimentation from upland sources.

Alteration of tidal patterns in the Fishers Island Beaches, Pine Islands, and Shallows habitat could have negative impacts on the fish and wildlife communities present. No new navigation channels should be excavated in the area.

Eelgrass beds are particularly sensitive to alterations in water quality parameters including temperature, salinity, light penetration, organic matter concentration, and the presence of pollutants. Docks may be detrimental to eelgrass beds because of shading, and review of any proposed new docks in this habitat area should be conducted with potential impacts to eelgrass beds fully considered. Restoration opportunities for eelgrass may exist if water quality parameters are appropriate.

Any activity that significantly disturbs or destroys a portion of the habitat, including human use, would likely cause a reduction in the fish and wildlife resource value of the Fisher Island Pines, Pine Islands, and Shallows habitat. Specifically, if the privately owned islands of the Pine Islands were to be developed there would be a major impact on that area's fish and wildlife values; town, state or federal governments should consider acquisition of the Pine Islands if the opportunity arises. Any permanent alteration or human disturbance of the Pine Islands area would adversely affect the ecological integrity of the habitat. Disturbance of the harbor seal haulout area, or obstruction of seal migrations, would adversely affect this species. Significant underwater noise, from dredging or other activities, could also preclude marine species from using the area.

Nesting shorebirds inhabiting the Fishers Island Beaches, Pine Islands, and Shallows habitat are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational use of the area's beaches (*e.g.*, boat and personal watercraft landing, off-road vehicle use, picnicking) could easily eliminate the use of this site as a breeding area and should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (*e.g.*, dogs, cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area. Management activities to reduce the gull population may enhance the suitability of beaches as nesting sites.

- **The Race Significant Coastal Fish and Wildlife Habitat**

The Race is an area of open water located between Race Point, at the western end of Fishers Island, and Valiant Rock, located approximately one and one-half miles southwest of Fishers Island. The fish and wildlife habitat is a very deep channel, approximately one mile wide, and bordered by steep underwater slopes rising up to relatively shallow water on each side. This approximate 2,500-acre area is the primary opening in the underwater ridge separating Long Island Sound and Block Island Sound and is an area of very turbulent tidal exchange.

The Race represents a very unusual physical environment in New York State. The deep, turbulent waters and shoals combine to produce a productive and diverse habitat for marine fishes. Significant concentrations of many species forage in this area, including striped bass, bluefish, tautog, summer flounder, and scup. The Race is also one of two primary migration corridors for striped bass, which move into Long Island Sound in spring en route to their breeding grounds, and return to southern wintering areas during fall. As a result of the abundant fisheries resources in the area, the Race has become a nationally renowned sportfishing area with heavy fishing pressure occurring throughout spring, summer, and fall. Much of this pressure is brought in by charter boats from Greenport, Montauk Harbor, and Connecticut. In addition to sportfishing, the Race supports a commercial lobster fishery of regional significance.

The fisheries resources of the Race may be most affected by any activities that would substantially alter water currents in the area. Also, installation and operation of water intakes would likely have a significant impact on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment. The significant human use which this area supports is dependent upon maintaining or enhancing opportunities for compatible recreational and commercial fishing, within the productivity limits of the fisheries resources.

- **The Dumpling Islands and Flat Hammock Significant Coastal Fish and Wildlife Habitat**

The Dumpling Islands and Flat Hammock Significant Coastal Fish and Wildlife Habitat (SCFWH) is a cluster of three small islands, totaling approximately 30 acres. North and South Dumpling Islands are rocky, with sparse vegetation; Flat Hammock is a low, sparsely vegetated sand island. The three islands are privately owned; South Dumpling Island is owned by the Audubon Society and managed as a bird sanctuary. Angelica (*Angelica lucida*), a state-endangered plant species, has been documented on South Dumpling Island.

The Dumpling Islands and Flat Hammock SCFWH comprise a relatively small, but valuable, coastal habitat type that provides ideal conditions for nesting colonial waterbirds. Isolation from predators and human disturbance (a single residence is located on North Dumpling Island) may be one of the most important components of the Dumpling Islands and Flat Hammock habitat, distinguishing this area from many other islands in Suffolk County.

South Dumpling Island serves as an important nesting site for a variety of gull and colonial wading bird species. Flat Hammock and North Dumpling Island have been surveyed irregularly, and adequate documentation regarding their use is unavailable. Long Island Colonial Waterbird Surveys for South Dumpling Island for 1995, 1998, and 2001 estimate annual averages of 48 nesting pairs of great egret (100 in peak year), 146 nesting pairs of herring gull (300 in peak year), 60 nesting pairs of great black-backed gull (100 in peak year), with lesser numbers of glossy ibis, black-crowned night heron, little blue heron, tri-colored heron, and snowy egret.

Approximately 100 pairs of double-crested cormorant nested on South Dumpling Island in 2001, but no other documentation is available. Flat Hammock, a narrow, sinuous island of unconsolidated coarse waterborne materials, is an important nesting area for great black-backed gull, with regular nesting noted since 1992. Data available for 1995 and 2001 indicate an annual average of 73 pairs of great black-backed gulls nesting on Flat Hammock. American oystercatcher, although in lesser numbers, have also been reported nesting on Flat Hammock.

Any activity that would disturb or eliminate marsh, natural beach, and duneland plant communities would result in a loss of valuable habitat for a number of important wildlife species. Elimination and fragmentation of the natural dune and wetland communities, through excavation, filling, or other land developments would adversely affect concentrations of wildlife. Nesting shorebird species inhabiting the Dumpling Islands and Flat Hammock are highly vulnerable to disturbance by humans, especially during the nesting and fledging period. Significant pedestrian traffic or recreational use of the beach (*e.g.*, boat and personal watercraft landing, off-road vehicle use, picnicking) could easily eliminate the use of this site as a breeding area and should be minimized during this period. Recreational activities in the vicinity of bird nesting areas should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (*e.g.*, dogs, cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect the nesting bird species.

Any activity that would substantially degrade the water quality near the shores of the Dumpling Island or Flat Hammock shores would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, and waste disposal (including vessel wastes) would adversely affect all fish and wildlife that rely on these waters as a food source, or utilize these waters during a portion of their life-cycle.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of the habitat. Development of the area for residential or recreational use would result in a direct loss of wildlife habitat. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance habitat wetland values.

(iii) Locally important coastal fish and wildlife habitats

The Trust for Public Land (1987) identified a series of locally important habitat areas on the Island. These are scattered throughout the island. The location of these areas and their importance are summarized below. The *Fishers Island Water Supply and Watershed Study, Ecological Component* (Tucker and Horning, 1993), also identified the ecological importance of the complex of pristine and largely undeveloped ponds that lie within the watershed of the Fishers Island Water Supply.

Fishers Island: Locally Important Coastal Fish and Wildlife Habitats

<i>Race Point Pond</i>	migrating shore birds, nesting birds in nearby thickets, migrating hawks (fall), ducks, striped bass and bluefish fishing spot
<i>South Beach</i>	nesting oyster catchers, migrating shore birds, water ducks (golden eye, merganser, widgeon), spotted salamanders
<i>Theater Pond</i>	egrets, nesting mallards, nesting virginia rails
<i>South Beach Pond</i>	ducks, rails, swans, herons
<i>Stony Beach</i>	nesting common terns, oyster catcher nests, herring gull nests, black backed gulls
<i>Equestrian Avenue Marsh</i>	herons, barred owls, ducks
<i>Museum Pond</i>	green herons, black-crowned night herons, migrating warblers
<i>Hay Harbor Ponds</i>	ducks, herons, rails
<i>Western Crescent Avenue wetland</i>	herons, winter ducks, osprey nest
<i>North Hill Ponds</i>	green winged teals, mallards, black ducks, swans, gadwalls, egrets, migrating shorebirds
<i>Crescent Avenue Ponds</i>	ducks, herons, geese, swans
<i>Valentine Pond</i>	goldfish, black-crowned night herons, nesting green herons, mallard breeding area, migrating warblers
<i>Navy Pond</i>	rails, migrating ducks, osprey nest
<i>Wilderness Point (maple swamp)</i>	rails, ducks, herons, striped bass and bluefish fishing spot
<i>Peninsula Marshes</i>	seaside astors, fiddler crabs, ribbed mussels, herons, winter ducks in Darby's Cove, swan nesting site on Goose Island
<i>Brickyard Woods</i>	migrating warblers, tanagers, nesting wood thrushes, Veeries, red-tailed hawks, spotted salamanders
<i>Tidal marsh near Brickyard Woods</i>	shallow pools used by herons and egrets
<i>Barlow Pond Marsh</i>	heron rookery
<i>Island Pond</i>	goose nesting area, popular winter birding spot, osprey nest
<i>Beach Pond area</i>	nesting oyster catchers, nesting least terns and piping plovers, migrating shorebirds and hawks
<i>Middle Farms Pond area</i>	nesting and feeding ospreys
<i>Maple Swamp</i>	migrating warblers, redstarts nest
<i>Chocomount Marsh</i>	nesting barred owls
<i>Nature Conservancy parcel</i>	green-winged teals, black ducks, mallards, egrets, loons
<i>Fishers Island Pine Islands</i>	nesting double-crested cormorants, harbor seals (during winter)
<i>Barley Field Cove area</i>	black ducks, swans, geese, herons, green-winged teals, blue-winged teals, gadwalls, widgeons, buffleheads (winter), hooded mergansers, migrating shorebirds, migrating warblers, red-tailed hawk nest, popular fishing area
<i>Golf course near Wreck Island</i>	ducks, swans, geese
<i>Ice Pond, Mud Pond, Money Pond</i>	nesting osprey, nesting oyster catchers, migrating shorebirds, migrating warblers, green-winged teals, blue-winged teals, black ducks, nesting willow flycatchers, least terns, nesting geese and swans, killdeer

(The Trust for Public Land, 1987, p52)

(iv) **Impairments**

In addition to the specific impacts addressed for each SCFWH and the variety of other activities that may cause damage to the ecological complex identified above, there are activities causing specific, known impairments to the natural resources of Fishers Island.

The *Fishers Island Complex* is isolated from the more developed areas of the Long Island Sound region. Impairments of the island's natural resources result primarily from activities on the island itself. Nevertheless, local disruptions considered insignificant in other areas could have severe consequences on the plant and animal life in and around the island, causing local extirpation. Although islands lose species through local extirpations and gain others through colonizations under natural circumstances, human-induced disturbances and introductions of non-indigenous species may accelerate species losses. Such accelerated losses might not be counterbalanced by gains on Fishers Island, because of habitat loss and degradation in Connecticut, Rhode Island, mainland, or other "source," areas.

Development on Fishers Island consists primarily of low density residential uses. Surface runoff from developed areas is insignificant on the island. The Suffolk County Vector Control Division operates a mosquito control program that uses gambusia and Bti (*Bacillus thuringensis* var *israelensis*), which are more environmentally sensitive microbial larvicides than chemical pesticides. The golf courses on the island implement best available technology and best management practices when applying nutrients, pesticides, and herbicides. It is important to continue these efforts to manage and reduce the use of chemicals and to evaluate other options to ensure that mosquito control and golf course maintenance do not have adverse impacts on the island's natural resources. Upland development has encroached upon some freshwater wetlands and their regulatory adjacent areas. This has led to increased sedimentation in the ponds and has destroyed wildlife habitat.

Of particular concern are the cumulative impacts of clear cutting property and the subsequent loss of vegetation buffers along drainage swalls and the shoreline. Aside from the loss of habitat, clear cutting can result in erosion of topsoil and the deposition of soil sediments directly into the creeks and the surrounding bays. If clear cut land is subsequently regraded and revegetated, drainage patterns may be altered enough to affect sensitive ecological habitats. All too often, revegetation consists of the introduction of high-maintenance, non-indigenous, plant species requiring regular applications of fertilizers and pesticides, not to mention irrigation. If properly applied these additives should not impact the groundwater or the surface waters. But too often, they are applied excessively. Finally, clearing of indigenous vegetation near the shoreline of natural drainage swalls, creeks, and bay or sound waters in order to "improve the view" will only heighten the ecological vulnerability of the island's unique habitats.

That said, there are considerable concerns about the ecological health of the fisheries in the surrounding waters. The threat is two-pronged: over-fishing and inappropriate disposal of contaminated dredge spoil.

- *Lobster Fishery Management*

Since 1911 lobster fishing in the waters surrounding Fishers Island has been limited by New York State statute to New York resident license holders. Other New York waters outside of this reserved area were open to nonresident license holders (principally from

Connecticut) under reciprocal licensing provisions. In the 1960's the size of the statutory reserved area was reduced following negotiations between legislative committees from New York and Connecticut to its present configuration: the waters of Fishers Island Sound north of Fishers Island from Race Rock to the Connecticut boundary; eastward to the Rhode Island boundary, and within a triangle south of the Island from Race Rock to Cerebus Shoals.

Under the protection of this statute, Fishers Island developed a stable and self-sustaining lobster fishery. Generations of Island lobstermen husbanded the resource through self-imposed fishing practices that were sound and conservative. Each lobsterman fished a maximum of 500 pots/traps in single pot trawls from small owner-operated boats. All pots/traps were removed from the water during two closed seasons each year when the lobsters were molting and spawning. State regulations regarding legal size and the release of egg-bearing females were followed scrupulously. The results of this self-regulation by Islanders has been a healthy and sustainable lobster population with relatively large proportions of larger lobsters, particularly mature egg-producing females, and, based on that lobster stock, one of the very few indigenous industries on the Island capable of providing a decent livelihood to members of its year-round population. Since lobster larvae drift with the ocean currents, this healthy lobster population also benefited the entire region of Eastern Long Island Sound.

Meanwhile, particularly beginning in the 1980's, lobster fisheries elsewhere in the Eastern Long Island Sound area were being decimated by overfishing. In response, the New York legislature declared a moratorium on the issuance of new licenses, but imposed no limits on the equipment or fishing effort of existing license holders. As a result, South Fork lobstermen, (many of whom moved to lobstering when the Atlantic fisheries collapsed), found financing for large commercial boats (with crews of three or more) capable of hauling trawls containing up to eight pots and fishing 1,000 to 3,000 or even 5,000 pots around the clock. By the mid-1990's they had fished out the shores of Eastern Long Island and the federal waters to the south (which are now closed or severely regulated). Similarly, a proliferation of Connecticut lobstermen, many holding nonresident New York licenses and some with several large boats and thousands of pots, fished out the shores of Eastern Connecticut and consolidated their control of the Race, just west of the Fishers Island reserved area. As a result, the Fishers Island fishery was pressured from two directions.

Responding to this same kind of pressure on lobster fisheries from Maine to Delaware, the *Atlantic States Marine Fisheries Commission* (ASMFC), an interstate compact supported by the Federal Government, proposed that each of its member states adopt a number of conservation measures, the most important being a trap limit per license holder of 1200 pots, which would be scaled down to 800 pots over a two year period. In the late 1990's this conservation measure was adopted in every ASMFC district except New York/Connecticut.

Dominated by the large commercial lobster interests from the South Fork, the New York/Connecticut district voted instead to adopt an historical cap, under which each license holder could continue to fish the same number of pots he had fished in the prior year. This cap essentially meant that the commercial lobstermen who had geared up to

1,000-5,000 pots could continue to exploit the battered fishery, while those who had exercised restraint, like the Fishers Island lobstermen, were blocked from any increase in gear.

By the 1990's enforcement of the Fishers Island statute had become sporadic at best, despite continuous complaints from the Fishers Island lobstermen; and poaching by Connecticut lobstermen became open and prevalent. Then, in November 1997, things reached a head, politically, when the DEC declared the Fishers Island statute to be unconstitutional, thereby inviting Connecticut lobstermen to fish in the reserved area. The legal basis for their action was a six-month "durational residency" clause that the New York State legislature had removed from the Fishers Island statute six months earlier.

At a meeting called by Assemblywoman Pat Acampora in December 1997, representatives of the Fishers Island Lobstermen's Association and Fishers Island Conservancy argued in support of the constitutionality of the Fishers Island statute and pointed out that the New York statute is less restrictive than the laws of Maine, New Hampshire, Massachusetts and Rhode Island, each of which prohibits all nonresident lobster fishing and each of which has never been successfully challenged. After the meeting, the DEC reversed its decision and resumed enforcement of the statutory reserved area against Connecticut lobstermen.

This action precipitated a lawsuit by Connecticut Attorney General, Richard Blumenthal, on behalf of the citizens of Connecticut, challenging the constitutionality of the Fishers Island statute under the Commerce Clause of the U. S. Constitution. When Blumenthal's suit was dismissed by the Federal District Court in Albany (on the grounds that it could only be brought in the U. S. Supreme Court) a Mystic lobsterwoman, Vivian Volovar, filed her own suit raising similar constitutional challenges under the Privileges and Immunities Clause. The dismissal of the Blumenthal suit by the Federal District Court was reversed by the Circuit Court of Appeals (New York elected not to appeal this reversal to the U. S. Supreme Court), and the two suits proceeded in the Albany Federal District Court, where the Fishers Island statute was defended by the New York Attorney General, with amicus curiae appearances by the Fishers Island Lobstermen's Association and the Fishers Island Conservancy.

In 1998, a second threat to the Island's lobster fishery arose. Traditionally, Fishers Island lobstermen had done most of their fishing in Fishers Island Sound, north of the Island. From time to time a few Long Island lobstermen (with resident New York licenses) fished in the triangle of the reserved area south of the Island. So long as lobsters were plentiful around the east end of Long Island and boats were small, Fishers Island was too far for Montauk lobstermen to travel across Block Island Sound. But about the time the dispute with Connecticut erupted, Long Island lobstermen began fishing thousands of pots in trawls of five to eight pots, first off the southeast end of Fishers Island and then north of the Island in Fishers Island Sound, where they had never fished before; presumably in order to establish "turf" rights, in the event that the struggle with Connecticut resulted in some sort of regulation based on historical presence, as had happened at several islands in Maine. The continuous fishing of these thousands of pots, with no closed seasons, poses a terminal threat to the Fishers Island fishery. To make

matters still worse, often the Fishers Island lobstermen are squeezed out of the territory they have fished for generations when the Montauk lobstermen lay trawls of five to eight pots across their lines and make it impossible to retrieve their gear.

At the December 1997 meeting the DEC urged the Fishers Island representatives to come up with a *conservation zone* proposal to meet the combined Connecticut/Montauk threats to its lobster fishery. The concept of a *conservation zone* has wide appeal from both a marine resource conservation and a socio-economic point of view. Fishers Island already enjoys the protection of a one-mile ban on trawling for fin fish adopted by the State legislature several years ago. A *conservation zone* would complement the trawling ban and offer a unique opportunity to create a research laboratory with a controlled habitat and a manageable number of participants in the fishery. The Island lobstermen and their equipment could be drawn on for studies of such things as lobster shell disease or molting habits or conservation programs such as v-notching and releasing female lobsters. Research and conservation programs could be extended to include such things as the depleted blackish fishery, trap-fishing (generally for fin fish or conch), and even tagging and “bag and catch” limits for sport fishing. An appropriate limitation on lobster fishing effort with a *conservation zone* would restore past practices and protect the lobster resource. Further, this constitutionally supportable measure would stabilize the Island lobster industry, encourage other residents to join or rejoin it, and even encourage other lobstermen to settle on the Island with their families.

In the winter of 1998, the Fishers Island Conservancy developed a legislative proposal for a *conservation zone*, with a 500-pot limit at its core and a provision that anyone who elected to fish in the zone would forego the right to fish in any other waters, whether state or federal. This proposal was pushed vigorously by Assemblywoman Acampora in the State Assembly, but found no support in the Senate, and it languished in Albany. The Fishers Island Lobstermen and the Conservancy then petitioned the DEC to create a *conservation zone by regulation*, citing its broad mandate to conserve marine resources, regulate commercial and recreational fisheries and support the socio-economic interests of fishing communities. Initially, this proposal was deemed unacceptable by the DEC because it felt it had no authority to regulate lobster fishing unless specifically ordered to by the legislature.

However, the DEC modified this position in July 1999 and agreed to consider the creation of a *conservation zone* under its statutory authority to manage marine resources and fisheries in areas surrounding natural and artificial reefs, which authority had just been extended by the legislature for a further period of five years. Considerable progress was made on developing the principal terms of such a conservation/management zone, including a 500-pot limit coupled with a prohibition on fishing outside the zone and provision for closed seasons. The promulgation of the proposal was deferred, however, pending resolution of the Blumenthal and Volovar litigation.

In January 2001 the Albany Federal District Court ruled against New York in the Blumenthal and Volovar cases, holding the Fishers Island statue unconstitutional and enjoining the DEC from enforcing it. The Fishers Island representatives argued that the District Judge had misread the controlling Supreme Court case, and eventually Governor

Pataki decided that New York should appeal the decision to the Second Circuit Court of Appeals. That appeal is expected to be argued in the fall of 2001.

Unfortunately, when it filed its appeal, New York did not seek a stay of the District Court order declaring the Fishers Island statute unconstitutional. The result is that Fishers Island waters have been flooded with Connecticut lobster pots, set by both Ms Volovar and other smaller boats and by the large commercial vessels that were previously content to confine their efforts to the prolific waters of the Race, which they dominate. As the summer 2001 lobster "run" begins, thousands of Connecticut pots have been added to the thousands from Montauk, and the Fishers Island fishery is in imminent danger of collapse.

The Fishers Island lobstermen responded to the setback in the litigation with Connecticut by pressing the DEC to implement the proposed conservation zone regulation on an emergency basis. To meet the DEC's concerns about the constitutionality of their earlier proposals for limiting the number of Connecticut lobstermen who could get permits to fish in the zone, the Fishers Islanders proposed a reduced pot limit of 300, applicable to all permit holders, resident and nonresident. A 300-pot limit is believed to be too low to support lobstering as a full-time occupation by Island lobstermen. As of spring 2001, the conservation zone proposal still has not come to pass; so the pressure for its adoption must continue.

When the Blumenthal suit was filed, the first reaction of those on the New York side was to repeal New York's reciprocal licensing law and bring New York into line with the other New England states, none of which permit nonresidents to harvest lobsters within State borders. (Rhode Island repealed its reciprocal licensing law over a decade ago -- interestingly, with no challenge from Connecticut.) The major commercial lobstermen in Connecticut, who dominate fishing in the Race, known to be the most productive fishery in New York waters, were sufficiently concerned about the possibility of repeal to make a pilgrimage to Hartford to petition Blumenthal to withdraw his lawsuit. That proved unnecessary, for the conventional political wisdom of the day in New York was that the Western Long Island Sound lobstermen, who fished more on the rocky Connecticut shore than the sandy Long Island shore, would block any effort to take away reciprocity.

At this point, the fate of the lobster fishery remains in doubt due to ongoing political and legal wrangling that seem to have taken precedence over the Town's policy of prudent resource management. (Source: December 2000 and June 2001 Correspondence and E-mail conversations with Barry Bryan, Director, Fishers Island Conservancy).

- *Dumping of Dredged Material*

With increasing intensity during the last quarter of the 1900's, the waters surrounding Fishers Island have been subjected to the dumping of contaminated dredge material at the New London Dump Site (NLDS), located at the mouth of the Race, just over a mile from the northwest end of the Island. Because of the shallow waters at this location and the extremely strong currents rushing through the Race, emptying and refilling the Long Island Sound with each tidal cycle, the whole extent of Block Island Sound, Fishers Island Sound and Eastern Long Island Sound are exposed to ongoing pollution: first

when the contaminated sediments are dumped; then as they plume and settle; and then again as they are stirred up by the strong, daily tidal currents, intermittent storm wave action and military and commercial navigation traffic.

The problem first reached an acute stage in the late 1970's with the dredging of the Thames River in New London for the Navy's "Trident" submarine program. The dredging permit originally issued by the Army Corps of Engineers called for dumping the spoils at the old Navy dumpsite at Brenton Reef in the Atlantic Ocean off Rhode Island. When the Senator from Rhode Island objected, an Army Corps Colonel struck out "Brenton Reef" and wrote "New London", in the permit.

Dumping the "Trident" dredged material at NLDS was challenged in a suit brought by the National Resources Defense Council, the Fishers Island Civic Association and others against the Secretary of the Army (NRDC vs Calloway 1978). That suit was settled in 1978 on the strength of an agreement by the U. S. Government to identify and activate a disposal site in a less sensitive area -- a commitment that subsequently was quietly abandoned by the Army Corps and never fulfilled.

About the same time an ad hoc federal-state commission was formed to assess the dredging needs and environmental concerns of the New York-New England region. It approved NLDS as an *interim* disposal site with a similar commitment to find an environmentally acceptable alternative. This commitment, too, was soon forgotten.

In 1981, U. S. Representative Ambro of Long Island raised concerns that contaminated dredged material which could not be dumped in ocean waters under the federal Ocean Dumping Act (ODA, also known as the Marine Protection, Research and Sanctuaries Act) were regularly being dumped in Long Island Sound under the looser standards of the Clean Water Act (CWA). Ambro proposed giving the Sound the protections of the ODA. Congress adopted the *Ambro Amendment* to the ODA, which extended the stricter criteria of the Act to Long Island Sound for all dumping projects, except nongovernmental projects (such as private marinas) of less than 25,000 cubic yards. When that formulation did not appear to have changed the practices of the Army Corps, Congress again revised the *Ambro Amendment* in 1990 to make it clear that all of the provisions of the ODA apply to the Sound (with the same exception for small private dredging projects).

Thus, since 1981, dumping in the Long Island Sound has been subject, in form, to regulation under both the CWA and the ODA. In practice, however, the ODA has been ignored for the past 20 years by the two agencies charged with its enforcement, the Army Corps and the U.S. Environmental Protection Agency (EPA). The CWA provides for regulation of dumping by federal and state agencies and the issuance of permits by the Army Corps on the basis of chemical toxicity tests of the dredged material. The ODA goes one step further, and establishes a more comprehensive regulatory scheme based on the biological impacts of dumping on the marine ecosystem. *ODA's regulations and standards takes precedence over any other less restrictive federal or state regulation.* It requires that dredge spoils be subjected to bioaccumulation tests on classes of marine animals before permits are issued. It also prohibits the dumping of more than trace amounts of carcinogens, specified heavy metals (such as mercury and cadmium) and organic chemicals (such as PCBs, dioxins and petroleum). Significantly, it provides that permits issued under other, less restrictive statutes (such as the CWA) are voided.

Furthermore, it requires the EPA to consider dredging needs as well as upland and technological alternatives to open-water dumping. If open-water dumping is the only feasible alternative, EPA is required to designate those sites through the application of ODA's standards and criteria for the protection of human health and welfare and marine ecosystems, including water depth, currents, navigation channels, and the location of fisheries and recreational facilities. The ODA also requires the Army Corps to implement a monitoring and management program for each site. In areas where a site has not been designated by the EPA, the ODA allows the Army Corps to "select" an interim site for a period of five years, but, only by applying these same standards and criteria applicable to EPA-designated sites.

None of these steps had been taken by the EPA or Army Corps at the New London disposal or elsewhere in Long Island Sound, when, in 1994, the Navy announced its intention to dredge the Thames River once again for the "Seawolf" submarine project and dump more than 1,000,000 cubic yards of sediment at NLDS. The Navy prepared an environmental impact statement including CWA-required toxicity tests (although not for dioxin) and some bioassay tests; none of which were up to the standard of the bioaccumulation tests required by the ODA. These CWA tests showed a serious level of contamination, which the Navy admitted; but proposed to remediate by following the Army Corps' practice of capping the contaminated material with "cleaner" material dredged from other parts of the river - - a practice not authorized by the ODA.

At this point, the Fishers Island Conservancy launched discussions with the Navy and the Army Corps to plead for an alternative to the use of the New London Dumpsite and found itself up against the Pentagon, the EPA, and the whole Connecticut governmental establishment (Governor, Department of Environmental Protection and the entire Congressional delegation). These discussions came to an abrupt end in November 1995, when the Army Corps issued permits and immediately began dredging.

When the New York Department of State (DOS) settled a suit challenging the "Seawolf" permits that it had filed under the *Coastal Zone Management Act*, the Conservancy was forced to bring its own suit to enjoin the dumping. This it did in Federal District Court in Long Island, alleging violations of the CWA, the ODA and other laws, joined by the Town of Southold, the Fishers Island Civic Association and other environmental groups and later by Congressman Michael Forbes, in his individual capacity. The Court refused to stay the dumping and allowed the Government to drag the injunction hearing out for a month, while the dredging project was completed. The plaintiffs, the Conservancy, et al, were allowed to test the "clean" capping material and they found dioxin, which the Army Corps had never tested for. Still, the injunction, now moot, was denied. However, the case was not dismissed, and the plaintiffs continued to pursue their ODA claims, seeking a court order requiring the Army Corps to do the following: test the New London Dumpsite; take remedial action if contaminated material was exposed; establish a monitoring and management plan for the Dumpsite as required by the ODA; and refrain from further dumping at the Dumpsite (except for exempt private projects of less than 25,000 cubic yards) unless and until the site was properly tested and designated by the EPA as a legal site under the ODA. In a series of procedural rulings the Court dismissed the suit in June 2000, without ever having heard the plaintiffs' claims of clear violations

of the ODA nor the Government ever having denied them. The plaintiffs, Conservancy, et al, have filed a notice of appeal of the dismissal.

There is, however, one very tangible and positive result of the Forbes suit. In April 1998, on the eve of a hearing date in the case, the EPA and the Army Corps announced their “agreement” to commence the public process for the formal designation of one or more disposal sites for Long Island Sound under the ODA, with a targeted completion date of October 1, 2003 for designation of any sites and establishment of site monitoring and management plans. This process was launched by the EPA in June 1999 with preliminary work on an Environmental Impact Statement that will evaluate the four “historic” sites (New London, Cornfield Shoals at the mouth of the Connecticut River, Central off New Haven, and Western off Westchester) and other potential sites in or near the Sound under the criteria laid down in the ODA. The Fishers Island Conservancy is participating actively in the proceedings.

It is the Conservancy’s belief that the New London Dump Site could not pass muster in an objective application of the ODA criteria, because of its shallow waters (less than 40 feet in places), its vulnerability to storm wave action, its strong tidal currents (the Race has some of the strongest on the East Coast), and its location in the middle of a major military and commercial navigation channel (a submarine actually ran aground on the Dumpsite in the 1960’s), surrounded by unique and abundant lobster, finfish and shellfish habitats, fisheries and aquaculture sites.

If evidence were needed of the importance of the site designation process to the Fishers Island region and of the lack of scientific data that should have been developed by the EPA over the past 20 years, it came with the outbreak of lobster shell disease in the Fishers Island fishery over the past two seasons. The disease disfigures lobsters and makes them unmarketable, but it does not make them dangerous for human consumption. Last winter Island lobstermen observed that the disease was far more prevalent in waters at the west end of the Island near the New London Dumpsite (as much as 75% of the catch were afflicted on a given day) than a few miles to the east (25% on the same day). This observation is entirely consistent with studies of the disease from Maine to New Jersey which have concluded that it is most prevalent in polluted waters.

To date, in its preparation of the *Environmental Impact Statement* for dumping site designation, the EPA has not investigated the possible link between the “Seawolf” dredged material dumped at New London Dump site and the epidemic of lobster shell disease. Further, EPA has not expressed a willingness to include such an investigation during its review of the NLDS.

It should be noted that nearly all of the \$6.6 million appropriated by the U.S. Congress and \$1 million by the New York legislature for lobster disease research will go to the investigation of the causes of the lobster kill in Western Long Island Sound in September 1999. Very little of that funding will be left for shell disease research in the Eastern portion of the Sound. Accordingly, the Fishers Island Conservancy is raising private funds for a research project by Dr. Deanna Prince, a leading expert in shell disease at the University of Maine, specifically focused on the New London Dump site and its possible connection to shell disease in Fishers Island waters. The repeated efforts of the

Conservancy for an allocation of some of the federal and state research funds to their project have been rebuffed. It is intended that this study will be submitted for use in the Environmental Impact Statement for the EPA's site designation.

In the spring of 2001, the EPA, citing funding shortfalls, announced that it was slowing down work on the EIS and it pushed back the completion date for designation of sites from 2003 to 2005.

To conclude, the Town's position is that the failure of federal and state agencies to follow federal statutory requirements not only is a violation of law, it also is a contrary to the Town's policies regarding resource management and protection, as expressed in this LWRP document.

(Source: December 2000 and June 2001 Correspondence and E-mail with Barry Bryan, Director, Fishers Island Conservancy)

(vi) Water quality

Fishers Island is surrounded by Fishers Island Sound to the north and Block Island Sound to the south, both classified SA waters. NYSDEC has taken water quality samples in both coastal waters, but lacks sufficient data to make a positive determination with regard to shellfish harvesting. For this reason, NYSDEC must administratively classify the coastal waters of Fishers Island Sound and Block Island Sound as uncertified. Although the preliminary information indicates that the overall water quality of Fishers Island Sound and Block Island Sound is good. NYSDEC has conducted detailed water quality evaluations within the coastal waters of inner and middle West Harbor and Hay Harbor. With the exception of the harbor areas and Silver Eel Pond, the overall water quality off the north shore of Fishers Island is purportedly very good.

West Harbor and Fishers Island Sound were classified as impaired, Precluded for Shellfishing, and placed on the *1993 NYSDEC Priority Water Problem List*. Both are on the *1996 Priority Waterbodies List*. The West Harbor segment includes 150 acres from Hawks Nest Point to Clay Point. Areas are closed to shellfishing due to coliform values in excess of criteria following rainfall in the southern end of West Harbor. The primary type of pollutant is pathogens and the primary source of pollutant is urban runoff with other sources listed as boat pollution (NYSDEC 1993). The Fishers Island Sound segment includes Hay Harbor (54 acres year-round) and Island Pond (45 acres year-round) giving an affected area of 99 acres out of 7,990 acres (1% of total). Year-round and seasonal closures preclude and impair shellfishing use. The primary type of pollutant is pathogens and the primary source of pollutant is urban runoff with other sources listed as on-site systems and boat pollution (NYSDEC 1993). Water quality problems in Fishers Island Sound and West Harbor have been identified as having a medium resolution potential in the *1996 Priority Waterbodies List*.

The shoreline of West Harbor is densely developed with residences, fishing docks, businesses, and two marinas. In contrast, the area surrounding Hay Harbor is strictly residential. Runoff from developed areas is listed as the primary source of pollutant to the harbor areas. Several storm drains in the vicinity of the harbors may not be functioning correctly. A storm drainage system near the Mobil fuel dock in West Harbor has been a long standing problem and there may be problems with a storm drain in inner West Harbor and one in Hay Harbor. Pollution from on-site wastewater treatment systems is another potential problem in the developed areas around the

harbors. As only a limited area around Fort Wright is serviced by a community sewage treatment plant, most development on Fishers Island must discharge septic wastes through subsurface disposal systems. Although none were identified as malfunctioning by NYSDEC during their 1988-1989 field surveys, malfunctioning septic systems could potentially affect coastal water quality. The inner area of West Harbor, south of Goose Island, is permanently closed for shellfishing. In addition, coastal waters within one mile of Fishers Island between the western entrance to Hay Harbor and the westernmost tip of Race Point are closed to shellfish harvesting year-round (uncertified).

Water quality within the harbor areas deteriorates during the summer boating season. This is due to the fact that there are very few lodging facilities ashore Fishers Island, which forces weekend sailors to stay aboard overnight. Although there are two marinas, a yacht club and mooring areas in West Harbor, no pumpout facilities are available to service the boats. As a result of this, the central area of West Harbor from Hawks Nest Point to Grey Gulls is seasonally closed to shellfish harvesting during the period May 15 through October 31.

Shellfish Harvesting - Water Body Classifications within Reach 10:

Water body	Classification	Remarks
Fishers Island Sound	Certified	Contains uncertified area between NE tip of western side of Hay Harbor to tip of Race Point and a shoreline portion (1 mile of shore)
West Harbor	Uncertified, Seasonally certified	Pirates Cove is uncertified year-round. Central portion west Harbor seasonally closed from 5/15-9/30
Hay Harbor	Uncertified	Closed since 1980,.
Silver Eel Creek	Uncertified	Temporarily closed due to lack of water quality data.
Island Pond	Uncertified	

- Source:
1. NYSDEC, January 1, 1993, Notice of the Sanitary Condition of all Shellfish Lands Located in or Adjacent to the Town of Southold, Suffolk County, New York, excerpted from Part 4, Title 6, NYCRR.
 2. M. Davidson and C. Laporta, NYSDEC, February 22, 1991.
 3. Daniel E. Lewis, Marine Resources Specialist, NYSDEC, September 23, 1999.

The SCDHS could not comment on the overall quality of the freshwater resources below Fishers Island, except that no known contamination exists in the immediate vicinity of the public supply wells. Island-wide groundwater monitoring was conducted during 1988 and 1989 by Groundwater, Inc. of Higganum Connecticut, to determine the presence of contaminants and zones of saltwater intrusion (Juba, February 2, 1991). They determined that groundwater quality is generally very good across the island, however, several areas of concern were identified. Fishers Island Club, which occupies the far eastern end of the island, experiences elevated levels of chloride in wells during periods of prolonged irrigation. Additionally, the Middle Farms area and several smaller

wells in close proximity to the coastal shoreline experience salt-water intrusion. High concentrations of iron and chlorides, along with low levels of volatile organic compounds were discovered in a monitoring well located downgradient of the Pickett's Landfill, which is situated on the southern side of the island, east of the military reserve. Further investigation would be required to develop any conclusions about the existence and/or extent of a leachate plume emanating from the landfill. The Groundwater, Inc. report also identified elevated fecal coliform levels in the Island Pond wetland system and linked its source to waterfowl populations. Bacteriological data is generally lacking for other portions of the island (GI, April 1990). The study examined the groundwater quality of the public water supply. The *Fishers Island Watershed Supply/Watershed Study* (A.R. Lombardi Assocs, Inc., 1994), was adopted in spring of 1997 by the Town of Southold. This Plan resulted from a recommendation in the 1994 Lombardi report and efforts of the Town and County Planning boards and the County Health Services Department. The findings of the study are discussed in *Section 13. Development constraints*, below.

9. Historic resources

(i) State and National Register of Historic Places

There are no properties on Fishers Island listed on the *State and National Registers of Historic Places*. However, Race Rock Light Station, located off the western tip of Fishers Island, and Fort Wright are eligible for listing on the *State and National Registers of Historic Places*. The Race Rock Lighthouse is located about one mile west of the island. Construction of the lighthouse took six years and cost \$278,716. The lighthouse was completed in 1878 and marked the end of masonry lighthouses on wave swept or water-bound sites. Fort Wright was used from 1879-1948. The Henry L. Ferguson Museum has compiled an extensive collection of memorabilia and documents on Fort Wright.

(ii) Local historic resources

There are numerous properties that have local historic and architectural significance. A detailed inventory of the houses of Fishers Island has been carried out by the Henry L. Ferguson Museum, the Town of Southold and the Society for the Preservation of Long Island Antiquities. Many of the houses are excellent examples of the early estates that characterized the development of Fishers Island as a summer residential resort during the late 1800s through the early 1900s. Many architectural styles are featured, providing an eclectic mix of residences that are graced by their estate setting, particularly within the park-like layout of the Olmstead plan. A common theme is the Shingle Style that peaked in the 1880-90s. The enormous hotels of the early 1900s are now gone, replaced by many new summer homes, although evidence of their existence is still to be found in the lot layout and in surviving dependencies.

It is likely that many of the properties inventoried could be eligible for listing on the *State and National Registers of Historic Places* either as an individual listing or as part of a Multiple Resource Designation for the Island based on its history as a summer resort. The mix of architectural styles and the survival in such excellent condition of many of the island's original properties contribute greatly to the community character of Fishers Island.

10. Archaeological resources

According to New York State's Office of Parks and Historic Preservation, most of Fishers Island is archeologically sensitive. See [Map II-17](#).

Fishers Island has a long history of human occupation dating back to the hunter-gatherers of the Paleo-Indians of around 8500 BC and continuing through the Archaic period, 8000 BC to 1500 BC, and the Woodland period, 1500 BC to 1550 AD. This history is still evident and the island features a wealth of archaeological resources. The whole island features multiple site sensitivity. Scattered archaeological finds had been discovered and collected since at least the 1930s. Three sites were discovered in the mid 1980s. There is a shell midden close to West Harbor that dates from about 1000 BC to 1600 AD, a site on the East End that has produced fragments of the earliest pottery found in the northeast, dating from approximately 1075 BC, and a site in the middle of the island. This site has produced pottery and quartz arrowheads from the Woodland Period and firepits, fire cracked rocks, artifacts and quartzite flakes indicating a habitation of the Archaic Period (The Henry Ferguson Museum, 1987).

Many small habitation sites have been found scattered around the island, associated with the saltwater harbors or close to fresh water ponds or springs. Recent discoveries have confirmed the theory that Fishers Island, over a 10,000-year period, maintained many small, scattered family or extended family-sized groups of native Americans. These sites yielded a rich variety of subsistence material which will help to generate a picture of pre-historic existence on Fishers Island and in this part of New York State and the northeast

In 1988, the following series of objectives were established for the continuing archaeological work on Fishers Island:

1. *To trace the prehistoric cultural ecology and cultural change in relation to the changing postglacial environment on and around Fishers island.*
2. *To generate a radiocarbon-dated sequence of dates on Fishers Island.*
3. *To map the distribution of sites of all periods in relation to microenvironments on the Island.*
4. *To reconstruct the postglacial ecological history of the Island, including the effect of rising sea level on land areas, floral and faunal resources and human settlement.*

(The Henry Ferguson Museum, 1990)

11. Scenic resources

Fishers Island is a mostly low density, residentially developed island possessing great beauty and solitude. Its small harbors and coastline offer spectacular views of surrounding waters and the Connecticut shoreline. Fishers Island contains great visual variety. The landscape features are characterized by traditional patterns of residential development dominated by large estates and a seasonal resort community. The park-like setting of the Olmstead design minimizes the impact of residential development on the natural landscape of Fishers Island. The rugged quality of the shoreline is the dominant visual element.

12. Protected resources

The Henry L. Ferguson Land Trust currently maintains a series of preserves consisting of 21 parcels totaling approximately 135 acres. The Land Trust uses the full range of land conservation techniques to protect the important natural character of Fishers Island. It has accepted gifts and donations of land and has worked on protecting other parcels through conservation easements. These protected parcels are partially summarized below. Four of the preserves feature maintained trails. In addition, the Land Trust maintains walking trails at the Brickyard Swamp, Treasure Pond, Chocomount, Clay Pits, and Horning Fort Wright. An illustrated Trail Guide has been prepared for these trails and copies are available at the Museum.

Protected Open Space - Henry L. Ferguson Museum Land Trust

Name	Acreage
H.L. Ferguson Sanctuary*	3.70
Albert Stickney III and Susan Stickney Sanctuary	2.38
L.F. Boker Doyle Brickyard Sanctuary*	15.48
Barlow Pond Wildlife Sanctuary	1.00
David F. Harris Sanctuary	0.75
Betty Matthiessen Wildlife Sanctuary*	8.00
Matty Matthiessen Wildlife Sanctuary*	23.15
Otis Pike Gift	2.38
Key Post Sanctuary	6.45
John Calley	2.10
Mr. and Mrs. Harry Cant Wildlife Sanctuary	6.78
Regina Pyle	1.36
Jansen Noyes	22.00
Henry C. Osborn, III et al.	.25
FIDCO, Middle Farms	1.06
FIDCO, Middle Farms	1.46
Samuel S. and Anne H. Polk	1.82
Robert S. Searle	3.16
Jeanann Gray Dunlop, her nephew and niece	4.03
FIDCO	22.02
Robert J. Geniesse, Middle Farms	5.14
Total	134.47

* *indicates maintained trail*

(Henry L. Ferguson Museum, 2000)

South Dumpling Island, located off the northern shoreline of Fishers Island is now a sanctuary for wildlife owned by the Mashantauket Land Trust. In 1995 four species of herons nested on the island: the great egret; snowy egret; little blue heron; and the black crowned night heron.

The *Fishers Island Water Supply and Watershed Study, Ecological Component* identified four further sites that should be considered as potential preserves. These include the Sunken Forest at the western end of Barlow Pond, one of the oldest forested areas on the Island; the oak-hickory forest on the northwest shore of Barlow Pond; the pitch pine forest on the southeast shore of Middle Farms Pond; and the important bird breeding habitat at Beach Pond Barrier Beach (Tucker and Horning, 1993, p78).

The total protected lands of Fishers Island total 353 acres. The ownership of that acreage is shown on the next table. Although Fishers Island started out as an agricultural community, today no land is in agricultural production.

The *Community Preservation Project Plan (CPPP)*, which was adopted in July of 1998, aims to protect the open and scenic qualities of Southold Town. On Fishers Island, the CPPP targets 38 parcels totaling 715.95 acres for preservation. Most of the properties contain waterfront or pond-

front. Additional details of the CPPP are provided in *Section II.B. Planning Framework, 7. Open Space Preservation Plan: 1989, 1998.*

Protected Lands within Reach 10

Type of Ownership	Acreage	# of Parcels
Park District		0
Churches, Cemetery	6.48	6
County Owned		1.5
Peconic Land Trust		0
Subdivision Park		0
Schools		6.4
Community Development Rights		0
State Owned		0
Subdivision Open Space	10.52	3
Town Development Rights		0
Nature Conservancy		11.07
Town Owned	187.85	7
Museums	71.33	20
Water Utilities	67.04	7
TOTALS	362.19	46

13. Development constraints

(i) Public services and facilities

(a) Water Supply

The water supply, treatment, distribution and storage facilities for Fishers Island are owned and operated by the Fishers Island Waterworks, a subsidiary of FIDCO. The following discussion of the water supply system is based on information in the *Fishers Island Water Supply/Watershed Study* (A.R. Lombardi Assocs, Inc., 1994). The Fishers Island water supply system, originally constructed in the early 1900s, services approximately 600 customers utilizing 22 miles of water mains, an equalization reservoir, a surface water treatment plant, a groundwater treatment facility, a well field and three surface water reservoirs, Barlow Pond, Middle Farm Pond and Treasure Pond. Until recently, Barlow Pond has been the primary source of the island’s drinking water, augmented with water from Middle Farm Pond, if needed, during peak summer usage. Water from Barlow Pond was treated in the 1 million gallon per day surface water treatment plant, constructed during the 1920s and located adjacent to Barlow Pond. This treatment plant was withdrawn from service in 1990 and is on stand-by.

Following concerns that the surface water supply would not be able to supply an adequate quantity of water during drought conditions without augmentation by well supply, and due to the need to refurbish the island’s water treatment plant on Barlow Pond after 60 years of continuous service, an alternate groundwater supply was recommended and implemented. Currently, the Barlow Pond water treatment plant is used as a back up supply system and the wells are the primary source of the Fishers Island water supply. Water is drawn from the Middle Farms well field area and is treated at the recently constructed groundwater

treatment facility near the well field. The treated well water is pumped directly into the existing 10" main in East End road. The recent demand on the wellfield system has been reported by the operator as being 75,000 gallons per day average during the winter and 200,000 gallons per day during the summer (A.R. Lombardi Assocs, Inc., 1994, p3-2). Untreated well water can be pumped to Middle Farm Pond to augment the surface supply when operating. The 500,000 gallon Chocomont Reservoir maintains the system pressure and provides fire storage. Efforts were made to expand the well capability of the water supply. A third well, geographically set apart from the existing two wells at Middle Farms is now on-line and supplies robust and superior quality water. Aside from these wells, there are about 50 individual private wells in use on the Island. The impact of these wells on the aquifer is not known.

Concerns have been raised about the ability of the current groundwater supply to provide an adequate quantity of water during drought conditions and there are also concerns about groundwater depletion and saltwater intrusion (The Trust for Public Land, 1987, p29). These concerns prompted the completion of the *Fishers Island Water Supply/Watershed Study* (A.R. Lombardi Assocs, Inc., 1994) by the Fishers Island Conservancy, the Suffolk County Health Department and the Suffolk County Planning Department. The purpose of this study was to provide "technical information and recommendation for development of rules, regulations and policies for the future preservation of water quality in the three surface water reservoirs and the groundwater aquifers of the Fishers Island public water supply" (A.R. Lombardi Assocs, Inc., 1994, p1-1).

The study concluded that:

The two wells currently pumping water for the entire Island's use on a westerly segment of Middle Farms are certainly adequate for the better part of a calendar year. Because of the huge increase in summer demand, however, and because of the twin dangers of salt-water intrusion and the drawing down of nearby wetland level to a dangerous degree, it would be far better and more conserving of a vital natural resource if the surface water treatment plant on Barlow Road remained on standby and in good working condition - all in readiness lest a severe drought or the dangers mentioned above damage the Middle Farms underground aquifer

(A.R. Lombardi Assocs, Inc., 1994, p1-2).

The study also identified potential sources of contamination of the public water supply. The study recommended "a comprehensive and vigorous watershed and aquifer monitoring, protection and spill prevention plan" (A.R. Lombardi Assocs, Inc., 1994, p1-3) to ensure that the watersheds of the groundwater supply and the Barlow, Middle Farms and Treasure Ponds are protected from the impacts of development in order to ensure the continued availability and quality of the groundwater and surface water supply. As mentioned earlier, the *Fishers Island Watershed Protection Plan* was adopted by the Town of Southold in 1997.

(b) Wastewater facilities

The Fort Wright area has the only sewage treatment collection system on the island. It services about 40 buildings. In 1986, a new community subsurface disposal system was

installed in the Fort Wright area to eliminate all discharge to surface waters. Given an estimated 100 gallons per capita per day of sewage flow, this system can accommodate a maximum population of 200 in the Fort Wright area, a 30% growth increase from this area's current population. In addition to this main disposal system, the Fishers Island School has its own system and there are 7 individual septic systems in the Fort Wright area. (The Trust for Public Land, 1987, p32).

The remainder of the island uses individual on-site subsurface sewage disposal systems. These are a mix of septic tank/leaching pool systems and cesspool/leaching pool systems. Since 1972, Suffolk County Department of Health Services regulations have required septic tank/leach pool systems for all new residences. Fishers Island's well-drained soils, low density, and seasonal use, have minimized problems related to individual on-site wastewater treatment systems. However, water quality problems in West Harbor and Hay Harbor could be related to malfunctioning on-site wastewater treatment systems on residential properties adjacent to these harbors. Research should be conducted on the location and condition of on-site wastewater treatment systems to ascertain if they are a cause of the impaired water quality.

Wastewater systems will not be a constraint for future development in the Fort Wright area or the rest of the island as long as the location for development has permeable soils and meets the Department of Health's minimum acreage and groundwater requirements.

(ii) Flooding

The 100 year floodplain boundary on Fishers Island is often located within 50 feet of the shoreline. However, there are several areas of the Island where the floodplain boundary extends much further inland and which are susceptible to coastal flooding. These areas are:

- *the Fort Wright area, including Elizabeth Airport, South Beach, and Theatre Pond, extending inland up to 1,400 feet*
- *the built up area west of Silver Eel Pond Harbor, including the buildings owned by the Ferry District and the multiple use storage buildings.*
- *Stony Beach, which forms the northwest border of Hay Harbor*
- *the tidal wetland areas south, north and northwest of North Hill*
- *the marsh area north of Madeline Avenue*
- *the Fishers Island Marina/ Fishers Island Yacht Club*
- *the elbow, neck and northeast portion of the Peninsula (several existing houses are in the area)*
- *the large wetland area at Wilderness Point*
- *Island Pond and Beach Pond vicinity*
- *Pond and coastal area east of West Harbor*
- *Ponds near Chocomount Beach*
- *golf course between East Harbor and South Beach*
- *Barley Field Cove Pond*
- *Ice, Mud and Money Pond vicinity*
- *Pond east of East Harbor and wetland east of Club House*

(The Trust for Public Land, 1987, p56)

With the exception of the area near Silver Eel Pond, the Fishers Island Marina/Fishers Island Yacht Club and the Peninsula, there are not many structures within the floodplain, although many houses are adjacent to these areas that are susceptible to flooding. Areas susceptible to flooding are indicated on *Flood Insurance Rate Maps* that are prepared by the Federal Emergency Management Agency. The Town needs to develop a Flood Hazard Mitigation Plan (FHMP) to inventory potential troublespots and solutions.

(iii) Erosion

Because of its location, land use patterns, and geology, erosion at Fishers Island is very different from the rest of Southold. The island is mostly elevated and rocky, having been part of the Harbor Hill recessional moraine. Most of its shoreline is formed by steep bluffs in back of narrow beaches, though a number of low-lying areas are found along the shore. Very few erosion protective structures have been built along the shoreline, although in a few locations unusual methods have been tried, such as insitu cementing of beach cobbles. A 14-acre area landward of South Beach, Stony Beach on Hay Harbor and the land between Island Pond and Beach Pond has been designated as an undeveloped coastal barrier as part of *the Coastal Barrier Resource System* in New York State.

The south side of Fishers Island is exposed to Block Island Sound, although the narrow opening at the Race acts as a constriction on the wave energy striking the island. The bluffs have been eroded and adjacent beaches reflect the composition of the glacial material after wave action winnows out the finer particles. The beaches are made up mostly of cobble to boulder size material (approximately 3 inches or larger in size), with a veneer of sand covering coarser materials during summer months. This situation has minimized ongoing erosion. Houses that have been built on the bluffs are generally set back from the edge. But, erosion of the bluff is a problem on the Navy property. Likewise, bluff erosion is a problem in other locations where several houses have been sited too close to the edge and/or surface drainage has accelerated bluff erosion. For most of the south side of the island erosion is not a problem.

The north side of Fishers Island faces Connecticut, approximately 2½ miles across Fishers Island Sound. This side experiences much lower wave energy and high elevations so that houses are not endangered by erosion. However, several houses in West Harbor have been built in a low-lying area, and homeowners have built sea walls for protection. These structures appear to have been successful in protection of the shoreline.

Roughly parallel to the shoreline and ranging from about 100' to a couple hundred feet landward of the water's edge depending on the topography, most structures on Fishers Island lie outside the CEHA. The few that lie along the edge or partially within the CEHA are located in the following places: near Chocomont Cove; east of Brooks Point; near the entrance to Darbies Cove; West Harbor; and Hay Harbor.

B. SUMMARY AND CONCLUSIONS

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis of Fishers Island, the Town of Southold has identified two distinct land use situations within Fishers Island:

- areas of existing stable uses

- underutilized sites

From this analysis the Town of Southold has identified a series of areas of special concern which require greater attention in the LWRP. The locations of these areas of special concern are identified on *Map II-J-10*, located at the end of this chapter.

(i) Areas of existing stable uses

The entire land area of Fishers Island has been identified by the Town of Southold as an area of existing stable use. The island is a well established seasonal residential resort community with a small year-round population. Much of the island has been developed for residential use or has been subdivided, although many of these lots remain unimproved. Seasonal growth is occurring, both through new development and an increasing market in seasonal rental of existing property. Speculative real estate development is being tolerated for the first time on the island. These trends have the effect of increasing the overall seasonal population and boosting property values but negatively impacting the environment and year-round community character of the island. At the same time that seasonal development pressure has increased, Fishers Island has experienced a decline in its year-round population. This threatens the vitality of the island's character and infrastructure. Although the Island can be viewed as an area of existing stable uses, it is clear that there is potential for increased residential development that could result in changes that could alter the environment and community character of Fishers Island.

(ii) Underutilized sites

The Town of Southold has identified one area of Fishers Island that is an underutilized site. This is the former Fort Wright area located near Silver Eel Pond. Infrastructure left behind by the departure of the US Army in the 1950s remains an integral part of the built fabric of Fishers Island. Former military housing is now occupied by year-round residents. The Fort Wright area includes a significant collection of underutilized military buildings that are ripe for redevelopment. This area is now owned by the Town of Southold, the Union Free School District, the Ferry District and private individuals. In recent years, the Ferry District has permitted some island businesses and individuals to clean up, restore, and use some of the buildings and structures under its jurisdiction for a nominal amount of rent, thereby ensuring ongoing use and maintenance of the structures. Although repeated studies have been made of restoring the buildings for the purposes of providing year-round jobs or affordable housing, no solutions were found.

The two properties on West Harbor by Dock Beach that were recently purchased by the Town are considered underutilized in their current state. The shorefront parcel, site of the former ferry dock, has traditionally been used as a parking lot for patrons of the Dock Beach. Plans are underway to enhance the shorefront property by creating a park-like setting which would include a safer, more formalized parking arrangement, picnic tables, a scenic overlook, low maintenance plantings which would not impair the sweeping harbor views and possibly some interpretive material. The upland lot will likely remain in its current vegetated state. The existing dock on the shorefront parcel is currently set aside for dockage by Southold Town residents for a period not to exceed 2 hours.

(iii) Areas of Special Concern

The Town of Southold has identified six areas of special concern on Fishers Island. These are areas of Fishers Island which feature natural or cultural resources that need protecting, provide development or redevelopment opportunities or where existing development could benefit from

improvements to revitalize the area. These are examined in more detail below and in *Sections III, IV and V*.

- *West Harbor*

West Harbor is the main maritime center on Fishers Island and is the focus of water-dependent use and recreational boating activity. It contains the three marinas located on Fishers Island and the largest single concentration of moorings in the Town of Southold. Fishers Island Oyster Farm, a commercial aquaculture company, and several commercial lobster fishermen are based in West Harbor. The most significant harbor management issues on Fishers Island occur in West Harbor as the sometimes divergent interests of recreational boaters, marinas and shellfish producers all converge within a harbor that is becoming increasingly congested with boat traffic.

The Town of Southold recognizes the significance of West Harbor as a maritime center. This is discussed in more detail below in the examination of harbor management issues.

- *Fort Wright and Silver Eel Pond*

The Town of Southold has identified the former Fort Wright area and Silver Eel Pond as an underutilized area. This area includes a significant collection of abandoned military buildings that could be redeveloped to provide year-round jobs and/or affordable housing.

- *Fishers Island Beaches, Pine Islands, and Shallows*

The Fishers Island Beaches, Pine Islands, and Shallows habitat is approximately 786 acres. The north shore portion of the habitat commences at Stony Beach on Hay Harbor near the western end of the island and extends easterly to East Point. The Middle Farms Beach area (a.k.a. Beach Pond Fishers Island) is an approximately 17 acre sand, gravel and cobble beach interspersed with shrubs adjoining Island Pond and Beach Pond. The Mud Pond Beach (a.k.a. East End Fishers Island) area is approximately 8 acres in size, consisting of beach and rocky strand with a protective barrier of dense shrubs between the beach area and Mud Pond and further on. The western part of this area has been posted to protect beach nesting shorebirds. The third area, Hay Harbor Spit (a.k.a. Stony Beach), is an approximately ten-acre spit of sand, gravel, and pebbles dividing Hay Harbor from Fishers Island Sound at the far western end of the island. The Pine Islands are located along the north shore of Fishers Island, approximately one and one-half miles from the eastern end of the island. These small islands (each less than three acres in size) consist almost entirely of exposed rock with small clumps of trees and salt marsh. The Pine Islands are currently undeveloped and privately owned. They are important as a network of bird nesting sites. Nesting shorebird species inhabiting these areas are highly vulnerable to disturbance by humans from mid-April through July.

- *The Race and the Conservation Zone*

The Race is an area of open water located between Race Point, at the western end of Fishers Island, and Valiant Rock, located approximately one and one-half miles southwest of Fishers Island. The fish and wildlife habitat is a very deep channel (over 150 feet in depth), approximately one mile wide, and bordered by steep underwater slopes rising up to relatively shallow water (less than 30 feet deep) on each side. This approximate 2,500-acre area is the primary opening in the underwater ridge separating Long Island Sound and Block Island Sound, and is an area of very turbulent tidal exchange. The Race represents a very unusual physical environment in New York State. The deep, turbulent waters and shoals combine to produce a productive and diverse habitat for marine fishes. As a result of the abundant fisheries resources in the area, the Race has become a nationally renowned sportfishing area with heavy fishing pressure occurring throughout spring,

summer, and fall. In addition to sportfishing, the Race supports a commercial lobster fishery of regional significance. The significant human use that this area supports is dependent upon maintaining or enhancing opportunities for compatible recreational and commercial fishing, within the productivity limits of the fisheries resources.

The Town of Southold recognizes the importance of maintaining the habitat values of the Race SCFWH. As detailed earlier, in *Section A (iv) Impairments*, the Town has supported the efforts of the Fishers Island Lobstermen and the Fishers Island Conservancy to foster better regional management of the unique and regionally-significant lobster and other fishery resources surrounding the Island. Exploitation of fishery resources to their detriment is contrary to the Town of Southold's LWRP policies on resource management.

- *Dumpling Islands and Flat Hammock*

The Dumpling Islands and Flat Hammock habitat is a cluster of three small islands, totaling approximately 30 acres. North and South Dumpling Islands are rocky, with sparse vegetation; Flat Hammock is a low, sparsely vegetated sand island. The Dumpling Islands and Flat Hammock habitat comprise a relatively small, but valuable, coastal habitat type that provides ideal conditions for nesting colonial waterbirds. Isolation from predators and human disturbance (a single residence is located on North Dumpling Island) may be one of the most important components of the Dumpling Islands and Flat Hammock habitat, distinguishing this area from many other islands in Suffolk County. South Dumpling Island serves as an important nesting site for a variety of gull and colonial wading bird species.

Finally, with regard to the future deposition of any contaminated dredge spoils at the New London Dump Site, the Town of Southold finds that prospect to be contrary to the intents and purposes of its *Local Waterfront Revitalization Program*, as well as threatening to the water of Fishers Island, the unique habitat of the Race and the Fishers Island and Block Island Sounds in general. Details on this situation were provided in *Subsection A. (iv) Impairments*, earlier.

- *The Fishers Island Water Supply watershed*

Concerns were raised about the ability of the current groundwater supply to provide an adequate quantity of water during drought conditions and saltwater intrusion. Protection of the watersheds of the groundwater supply and the Barlow, Middle Farms and Treasure Ponds from the impacts of development is important to the community, in order to ensure the continued availability and quality of the groundwater and surface water supply. Steps have been taken by the Fishers Island Water Company to address these concerns such as implementation of the *Fishers Island Watershed Protection Plan*, development of a third well and maintaining the surface water treatment plant on Barlow Pond for service. The relatively undeveloped watershed area also includes important wetlands and significant plant and wildlife habitat that warrant protection.

2. Key Issues

Following a review of the Inventory and Analysis, the Town of Southold has identified a number of key issues on Fishers Island that should be examined in the LWRP. Opportunities to tackle these issues have been considered in the Inventory and Analysis and are discussed in *Section III, IV* and *V*.

(i) Growth on Fishers Island

All of Fishers Island has been identified by the Town of Southold as an area of existing stable use. The island is a well-established seasonal residential resort community with a small year-round population. Much of the island has been developed for residential use or has been subdivided. Although many of these lots remain unimproved, seasonal growth is occurring, both through new seasonal residential development and an increasing market in seasonal rental of existing property. These trends have had the effect of increasing the overall seasonal population and boosting property values. The downside is this trend could negatively impact the environment and the community character of the island. Mitigating steps have been taken to address rapid seasonal growth such as capping membership in the island's private facilities and maintaining a two vessel ferry service rather than a larger fleet.

At the same time that seasonal development pressure has increased, Fishers Island has experienced a decline in its year-round population. This threatens the vitality of the island's character and infrastructure. Maintaining the Fishers Island School is also vital to the island's year round population. Without the school, families with young children may be forced off island. So, as the population declines, the student population at the school does as well. To address this issue, the Fishers Island School, kindergarten through grade 12, has employed a magnet student program inviting as many as 25 students in grades 5 through 12 from Connecticut attend the school, thereby enhancing the viability of the school experience for the island's 50 or so students. Despite the success of this program and quality of education delivered to the students, the community is beginning to discuss the feasibility of alternative high school experiences for the island students.

The entire eastern portion of the island, beyond West Harbor, is privately owned and access is restricted. This area has been developed over the years by Fishers Island Development Corporation. In 1958, the Southold Town Board adopted the Olmstead development map as an "open development" area or subdivision, pursuant to Section 280-A.4 of New York State Town Law. FIDCO still owns 225 acres on the eastern end of Fishers Island which are split up into about 55 building lots. This represents much of the undeveloped land on Fishers Island. In the past FIDCO has sold building lots to raise money, although now it maintains a policy of not selling any of its undeveloped land.

Although future growth potential is difficult to predict and the development potential of some of these undeveloped lots may be limited by environmental constraints, there is a potential for a large increase in the number of developed residential lots on Fishers Island. If this were to occur, many of the negative impacts on environmental and community character that have been identified by the residents of Fishers Island will likely occur.

It is clear that current trends will result in changes that could alter the environment and community character of Fishers Island. The focus of the Town of Southold LWRP is to ensure that the impacts of these changes on the island's coastal resources, both natural and cultural, are minimized. To this end the LWRP focuses on the protection of the island's unique natural environment and its water-dependent uses.

(ii) Harbor Management Issues

(a) The Fishers Island Harbor Committee

In response to the increasing congestion and competition for the use of the waters and harbors of Fishers Island, the Town of Southold appointed a 16 member Fishers Island

Harbor Committee. Established in May 1994, they were charged with drafting a harbor management plan for all the Town waters and harbors surrounding Fishers Island. This Committee consists of delegates from all the major harbor use groups.

The Committee established the following goals and guidelines for harbor management planning for the waters surrounding Fishers Island:

- *Ensure balance among existing use of the Island's surrounding waters and harbors*
- *Protect and maintain the shoreline character, heritage, and existing quality of life*
- *Promote and support access to the Island's surrounding waters and other resources in the shoreline areas for all Island residents*
- *Provide for and regulate multiple uses of the Island's surrounding waters and harbors in a manner that assures safe, orderly and optimum use of the water and shorefront resources*
- *Maintain the chemical, physical and biological integrity of the Island's surrounding waters and harbors and their dependent habitats*

(Fishers Island Harbor Committee, 1997)

Before examining the policy and implementation response to these goals, it is necessary to examine the harbor management issues on Fishers Island.

(b) Harbor Management Issues

The Fishers Island shoreline is characterized by important natural areas, a concentration of maritime activities within West Harbor, and the ferry service in Silver Eel harbor; the island's main link to the New England mainland. Upland development on the island is concentrated in the west end, around West Harbor, Hay Harbor, and Silver Eel Pond, the three main harbor areas on the island. The shoreline and waters surrounding Fishers Island are the primary recreational asset of the community, serving the needs of both the island's year-round population and its seasonal residents. Swimming, boating and fishing are popular recreational activities. There are no *Andros Patent* lands at Fishers Island. All underwater lands are within the jurisdiction of the State of New York.

The waters of Fishers Island Sound and Block Island Sound—to the north and south, respectively—frame Fishers Island. The shoreline is rugged and irregular, and contains a number of coves, harbors, and beach areas. The main channel lies north of the North Dumpling Lighthouse; between the lighthouse and the islands are a number of rocky islands, South Dumpling and Flat Hammock, as well as submerged rocks and other hazards to navigation. The nearshore waters around Fishers Island also have submerged rocks that can pose a hazard to navigation.

The natural resources of Fishers Island are an important element of the unique character of the island. The *Long Island Sound Coastal Management Program* (DOS, 1994, p103) identified Fishers Island and its surrounding waters as one of seven distinct ecological complexes in the Long Island Sound Region. The island is surrounded by the highest quality marine water in the Sound region. A wide variety of ecological communities exists on and around the island. There are three designated *Significant Coastal Fish and Wildlife Habitats* (SCFHW) on Fishers Island. These are Fishers Island Beaches, Pine Islands, and

Shallows, Dumpling Islands and Flat Hammock SCFWH, and the Race SCFWH. The main features of these SCFWH are described in the Natural Resources discussion. The main area of tidal wetlands on Fishers Island are located near Hay Harbor and West Harbor, particularly in the peninsula areas where both intertidal and high marsh or salt meadow areas can be found. Generally, harbor uses are not concentrated within the areas of the SCFWH, although the intensive human exploitation of the fisheries resources of the Race may impact this SCFWH.

Fishers Island contains a number of water-dependent uses including a ferry, the US Coast Guard Station, recreational boating facilities, aquaculture facilities, commercial lobster, recreational shellfish harvesting, and a US Navy Research facility. The water-dependent uses are concentrated in West Harbor and Silver Eel Pond. These uses are examined in detail in the discussion of water-dependent uses and waterfront recreation and are summarized below. The main harbor management issues are identified for the three main harbor areas on the Island, West Harbor, Hay Harbor, and Silver Eel Pond, and for the remaining shoreline areas of the Island.

- *West Harbor - water-dependent/water uses*

West Harbor is the main maritime center on Fishers Island and is the focus of water-dependent use and recreational boating activity. The Harbor encompasses upwards of 165 acres, and has an average depth of approximately 3 feet near the head of the Harbor and 10 feet at the mouth. The tidal range is about 2.5 feet. The West Harbor channel is federally marked and maintained. It has a navigable depth of 12 feet for a width of 100 feet.

There are three marinas located within West Harbor, Pirates Cove, Goose Island and Fishers Island Marina/Fishers Island Yacht Club and their use is available to the public for a fee. These marinas provide slips for approximately 89 craft and a range of services is available. Details on the marinas is provided in the discussion of water-dependent uses. Accommodation for transient boats is provided at these marinas. Restrooms are available at all three sites. No pumpout facilities are provided within West Harbor or anywhere else on Fishers Island. The Goose Island Marina provides the only fueling station on the island.

West Harbor also contains the largest single concentration of moorings in the Town of Southold, with approximately 90 moorings maintained in two fields located in the central area of West Harbor, although several moorings are maintained outside of these fields by waterfront property owners. Most of the boats in West Harbor are large, with only 25 of the local moored craft under 25 feet, boats of 25-35 feet total 26 and there are 16 over 35 feet. There are five moorings designed for transient use in West Harbor, and there is a safe anchorage outside the designated mooring area in West Harbor. There are also a number of private docks and finger piers in West Harbor.

Fishers Island's only boat ramp is a Town of Southold Boat launch located on Peninsula Road at the head of West Harbor. The Island Peoples Project also maintains Dock Beach, at West Harbor, recently acquired by the Town and being developed as a park.

Fishers Island Oyster Farm, a commercial aquaculture company, is based in West Harbor. Seven of the private docks in West Harbor are used by commercial lobster fishermen or the aquaculture operation.

The area around the Goose Island Marina is zoned M-II. This area should be down-zoned to protect and maintain the character of West Harbor.

- *West Harbor - Harbor Management Issues*

The most significant harbor management issues on Fishers Island occur in West Harbor. The sometimes divergent interests of recreational boaters, marinas and shellfish producers all converge within a harbor that is becoming increasingly congested with boat traffic. The main concern is with the quantity, location and availability of moorings, the quantity and location of anchored boats, the protection of the navigation channel, the extent of provision for transient boaters, and the effects of boating activity and upland uses on both water quality and the important shellfish resources of the harbor.

- *Hay Harbor - Water-dependent/water uses*

Hay Harbor covers about 60 acres and has an average depth of 7 feet. The tidal range is about 2.5 feet. Boat access to the harbor is limited by a shallow channel and adjacent shoals and flats. The Hay Harbor Club is the main water-dependent use located on Hay Harbor. This membership club provides a sailing dock, sailing program, swimming dock and a beach. Hay Harbor has approximately 5 moorings maintained by waterfront property owners. Hay Harbor has no facilities and overnight anchoring and non-resident mooring is prohibited due to water quality problems. There are also a number of private docks and finger piers in Hay Harbor. Waterskiing is popular in Hay Harbor, as it is the only suitable area on the island for waterskiing.

- *Hay Harbor - Harbor Management Issues*

The most significant harbor management issue in Hay Harbor is the improvement and protection of water quality. Water quality problems and the limited access to the harbor limits the area to a small number of docks, piers and moorings for use by waterfront property owners. The layout of the in-water structures of the Hay Harbor Club and conflicts with residents and other users caused by the recreational use of the harbor by waterskiers is also a minor issue.

- *Silver Eel Pond - Water-dependent/water uses*

Silver Eel Pond is a small tidal inlet of approximately 5.5 acres, with an average depth of 14 feet. There is a channel into Silver Eel Pond. The Pond is the port for the Fishers Island Ferry and the home to a US Coast Guard station. Silver Eel Pond does not have a marina or moorings and has a very limited, temporary docking space at the ferry landing. The shorelands surrounding the mouth of Silver Eel Pond are zoned M-II. These shorelands should be down-zoned to preserve the heritage of Silver Eel Pond and maintain the character of the existing shoreline.

- *Silver Eel Pond - Harbor Management Issues*

The harbor management issues in Silver Eel Pond is the protection of the ferry access and the protection of water quality.

- *Other locations - Water-dependent/water uses*

There is an active US Navy facility located east of the airport, on the south shore of the island. The 67-acre facility is the Fishers Island Annex of the *Naval Undersea Warfare*

Center (NUWC). The facility is used as an acoustical sounding test site for towed array and sonar testing.

There are three established beach areas on Fishers Island. South Beach is a Town of Southold beach used by the community. The most convenient access to the beach is adjacent to the 1st green of the Hay Harbor Club Golf Course. The other two semi-private beaches are located on the East End of the Island. FIDCO provides maintenance services at Isabella and Chocomont beaches. The Fishers Island Club also provides a private beach with lifeguards.

There are approximately 7 other moorings along the north shore of the Island maintained by property owners. East Harbor also provides some safe anchorage.

- *Other locations - Harbor Management Issues*

The most significant harbor management issue in the waters surrounding Fishers Island is ensuring the protection of localized surface water uses such as the Navy facility and the recreational uses at the beaches. Concern over the impacts of moorings along the north shore and anchoring in East Harbor include the impacts of this activity on water quality, shellfish resources and habitats. The fisheries resources of the Race may be most affected by any activities that would substantially alter water currents in the area. The significant human use that this area supports is dependent upon maintaining or enhancing opportunities for compatible recreational and commercial fishing, within the productivity limits of the fisheries resources.

(c) Fishers Island Harbor Management Plan

In response to these goals and issues, the Fishers Island Harbor Committee presented the Town of Southold with a draft *Fishers Island Harbor Management Plan* (1995). This Plan reflected hours of discussion and input from the broad diversity of opinion represented on the committee. Some of the more significant policies proposed by the Committee include:

- *new applications for mooring permits will be considered for residents and lessees*
- *there will be no anchoring in West Harbor south of a line drawn from the rock pile (southeast of red nun #10) due west to the shoreline*
- *in West Harbor, the mooring field to the west of Goose Island Channel shall be used primarily for the storage of vessels, while the mooring field to the east of Goose Island Channel shall be used primarily to moor live-aboard vessels*
- *the Fishers Island Harbor Committee shall seek to limit all vessel discharges*

(Fishers Island Harbor Committee, 1997)

The Committee also proposed amendments to the Southold Town Code to implement and enforce these policies. The Committee's proposed *Harbor Management Plan* for Fishers Island was adopted by the Town Board in February of 1997, and the enabling legislation was subsequently adopted by the Town Board in July 1997. (Southold Town Code: Chapter 33, Fishers Island Harbor Management.) The *Harbor Management Plan* for Fishers Island, and the Town Code are also discussed in *Section IV* and *V* of this document.

(iii) Public access and recreation

Areas to consider for enhancement of public access and recreation include South Beach, Dock Beach and Navy Annex. South Beach (on the southwestern shore of the island) is used on a year-round basis by island residents. The sandy beach is accessible after crossing 15 to 20 yards of large cobble, depending on the tide and time of year. Thought has been given to enhancing parking at the access point adjacent to the 1st green of the Hay Harbor Club Golf Course and creating a pathway for easier passage to the beach, particularly for senior citizens.

Discussion among islanders continues about the future of the Navy annex on the south shore of the island just east of the Hay Harbor Club Golf Course. Unlike the airport, the other large parcel available for subdivision on the west end of the island, the Navy annex is owned by the federal government, and its sale and development are not subject to a majority vote of the islanders. Currently, there is no public access to this site. In the future, islanders would like to maintain the wild, untamed and rural look of this property with the possibility of developing passive use recreation. The Town of Southold should seek first *right of refusal* in the event the federal government ever declares this site a surplus property.

Additionally, residents would benefit from an enhanced network of non-motorized vehicle paths on the west end of the island and the installation of such a path on the east end of the island. Such a system of pathways would provide transportation alternatives, improve traffic safety, and increase recreational opportunities. Enhancement of existing road ends also would be of public benefit.

(iv) Protection of fisheries, habitats and wetlands

The natural resources of Fishers Island are an important element of the unique character of the island. The *Long Island Sound Coastal Management Program* (DOS, 1994, p103) identified Fishers Island and its surrounding waters as one of seven distinct ecological complexes in the Long Island Sound Region. The island is surrounded by the highest quality marine waters in the Sound region and a wide variety of ecological communities exists on and around the island. There are three designated *Significant Coastal Fish and Wildlife Habitats* (SCFWH) within Reach 10. These are the Fishers Island Beaches, Pine Island, and Shallows SCFWH, Dumpling Islands and Flat Hammock SCFWH, and the Race SCFWH. Fishers Island also includes a significant number of wetlands and numerous rare, threatened or endangered species of flora and fauna.

The fishery resources of the Race are intensively used by commercial and recreational fishermen. The Town, in its support of the efforts of the Fishers Island Lobstermen and Fishers Island Conservancy to work with various state agencies, wants to ensure the sustainability of the lobster fishery, and consequently, the livelihood of the lobstermen. The Town has taken a clear stand on this issue, as evidenced by its unanimously adopted *Town Board resolution of August 12, 1998* printed below in its entirety. This resolution was sent to the Governor and other key state officials.

WHEREAS, the lobster resource is the most valuable marine resource in New York State, and

WHEREAS, the American lobster resource has been declared over-fished throughout its range, mandating fishing effort reductions and lobster stock rebuilding to sustainable levels, and

WHEREAS, it is the policy of the State of New York that the primary principle in managing the State's marine fishery resource is to maintain the long term health and abundance of marine fisheries resources and their habitats, and to ensure that

the resources are sustained in usable abundance and diversity for future generations, and

WHEREAS, utilization and allocation of available resources will be administered consistent with the restoration and maintenance of healthy stocks and habitats, now, therefore, be it

RESOLVED that the Town Board of the Town of Southold strongly support the implementation of a Fishers Island Lobster Conservation Area, crafted to reduce fishing effort, protect and increase the brood stock abundance and reduce fishing mortality to levels which would minimize the risk of stock depletion and recruitment failure and maintain the stewardship relationship between fisherman and the resource, as per Supervisor Jean Cochran and Trustee James King.

In the interest of resolving this tangled dispute in a fair and equitable fashion without irreparable damage to the underlying resource, the Town, through the Fishers Island Lobstermen and Conservancy, is proposing the repeal of New York State's reciprocal lobster licensing law. Repealing reciprocity would be a three way *win-win-win* for New York:

- It would open up the prolific waters on the Race, with its estimated million pounds of lobsters per year to New York resident lobstermen.
- It would recapture for the New York Treasury hundreds of thousand of dollars of tax revenues now lost to Connecticut.
- It would simplify the DEC's job in enforcing lobster regulations by establishing a single line of New York jurisdiction (the state boundary) and a single class of license holders (residents).
- It would alleviate the existing pressures on the Fishers Island fishery and facilitate the creation of a viable *conservation zone*, to the benefit of the lobster population, the cause of scientific research, the Fishers Island fishing community and the entire Eastern Long Island Sound region.

As with the issues highlighted in the previous paragraph in the struggle over sustainable management of the lobster fishery, the Town has taken an equally clear and strong stance regarding the dumping of contaminated dredge spoils in or near the Race or the Fishers Island *conservation zone*. Sustainable and wise management of the unique natural resources of the Race and the waters within Reach 10 is a top priority and concern of the Town of Southold.

Specific policy and other recommendations relevant to these two issues are set forth elsewhere in this document. The reader is referred to the following: *Section K. Summary and Conclusions*; *Section III. Local Waterfront Revitalization Policies* and *Section V. Techniques for Implementing the Local Waterfront Revitalization Program*.

(v) Protection of water quality

Concern focuses on the impairment of the surface and groundwater resources and the harbor and near shore areas. On land impairment from stormwater runoff, malfunctioning on-site wastewater treatment systems, boater pollution, and indiscriminate or excessive clear cutting of vegetated shorelines are the main concerns.

Elsewhere within Reach 10, the main concerns are the short and long term effects of continued dumping of contaminated dredge spoils within close proximity to the waters surrounding Fishers

Island. These concerns were articulated in *Subsection (iv) Protection of fisheries, habitats and wetlands*, above.

(vi) Protection of Historic Resources

Although there are no properties on Fishers Island listed on the *State and National Registers of Historic Places*, there are numerous properties that have local historic and architectural significance. Many of the houses are excellent examples of the early estates that characterized the development of Fishers Island as a summer residential resort during the late nineteenth century, at the turn of the century and during the early twentieth century. The mix of architectural styles and the survival in such excellent condition of many of the island's original properties contribute greatly to the community character of Fishers Island.

(vii) Protection of scenic resources

Fishers Island contains great visual variety. The landscape features are organized by traditional patterns of residential development dominated by large estates and a seasonal resort community. The park-like setting of the Olmstead design minimizes the impact of residential development on the natural landscape of Fishers Island. The rugged quality of the shoreline is the dominant visual element.

K. INVENTORY AND ANALYSIS - SUMMARY AND CONCLUSIONS

Section II.J. Reach Analysis, detailed the specific opportunities and key issues within each of the ten Reaches of Southold Town. This section provides a summation and overview of the key issues and the opportunities within each Reach but from a general perspective.

1. Opportunities for land use changes

As a result of the comprehensive Inventory and Analysis, the Town of Southold has identified three distinct land use situations within Southold:

- areas of existing stable uses
- areas subject to development pressure
- underutilized sites

(i) Areas of existing stable uses

The areas of existing stable uses include most of the developed residential and commercial properties around the creeks and the Peconic Bay waterfront. These areas are not subject to any foreseeable changes in market conditions or other factors that might significantly alter the character of the areas, with one exception. The trend towards expanding the floor area of residential dwellings on small, non-conforming waterfront lots may change the character of the surrounding neighborhoods and the view of the shoreline from the water, particularly if the wholesale clear-cutting of screen landscaping is permitted to continue unchecked.

(ii) Areas subject to development pressure

Areas subject to development pressure are located throughout the Town of Southold. The majority of land in this category is currently in agricultural use. Farmland on the edge of the hamlets and adjacent to the main transportation corridors is under increasing levels of development pressure to be converted to business or residential uses.

(iii) Underutilized sites

A number of underutilized sites were identified in *Section II.J. Reach Analysis*. These sites are summarized below and their location illustrated on *Map II-21*. The sites and their problems and opportunities are discussed throughout *Sections II, III, IV* and *V* of this document.

Reach 1

- Five vacant M I-zoned parcels at entrance to Mattituck Inlet

Reach 2

- Santorini Motel
- Goldsmith Inlet County Park
- Peconic Dunes County Park
- Kenney's Road Beach
- McCabe's Beach

Reach 3

- Town Beach
- 67 Steps Beach
- Clarks Beach
- Inlet Point County Park
- Brecknock Hall

Reach 4

- Truman Beach
- Orient Point County Park
- East Marion School District Property

Reach 5

- Terminus of NY Route 25 at Orient Point (public access to beach)
- Street ends, Orient/Narrow River Road
- Cleaves Point, Former Long Island Oyster Farm
- Boat launch and parking area, Baymen's Dock, Beach Street, Sterling Basin

Reach 6

- Marine-zoned property
- East side of Petty's Pond

Reach 7

- Southold Hamlet Business Center
- Southold National Historic District
- Cedar Beach Park County Park

Reach 8

- New Suffolk waterfront

Reach 9

- Love Lane Business District
- (Head of) James Creek Business District

Reach 10

- Former Fort Wright area, Silver Eel Pond
- Former ferry dock adjacent to the Goose Island Marina

The Town of Southold will encourage the effective re-use of these sites for water-dependent uses. These lands could be redeveloped as viable marine-commercial or water-dependent recreational uses that would provide another source of public access to the shoreline. The Town may also wish to acquire some of these properties for public use. Specific options are discussed in the respective Reach Analysis.

(iv) Areas of Special Concern

The Town of Southold has identified several areas of special concern (ASC) within the Town. An ASC can be a specific place with natural or cultural resources that need protecting; it can be a site which provides development or redevelopment opportunities, or it can be a site where existing

development could benefit from improvements to help revitalize the area. These areas and their key issues are identified and summarized below, and their locations identified on *Map II-21*. Some ASC's physically lie in more than one Reach or are of general concern. For that reason, a "Townwide" listing of ASC's precedes a "Reach" listing. In the Reach listing, the reader will be referred back to the Townwide list of ASC's for details about the issue of concern.

AREAS OF SPECIAL CONCERN

Location

Issue of Concern

Townwide

Agricultural Land & Industry.

The protection of agriculture in Southold Town must extend beyond the mere preservation of agricultural land from development. The industry itself must be buffered against the negative impacts of increasing development pressures. Agricultural land is the underpinning of an industry that plays a clear and significant role in the local economy. Agricultural land is a working landscape which contributes tax revenue while also providing unquantifiable, but key public benefits towards the quality of life in Southold.

- *Transportation.*

As population and tourism increase, traffic-related issues are expected to rise as well. The Town's limited road network has forced it to take a hard look at its limited carrying capacity. In the interest of maintaining the Town's unique character, Southold has been taking aggressive steps to mitigate transportation problems, and where possible, prevent them. This has not been an easy task given the fact that the two major east-west arterials are owned and maintained by the State of New York and the County of Suffolk. Further, the Town is impacted by land uses located on property in the ownership and control of the federal government, the State, and the County. One key issue is the increasing demand for ferry service between Long Island and Connecticut. Southold Town is bearing more than its fair, regional share of this burden to the detriment of its own residents.

- *NY Route 25 Corridor.*

Once offering expansive and varied scenic vistas, SR 25's historic and open vista has slowly shifted to a more residential landscape. Moreover, many trees that used to canopy over SR 25 have been lost due to severe trimming by the Long Island Power Authority (LIPA) in an effort to reduce storm damage to the overhead power lines. The Town has taken the initiative in redressing this situation by requesting cooperation from the State Department of Transportation and LIPA. A pilot program of replanting trees was started in Orient and East Marion. It is hoped that this will become a permanent program of replanting trees throughout the SR 25 corridor. The undergrounding of overhead transmission and distribution lines throughout the Town is recommended, particularly along the Orient Causeway. Protection of the scenic resources of this transportation corridor is a key focus of the Town's *Scenic Byways Corridor Management Plan*.

The Town also is greatly concerned about the increased levels of traffic being generated by residents and tourists. The traffic congestion of particular concern is at the eastern-most end of SR 25. The key generators in this area appear to be the Cross Sound Ferry Company, the State Park at Orient Beach and the federal research laboratory at Plum Island, as well as that generated by tourists and local residents. SR 25 in this vicinity is a two-lane rural highway. It also is the only east-west arterial. The situation has been further complicated by the general increase in speeding on the State highway. The Town's preference is that this historic highway, portions of which date back to the 1600's, *not be widened other than to provide turning lanes or other context-sensitive solutions where necessary*. Efforts to institute traffic calming measures on this road will remain an ongoing challenge.

Yet, as the capability of this rural two-lane highway is being strained by the joint presence and impact of a popular State park, a federal research facility and an interstate transportation facility regulated by the State, it is evident that the Town faces key obstacles to managing the traffic and maintaining its quality of life. Improved coordination of projects among federal, state and Town agencies is needed to address these challenges. As notification of federal and state agency actions subject to coastal procedures will be required once the Southold LWRP is approved, this will go a long way towards achieving greater cooperation among agencies.

□ ***County Route 48 Corridor.***

This road was designed to be a bypass for the more heavily traveled SR 25 corridor. Concerned that, increasing development pressure would lead to new or expanded commercial construction along the CR 48 corridor (instead of within the existing traditional business centers), the Town conducted a planning survey of the commercial zones along this route. In 1999 and 2000 the Town Board rezoned several properties abutting CR 48 with the intent of reducing the potential for new retail development and preserving the road's capability to serve as a true bypass route for SR 25. In addition, since residential development also carries with it the potential to convert agricultural acreage, as well as to mar the scenic, open space qualities of this corridor, the Town continues to acquire development rights from agricultural land within the corridor. It also is soliciting cooperation from the County to improve stormwater drainage so as to eliminate direct discharge of road runoff into the Sound and the creeks. As traffic levels and speeding increase, the Town hopes to convince the County to institute traffic calming measures. Protection of the scenic resources of this transportation corridor is a key focus of the Town's *Scenic Byways Corridor Management Plan*.

• ***Water Quality.***

Maintaining good quality water is a prime concern within Southold. Whether that water is underground or on the surface, it is a known fact that

land use activities affect the quality of water downstream and down gradient, whether below or on the surface. The Town's concerns are two-fold: protecting the quality and quantity of its sole source aquifers and protecting the surface water quality of its many fresh and salt water wetlands, its creeks, and the bays and sounds that surround it.

□ ***Surface Water***

The Town looks forward to working with the New York State Department of Transportation on its *Environmental Initiative Program* as well as with Suffolk County on its *Water Quality Protection and Restoration Program* to protect surface waters. Further, the Town will comply with the relevant sections of the U.S. Environmental Protection Agency's *Phase II Stormwater Program*.

The Town recognizes the value of a No Discharge Zone (NDZ) on its marine waters. It has supported the application to the State and federal government for designating the Peconic Estuary as a NDZ. It also supports the extension of that zone to include Reach 10, Fishers Island and Reach 1, Mattituck Creek.

□ ***Groundwater***

There are two State designated Special Groundwater Protection Areas within Southold. The entire Town, including Plum, Fishers and Robins Islands rely on groundwater for drinking water. The overlying sandy soils and the shallow depth of these aquifers provide strong arguments for adopting watershed protection and water conservation measures throughout the Town.

• ***The Creeks.***

Most of the creeks within Southold Town are impacted by the land uses and water drainage taking place upgradient of their shorelines. Throughout the Town, the primary concerns are the improvement and preservation of water quality so as to sustain the shellfish resource, managing key creeks so as to reduce boater conflicts, maintaining environmental health, preserving key scenic resources, and preventing the over-intensification of waterfront development. As will be seen in the Reach synopsis, below, each of these issues affects the creeks, inlets, and canals in varying degrees. Management of the creeks to protect their ecosystems will require, at the least, improved enforcement, the elimination of gray or septic water from residences, and the filtration of stormwater runoff from roads, fields and developed properties.

• ***Significant Fish and Wildlife Habitat areas.***

The Town contains several nationally and regionally significant fish and wildlife habitats. Because of the close proximity of residential development to these sensitive habitats and the importance of these habitats to the health of the Peconic and Long Island Sound estuaries, the Town must find ways to ensure that they are not negatively impacted by human activity. Given the

potential for increased septic flows as waterfront or near-waterfront homes are built or expanded, the location of septic systems should be the focus of greater scrutiny. Furthermore, the filtration of direct discharge of stormwater runoff is a necessity. Public education as to the detrimental impacts of daily human activities (such as excessive or improper application of fertilizers and pesticides, and the leaving of dog wastes on the beaches and road ends, to name just two) will have to be given greater emphasis as the year-round population increases. Finally, the preservation of contiguous blocks of habitat will become more critical as existing fringe habitat is lost to residential development. While there is much the Town is doing and can do on a local level, it will not be able to protect these habitats effectively unless State and federal agencies with jurisdiction within these areas cooperate.

- ***Public Safety.***

The Town is concerned about two separate facilities: one within its borders, the other outside.

- ***Plum Island.***

The United States Department of Agriculture operated an animal disease research laboratory on Plum Island from 1956 until June 1, 2003, when management of the facility was handed to the United States Department of Homeland Security. Known as the Plum Island Animal Disease Center, the facility conducts research on highly contagious animal diseases. Recently security at the facility was upgraded in response to the increased potential of terrorist threats throughout the country. The Town has a number of serious concerns about potential threats to local public health and safety posed by the facility. The Town is no longer the sleepy hamlet it was during the 1950s. The growth in population and traffic, not to mention the incidences of terrorism, has raised questions as to the ability of the laboratory to maintain internal security within the facility as well as of materials being transported to and from the facility.

- ***Millstone Nuclear Power Station.***

This nuclear power plant located in New London County, Connecticut is slightly more than 10 miles from Southold Town. However, until 1999, the Town was not included in the federally-mandated *Emergency Preparedness Program* for this facility. Because of the logistical challenges involved in evacuating people, particularly during the height of the summer season, and the ongoing concerns about the potential for damage to the marine environment, the Town has taken an active interest in seeing that this facility is maintained and operated in strict accordance with federal regulations.

- ***Affordable Housing***

The fabric of Southold's year round community includes people of all ages, walks of life and economic levels. This diversity is important to the Town. As the resort appeal of this area grows, the Town wishes to ensure that its

residents and labor force are able to find affordable appropriate housing with the Town.

- ***Community Character***
Southold Town's sense of place is shaped, in part, by its rich trove of archeological and historical resource, some dating back to 1640. As new development is added to the mix, it is important to integrate it into the existing fabric in a complimentary way. The Town also wishes to retain its uniqueness by discouraging the homogenized built landscape that characterizes many of Long Island's suburban communities. Finally, the Town recognizes the value of encouraging the protection and preservation of its archeological and historical resources.
- ***Light Pollution***
Light pollution takes many forms and it can have major impacts on a community's visual character, on navigational safety along the shoreline at night and, potentially, on the health of marine ecosystems. The rural feel of a community can be negatively affected by excessive lighting of signs and of properties, (commercial and recreational). Misdirected lighting of surface waters near docks and piers may be detrimental to the health of some marine species. Finally if the Town wishes to promote marine-related tourism, some thought needs to be given to ensuring navigational safety along its shorelines.

Reach 1

Erosion east of the Mattituck Inlet jetties.

The littoral downdrift of sand from west to east across the jetties guarding the Inlet entrance has been interrupted. The eastward beach and shoreline has experienced severe erosion and storm-damage. A breach may occur in the near future unless efforts are taken to restore and maintain a source of sand replenishment.

- ***Mattituck Inlet and Creek.***
The Town's only harbor on Long Island Sound contains prime wetland and shellfish habitat that is surrounded by extensive residential development and some marine development. As development increases, management of the harbor's resources will be necessary in order to maintain the creek's ecological health and productivity. Human use of the waterfront for docks and moorings has to be balanced against the ecosystem's limited ability to maintain viable wetlands and shellfish habitat.
- ***Mattituck Creek Watershed Area.***
The water quality of the creek is heavily influenced by the land uses surrounding it. The *Mattituck Creek Watershed Plan* identified the existing and potential sources of pollution to the watershed. The Town must take action to eliminate or mitigate those sources.
- ***County Route 48 Corridor.***
This is an issue of townwide concern that was discussed earlier.

- ***Oregon Road vista.***
One of the most scenic vistas within Reaches 1 and 2 is that of the farmfields and historic farmhouses and barns along Oregon Road. Meriting its own Seaview Trail designation, this vista is threatened by the intrusion of new residential development. Many of the new homes are being sited near the bluffs in order to take advantage of the water views. However, some of the private driveways that were cut into blocks of farmland may be preventing farmers from moving equipment efficiently from field to field.

Reach 2

Long Island Sound shoreline – Goldsmith Inlet to Kenney’s Beach.

The erosion along this stretch of shoreline is the worst within the Town. The Town is committed to identifying the man-made structures located along this shoreline that may be aggravating the natural rate of erosion and to finding constructive ways to prevent further erosion of the same magnitude.

- ***Goldsmith Inlet.***
The primary concern is good water quality within the Inlet. The water quality within the Inlet has deteriorated to the point that shellfishing has been closed in the Inlet year-round. The poor water quality has been attributed to road runoff, faulty septic systems, high water table, septic systems located too close to the inlet, runoff from landscaped areas that have been treated with pesticides and/or herbicides and animal wastes. Furthermore, the clearing of the wetland and coastal vegetation on public property by private property owners desiring to improve their waterviews is evident around the Inlet and the introduction of irrigation and fertilizer-intensive landscapes within the Inlet’s watershed is considered to be ecologically distressing both to the native vegetation around the Inlet and the water quality within the Inlet.
- ***Peconic Dunes.***
The primary issues of concern here are protecting habitat and improving park infrastructure. With regard to habitat protection, the park’s current manager is acutely aware of both the site’s ecological sensitivity and the recreational potential even with its environmental constraints. However, the lack of adequate funding to upgrade or expand the existing facilities, much less add new features, means that this park’s potential is not being fully realized.
- ***County Route 48 Corridor.***
This is an issue of townwide concern that was discussed earlier.
- ***Oregon Road vista.***
One of the most scenic vistas within Reaches 1 and 2 is that of the farmfields and historic farmhouses and barns of Oregon Road. Meriting its own Seaview Trail designation, this vista is threatened by the intrusion of

new residential development. While many of the new homes are being sited near the bluffs in order to take advantage of the waterviews, there is no public access, with the unfortunate result that many private driveways cut into blocks of farmland and literally prevent farmers from moving equipment efficiently from field to field.

Reach 3

Long Island Sound shoreline - Horton Point to Town Beach.

The severity of the erosion in Reach 3 follows closely behind the erosion found in Reaches 2 and 1. The consequence of the erosion within Reach 3 is aggravated by the shallowness of some of the residential lots, the location of Sound View Avenue and of CR 48 relative to the shoreline and the natural coastal processes at work in this Reach. Federal flood insurance policies that encourage continued development in this area should be re-evaluated.

- ***Town Beach.***
Because Town Beach is a major recreational facility, the Town has invested a significant portion of its limited resources to develop this beach. The Town is greatly concerned about the direct discharge of stormwater onto Town Beach from County Route 48. The County Department of Public Works is trying to eliminate the need for this direct discharge pipe but the lack of suitably vacant land is a major obstacle.

- ***Clarks Beach/Inlet Pond County Park.***
Water quality at these beaches is affected by the location of the Village of Greenport's Sewage Treatment Plant's outfall pipe, and the fact that the water from the outfall does not meet tertiary sewage treatment standards. The Town and County park properties are seriously underutilized as beaches principally for this reason. Upgrading of the sewage treatment plant by the Village is seen as a priority. Finally, erosion from the illegal use of off-road vehicles must be stopped.

- ***Brecknock Hall.***
The preservation of this mansion is of paramount importance to the local citizenry and the Brecknock Hall Preservation Society. The Town Board recently changed the 11.6 acres of commercial zoning around the mansion from Limited Business to two-acre residential. The current owners of the site have indicated that they will work with the community to preserve the Hall. The State Office of Parks, Recreation and Historic Preservation has determined that the Hall and the supporting buildings on this estate are eligible for listing in the State and National Historic Register.

- ***Islands End Golf Club.***
The Club is located partly on leased property. It is the only golf course in mainland Southold with views of Long Island Sound. Because the Club does not own the lands over which the course runs, the Town should explore all avenues to protect this site to ensure that the Club remains in

recreational use. The Club already has initiated efforts to gain control over this land through two separate acquisitions of 33 of the 98 acres of the site.

- ***County Route 48 Corridor.***
This is an issue of townwide concern that was discussed earlier.

Reach 4

Long Island Sound shoreline - Trumans Beach.

Erosion of the shoreline and flooding along Trumans Beach is a Town concern. Prior to the construction of the Causeway in 1898, Trumans Beach was breached at least 8 times within 200 years during northeasters and hurricanes, causing Orient to be temporarily cut off from the rest of the island.

- ***Long Island Sound shoreline - Petty's Bight.***
Bluff and beach erosion is of concern in this stretch of the Reach principally because of its potential to impact existing residences near the edge of the bluff. If the lessons of Reach 1 and 2 are valid, the introduction of more shoreline protection structures may aggravate the problem instead of improving it. The Town should not grant variances to permit construction of any structures whether they are residences or swimming pools within 100 feet of the bluff edge.
- ***Trumans Beach.***
This embayment behind the Orient Shoals is the site of two public access points, both of which were described in detail earlier in Reach 4, Inventory and Analysis. Offering excellent scenic views and wetland habitat for several bird species, both public access areas would benefit from improved facilities (such as interpretive material, sanitary facilities and park furniture) and better maintenance (both parking areas are excessively paved, lack drainage, and would benefit from buffering landscaping).
- ***Orient Point County Park.***
Offering an unparalleled 4,893 feet of shoreline frontage and magnificent views, Orient Park County Park is underutilized because of the lack of basic trail maintenance and facilities (there are no restrooms or interpretive center).
- ***NY Route 25 Corridor.***
This is an issue of townwide concern that was discussed earlier.

Reach 5

Orient Point.

The primary issues of concern here are resource and park management, preservation of scenic resources, and management of traffic congestion. Point County Park is in need of better natural resource conservation and park management. Another issue of concern is wetland and habitat protection. This is discussed in greater detail below, in discussion of Long Beach Bay. The Orient Point marshes comprise a large and relatively undisturbed coastal estuarine ecosystem that provides habitat for a diversity

of fish and wildlife species. Pristine habitat such as this is rare in New York State.

The Town also is greatly concerned about the increased levels of traffic being generated by the Cross Sound Ferry Company, the State Park at Orient Beach and the federal research laboratory at Plum Island as well as that generated by tourists and residents. State Route 25 in this vicinity is a two-lane rural highway. It also is the only east-west arterial. The congestion caused by the increased level of traffic has been further complicated by the general increase in speeding on the State highway and the lack of State enforcement of same. State set speed limits are enforced by Town Police, but collected fines must be sent to Albany and cannot be used to defray local expense of enforcing speed limits. The Town's preference is that widening of this historic highway not take place other than to provide for turning lanes or other context-sensitive solutions to traffic congestion or safety issues..

Yet, as the capability of this rural two-lane highway is being strained by the joint presence and impact of a popular State park, a federal research facility and an interstate transportation facility regulated by the State, it is evident that the Town faces key challenges to managing the traffic and maintaining its quality of life. This LWRP provides a substantial benefit through the enhancement of communication and cooperation between the Town and state and federal facilities located in this area. The LWRP will appreciably increase the Town's ability to manage these areas of concern.

- ***Plum Island.***

The primary issues of concern with regard to Plum Island are two-fold: *public safety* and *historic preservation*.

The primary issues of concern with regard to Plum Island are two-fold: public safety and historic preservation. The Town's law enforcement and emergency personnel are responsible for providing public security and safety within the boundaries of the Town. SR25 is a two-lane highway providing the only east-west access to this part of the Town. Recently, jurisdiction over ferry services was shifted from the Coast Guard to the Department of Homeland Security for national security reasons, and as a result, the Town's Police Department has been expected to undertake the burden of increased and heightened security patrols without any financial compensation. The Town not only respectfully requests the courtesy of reasonable notification in advance of any expansion or change in the operations at PIADC that might affect the Town's ability to maintain adequate levels of protection but also of direct financial assistance to the Police Department.

Due to the rise of traffic congestion and speeding being experienced on SR 25 (see previous subsection), the security and safety of bio-hazardous materials being transported to and from the facility also are high on the list

of concerns. Public safety whether in the event of an accident on the road, or an accident at the ferry terminal or on the Island itself, is the key issue here.

With regard to historic preservation, as discussed in *Section II.J. Reach 5. Subsection 9. Historic Resources*, some of Plum Island's nautical and military structures are of State and National ranking, thereby worthy of preservation. Unfortunately, the USDA has not made historic preservation of any structure on Plum Island a priority. Key structures, particularly the lighthouse, are badly in need of protection from erosion and lack of maintenance. Timely action is needed now before these historic resources are lost.

- ***Long Beach Bay (including Hallocks and Little bays).***

The primary issues of concern in this area involve wetland and habitat protection, public access, water quality, and harbor management. The Long Beach Bay complex is probably the most unspoiled and productive ecosystem in mainland Southold Town. The Bay's high water quality and productive shellfish beds have not been degraded. However, the potential exists for careless abuse if the Town is not successful in protecting the surrounding farmland from being converted to residential development. A cooperative effort is needed to identify acceptable levels and types of use in and adjacent to the Bay which would protect its high water quality.

The State park forms the southward land border of this Bay. It provides quality recreation and resource access and protection. No major expansion of the park has taken place since the early 1950s. However, recreational and user preferences do change over time and there is a continuing need for the Office of State Parks, Recreation and Historic Preservation to assess the capacity of the park for use, especially in regard to resource protection. Findings from such an assessment can be used by the Town and others to address quality of life issues such as traffic control on SR 25.

- ***Orient Hamlet.***

Preservation of Orient Hamlet is of utmost concern. Although strong citizens' groups, e.g. the Orient Association and the Orient Historical Society, maintain careful watch, the Town must take steps to ensure that the surrounding character of the land remains as such. Furthermore, the Town must provide clear financial and other incentives for the protection and continued use of its historic structures.

- ***Orient Harbor & Causeway.***

Water quality, erosion, habitat protection and scenic vistas are the four primary issues of concern here. Orient Harbor probably would benefit from the removal of direct discharge of stormwater runoff from the surrounding roads. Of these, the State highway is probably the largest contributor of direct discharge, particularly along the Causeway. Although there have been several improvements to the highway over the last decade, there have

not been any significant improvements to the stormwater runoff problem. Beach erosion in the vicinity of Orient Village and the Causeway will require ongoing vigilance. The wetland habitat is in need of protection, and, as pointed out in the Southold's Town *Scenic Byways Corridor Management Plan*; the scenic vistas within this area are of State-wide significance. Future improvements to this highway corridor should include undergrounding of the overhead transmission and distribution lines. The Causeway also would benefit from the introduction of indigenous landscaping to filter the stormwater.

- ***NY Route 25 Corridor.***

This is an issue of townwide concern that was discussed earlier.

- ***Marion Lake.***

Restoration of this Lake is of prime concern to its neighbors. Invasive species of wetland plants have nearly choked this lake. Further, as small cottages, some located on undersized lots, have been expanded into larger homes, the increase in septic waste, and stormwater runoff have added to the pollution levels in the lake. While the Town is working with Cornell Cooperative Extension and the U.S. Department of Agriculture's Soil Conservation Service to remove invasive species, more work needs to be done to reduce the level of pollution entering the lake. It may be necessary to take strong steps in order to prevent further deterioration of water quality and habit within Marian Lake.

- ***Former Long Island Oyster Farm, Cleaves Point, East Marion***

This site encompasses 18.9 acres of land, including the bottom of the boat basin. The property is zoned Marine II and it contains the derelict remnants of a seafood processing plant. The site could be redeveloped with any of a number of water-dependent uses. Given its size, it has good potential to be made into a multiple-use facility accommodating water-enhanced recreational uses as well as the typical water-dependent uses allowed by the Zoning Code. This site also is a feasible location for a Town-owned marina and park. The deteriorated state of the site is one major obstacle to its redevelopment. Another is the unanswered question whether specialized environmental clean-up efforts may be necessary.

- ***Gull Pond Inlet.***

The primary issues of concern in Gull Pond Inlet are those of harbor management and water quality. The high number of docks and moorings and the high level of boating activity taking place at the State ramp near the Inlet entrance-all point to a need to establish some limits to protect the water quality and the ecosystem. Since this water body is probably operating at or near maximum capacity, the Town perhaps should be looking for additional water access elsewhere rather than trying to cram more activity into this inlet. Further, there are modifications that could be made at this site to improve mooring capability and siting, to improve on-site drainage and to add buffering landscaping.

Reach 6

Hashamomuck Pond.

Water quality and wetland and habitat protection are concerns in this Reach. Consistently appearing on the NYSDEC Priority Water Problem List, Hashamomuck Pond has been polluted by stormwater runoff, septic systems, and high concentrations of waterfowl. The Town has embarked on a program of land acquisition and storm water remediation around the Pond. It has obtained County cooperation in the area of stormwater remediation. However, some restrictions on the construction of new and the expansion of existing residential development still may be needed to alleviate the poor water quality.

- ***Budds Pond/Mill Creek/Brickyard Cove.***

The issues of concern in this area relate to harbor management and wetland and habitat protection. The marina operations can have negative impacts not only on the nearshore ecology but also the visual landscape. Even though most of the marinas in this stretch of the shoreline have attempted to minimize their impacts on the water, this part of the Reach will always require careful stewardship and ecologically conscious development techniques.

- ***Arshamomaque Preserve.***

This Preserve, the Town's largest expanse of freshwater and wooded wetlands, lies between Albertson Lane, SR 25, Chapel Lane and CR 48. This site is a unique and unspoiled habitat for rare species, and the Town wishes to acquire and conserve 241 acres of mature forest and freshwater wetland. The New York State Natural Heritage Program is researching the Swamp Cottonwood-Swamp White Oak-Pin Oak plant community on this site. There also is a large, undisturbed narrow-leaf cattail marsh within this proposed preserve. Some acquisitions have been made and others are near completion. However, since this environmentally sensitive site already has been negatively impacted by the siting of LIPA's high tension power transmission lines and a power generating station, any upgrades or expansion of these facilities should receive careful environmental scrutiny.

- ***Moore's Drain, Pipes Neck.***

This wooded uplands and wetlands system runs south from Moore's Woods to Pipes Cove and encompasses a unique and largely unspoiled habitat. Visible from SR 25 and the LIRR, this land poses serious obstacles for development due to natural environmental constraints such as susceptibility to flooding, clay soils, and high groundwater table. Nevertheless, the land between SR 25 and the LIRR track is zoned Light Industrial Office, while the portion south of the track is zoned R-80. Much of this area has been targeted for acquisition under the *Community Preservation Project Plan*. Toward this end, the Town has enlisted the assistance of The Nature Conservancy to acquire land between SR 25, Pipes Neck Road, Silverman Road, Shore Drive and Pipes Cove.

- ***County Route 48 Corridor.***
This is an issue of townwide concern that was discussed earlier.
- ***NY Route 25 Corridor***
This is an issue of townwide concern that was discussed earlier. This portion of the transportation corridor goes through visually varied territory, from the urban streets of the Village of Greenport and West Greenport, past Moores' Woods, the open marshes near Pipe's Cove and Hashamomuck Pond, the busy maritime waterfront at Goldsmith, Mill Creek and Budd's Pond, a vineyard and the eastern portion of Southold village. Trees that used to canopy over SR 25 within the village have been severely trimmed back by the Long Island Power Authority (LIPA), thereby negatively affecting this streetscape.

Reach 7

The Creeks.

The primary issues of concern here involve preservation of water quality so as to maintain the shellfish resource; harbor management so as to reduce boater conflicts within the creeks; the preservation of scenic resources, and preventing the over-intensification of waterfront development. Each of these issues affects the creeks, inlets, and canals in varying degrees. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences and the filtration of stormwater runoff.

- ***The Significant Fish and Wildlife Habitat areas.***

Because of the close proximity of residential development to these sensitive habitats and the importance of these habitats to the health of the Peconic Estuary, the Town must find ways to ensure that these habitats are not further impacted by human activity. Given the potential for increased septic flows as waterfront or near waterfront homes are built or expanded, the location of septic systems should be the focus of greater scrutiny. Furthermore, the filtration of direct discharge of stormwater runoff will become of greater importance. Public education as to the negative impacts of the deposition of dog wastes on the beaches and road ends will assume greater importance as the year-round population increases. Finally, the preservation of contiguous blocks of habitat will become more critical as existing fringe habitat is lost to residential development.

- ***Town and Jockey Creeks.***

The primary issue of concern here is the continuing erosion of the residual spits guarding the entrances to Town and Jockey creeks. Lack of maintenance of the groins stabilizing the spit and failure to restore the spit with dredged material have exposed the wetlands and uplands at Harper Point to direct wave action off Southold Bay. However, since the spit may have been an unnatural addition to the original entrance to this complex of creeks, this area should be the focus of a targeted study of old marine charts to discern the shape and extent of past barrier formations at Harper Point. At the least, if offered the land, the Town should accept it so that dredged

material could be placed around the groins to forestall further erosion and enhance protection of the creek entrance.

- ***Cedar Beach Park.***

This County park and marine education center is of great importance to the Town of Southold because of its extensive natural resources and its unique teaching and research opportunities. The park's location at the southeastern-most tip of Great Hog Neck means that its accessibility is somewhat compromised. Because all traffic on and off of Great Hog Neck is over only two access roads, the residents of the area understandably are not pleased with the prospect of increased traffic congestion. That Great Hog Neck still contains significant undeveloped acreage that is vulnerable to new residential infill development means that the resources of Cedar Beach will be both a boon and a bane. The increased population will benefit from continued improvements to the Cedar Beach facilities; yet, the increased levels of traffic that are highly likely to ensue may be a source of local controversy. Potential solutions include Town acquisition of more open space on Great Hog Neck and adding more recreational facilities to meet existing and future need for open and recreational space.

- ***County Route 48 Corridor.***

This is an issue of townwide concern that was discussed earlier.

- ***NY Route 25 Corridor.***

This is an issue of townwide concern that was discussed earlier. This portion of the road runs through the Southold National Historic District on the western side of Southold village, then continues on westward, to expansive, if brief vistas of open farm fields and vineyards in Peconic. Trees that used to canopy over this road have been severely trimmed by the Long Island Power Authority, thus reducing the quality of the scenic vistas.

Reach 8

The Creeks.

The primary issues of concern here involve preservation of water quality so as to maintain the shellfish resource, harbor management so as to reduce boater conflicts within the creeks, the preservation of scenic resources, and the over-intensification of waterfront development. Each of these issues affects the creeks, inlets, and canals in varying degrees. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences and the filtration of stormwater runoff.

- ***The Significant Fish and Wildlife Habitat areas.***

Because of the close proximity of residential development to these sensitive habitats and the importance of these habitats to the health of the Peconic Estuary, the Town must find ways to ensure that these habitats are not further impacted by human activity. Given the potential for increased septic flows as waterfront or near waterfront homes are built or expanded, the

location of septic systems should be the focus of greater scrutiny. Furthermore, the filtration of direct discharge of stormwater runoff will become of greater importance. Public education as to the negative impacts of the deposition of dog wastes on the beaches and road ends will assume greater importance as the year-round population increases. Finally, the preservation of contiguous blocks of habitat will become more critical as existing fringe habitat is lost to residential development.

- ***Cutchogue Harbor.***

The Cutchogue Harbor and Wetlands complex is a valuable ecosystem area to northern Long Island as well as Southold Town. Lack of a policy or regulations on bay moorings in Cutchogue Harbor is of growing concern, particularly as marinas seek to expand their customer base by offering access to moorings. The potential issues facing the Town include complaints from waterfront owners on the bay about concentrations of moorings in front of their properties, the impact on the scenic vistas, traffic congestion within the Harbor, and conflicts with baymen and commercial fishermen who place traps or nets in the vicinity. Also of concern are the long-range impacts of unregulated moorings on the shellfishing resource.

- ***East/Mud Creeks.***

The potential loss of public access and scenic vistas due to development of the beachfront is of ongoing concern to the immediate neighborhood, which has long fought the proposed development of the beach adjacent to Trustee-owned land.

- ***New Suffolk waterfront.***

The revitalization of this small and unique waterfront is of utmost concern to the residents for a number of reasons, which range from improving the tax base to maintaining a cohesive sense of community. Until recently, the lack of public water posed a serious constraint to new or redevelopment along the waterfront. However, the extension of public water mains to New Suffolk has changed that equation. The high degree of environmental sensitivity, not to mention the unique historic character, of the New Suffolk area, in general, highlights the need for careful and limited redevelopment.

- ***County Route 48 Corridor.***

This is an issue of townwide concern that was discussed earlier.

- ***NY Route 25 Corridor.***

This is an issue of townwide concern that was discussed earlier. After passing through vistas of farm fields west of Southold and in Peconic, the road enters the residential and business center of the village of Cutchogue, goes past the historic Village Green on which stands the Oldest House in New York State, then winds past eastward alongside fields and vineyards into Mattituck. As elsewhere, the trees that used to canopy over the road have been trimmed back by the Long Island Power Authority resulting in a loss of scenic quality to the streetscape.

Reach 9

The Creeks.

The primary issues of concern here involve preservation of water quality so as to maintain the shellfish resource, harbor management so as to reduce boater conflicts within the creeks, the preservation of scenic resources, and the over-intensification of waterfront development. Each of these issues affects the creeks, inlets, and canals in varying degrees. Management of the creeks to protect their ecosystems will require improved enforcement, the elimination of gray water from residences and the filtration of stormwater runoff.

- *James Creek.*

James Creek is heavily used by boaters. The continued growth of the two existing marinas coupled with the addition of new docks on the creek will necessitate the adoption of a harbor management plan in the near future. Of the two marinas on James Creek, Strongs has the larger land area and the greatest potential for expansion and intensification. Further, at the head of James Creek, the business district should be examined to see if more water-enhanced uses could be introduced. In addition, the visual access to James Creek by business-zoned properties fronting on the creek could be improved. Presently, the traveler on SR 25 near James Creek has no clue of its existence.

- *Horton Creek.*

Although The Nature Conservancy owns more than 21 acres of Horton Creek, most of the western boundary of the creek is heavily developed with residential lots. Protection of this creek's ecological health for greenbelt and other conservation purposes most likely will depend on the degree to which the Husing Estate, which is listed on the *Community Preservation Project Plan* and surrounds the creek's borders to the north, east and south, is developed.

- *County Route 48 Corridor.*

This is an issue of townwide concern that was discussed earlier.

- *NY Route 25 Corridor.*

This is an issue of townwide concern that was discussed earlier. The agricultural vistas east of Mattituck give way to brief views of Marrantooka Lake, opposite the Mattituck High School. The road moves into the heart of Mattituck Village, past its quaint and central intersection with Love Lane and Sound Avenue, before heading out into Laurel and Riverhead. The streetscape here has suffered, as elsewhere, due to excessive tree trimming. The scenic qualities of this portion of the road are particularly compromised in the vicinity of the shopping strip and mall on the west side of the village. Part of this is due to the widening of the State road, and the lack of landscaped buffers in front of existing buildings. Preservation of the scenic qualities of SR 25 and preventing further

deterioration are recommendations of the Town's *Scenic Byways Corridor Management Plan*.

Reach 10

West Harbor.

The main maritime center on Fishers Island, West Harbor is the focus of water-dependent use and recreational boating activity. It contains the three marinas located on Fishers Island and the largest single concentration of moorings in the Town of Southold. Fishers Island Oyster Farm, a commercial aquaculture company, and several commercial lobster fishermen are based in West Harbor. The most significant harbor management issues on Fishers Island occur in West Harbor as the sometimes divergent interests of recreational boaters, marinas and shellfish producers all converge within a harbor that is becoming increasingly congested with boat traffic. The *Fishers Island Harbor Management Plan* and Chapter 33 of the Town Code were designed to address these issues.

- ***Fort Wright and Silver Eel Pond.***

The Town of Southold has identified the former Fort Wright area and Silver Eel Pond as an underutilized area. This area includes a significant collection of abandoned military buildings that are ripe for redevelopment. The harbor management issues in Silver Eel Pond are the protection of the ferry access and the protection of water quality.

- ***Fishers Island Beaches, Pine Islands and Shallows.***

The Fishers Island Beaches, Pine Islands and Shallows SCFWH incorporates much of the shallows area along the north shore of Fishers Island Sound up to 14 feet deep, including two beach areas and a small group of rocky islands, as well as a beach area on the island's south central shoreline on Block Island Sound. This SCFWH is important as a network of bird nesting sites. Nesting shorebird species inhabiting the Fishers Island Beaches are highly vulnerable to disturbance by humans from mid-April through July. Fencing and/or annual posting of the area should be provided to help protect the nesting bird species. The Pine Islands comprise a relatively small, but valuable, coastal habitat type that provides suitable conditions for several unusual species of wildlife. Isolation from predators and human disturbance may be the most important component of the Fishers Island Pine Islands habitat, distinguishing this area from many other rock and marsh islands in Suffolk County.

- ***The Race and the Conservation Zone.***

The Race is an area of open water located between Race Point, at the western end of Fishers Island, and Valiant Rock, located approximately one and one-half miles southwest of Fishers Island. The fish and wildlife habitat is a very deep channel (over 150 feet in depth), approximately one mile wide, and bordered by steep underwater slopes rising up to relatively shallow water (less than 30 feet deep) on each side. This approximate 2,500-acre area is the primary opening in the underwater ridge separating Long Island Sound and Block Island Sound, and is an area of very turbulent

tidal exchange. The Race represents a very unusual physical environment in New York State. The deep, turbulent waters and shoals combine to produce a productive and diverse habitat for marine fishes. Due to its abundant fisheries resources, the Race has become a nationally renowned sportfishing area with heavy fishing pressure occurring throughout spring, summer, and fall. In addition to sportfishing, the Race supports a commercial lobster fishery of regional significance. The significant human use that this area supports is dependent upon maintaining or enhancing opportunities for compatible recreational and commercial fishing within the productivity limits of the fisheries resources. Sustaining the resource through the use of a *conservation zone*, (described in *Section II.J. Reach 10. B.2.(iv)*), would help achieve this goal. However, the concept will not work unless the zone and its management are recognized and adhered to by the federal government and the States of New York and Connecticut.

- ***The Fishers Island Water Supply watershed.***
Concerns had been raised about the ability of the current groundwater supply to provide an adequate quantity of water during drought conditions. There also were concerns about groundwater depletion and saltwater intrusion. In order to ensure the continued availability and quality of the groundwater and surface water supply, protection of the watersheds of the groundwater supply and the Barlow, Middle Farms and Treasure Ponds from the impacts of development is important. The Fishers Island Water Company has taken steps to address these concerns by implementing the *Fishers Island Watershed Protection Plan*, developing a third well, and maintaining the surface water treatment plant on Barlow Pond for emergency service. The relatively undeveloped watershed area also includes important wetlands and significant plant and wildlife habitat that warrant protection.

2. Key Issues

Following a review of the Inventory and Analysis, the Town has identified a number of key issues. Opportunities to tackle these issues have been considered in the *Inventory and Analysis* and are discussed again later in *Sections III, IV* and *V*.

(i) Land use and development

Much of the immediate waterfront area and hamlet centers within the Town of Southold have been identified as areas of existing stable uses. These areas consist of fully developed residential areas that are likely to experience infill development which should not significantly alter the character of the areas. The areas subject to the greatest development pressure are located outside, but adjacent to, existing stable uses. The majority of land subject to development pressure is in agricultural use and is located on the edge of existing residential areas. Current development trends show a slow shift of land from agricultural use to residential development and the increasing attractiveness of the Route 48 corridor for commercial development, which if allowed to continue will compromise the bypass capability of the road.

The future pattern of land use proposed in the *Master Plan Update* encouraged residential development to locate in and around existing hamlets *"in order to preserve and enhance the historic and cultural centers of the community, to support existing commercial centers, to provide locations for moderately priced housing and to encourage efficient and effective provision of community facilities and services"* (Town of Southold Planning Board, 1985, p6) and for commercial development to locate in hamlet centers. The *Master Plan Update* also identified Mattituck, Cutchogue, Southold and Orient as major hamlet centers which should *"continue to be the residential-business-service centers of the Town"* (Town of Southold Planning Board, 1985, p8). New Suffolk, Laurel, Peconic, East Marion and Fishers Island were also considered hamlet centers, but on a less intensive scale.

Lower densities of residential development were proposed in the remainder of the Town, particularly in agricultural and coastal areas, and even lower densities were proposed in areas where water supplies were particularly limited and where extensive areas of environmentally sensitive land exists. The *Master Plan Update* also introduced zoning and land use techniques aimed at protecting farmland and sensitive natural areas, including acquisition of development rights, clustering, agricultural use assessments and transfer of development rights.

The Town of Southold LWRP seeks to advance these land use goals with particular emphasis on ensuring that local residents who work in the Town are not priced out of the housing market. In particular, it is important that development and redevelopment in the immediate waterfront areas be considered with respect to not only preserving public access, but also preserving and encouraging water-dependent uses. Water-dependent uses should not be displaced or denied in favor of non-water dependent uses.

There are several underutilized sites scattered throughout the ten Reaches. In Reach 1, there is an abandoned, deteriorating asphalt plant and a sunken barge that need to be removed to allow for redevelopment of the sites fronting on Mattituck Inlet. Underutilized sites within Reach 3 are limited to the water recreational facilities. Within Reach 8, careful development of the underutilized, business-zoned property would help anchor the business district in Cutchogue against the suburban strip-type development that has grown around the shopping center to the east. Reach 9 presents the challenge of maintaining the small town feel of the business district that presents a gateway to the Town from the suburbanizing west. Enhancing the streetscape through lighting, landscaping, defined curb cuts and integrated architectural and signage design are elements that the business community would like to implement. With respect to Reach 10, Fishers Island, the Town in 1999 purchased a former ferry dock adjacent to the Goose Island Marina on West Harbor. Plans for this site are for a park that would include a dock, safer parking, picnic tables, a scenic overlook, and interpretive material.

(ii) Water-dependent and water-enhanced uses

The *Master Plan Update* identified the limited availability of waterfront sites and the high demand for expanded mooring and boat storage space. It proposed that marine-related water-dependent uses be *"encouraged at appropriate locations on or near the coast and/or along creeks and bays where they do not negatively impact on residential neighborhoods or the natural environment"* (Town of Southold Planning Board, 1985 p12). The *Master Plan Update* distinguished between Marine Recreation (areas of strictly recreation-oriented marine activity) and Marine Commercial (areas with more intensive commercial marine activity).

The *Inventory and Analysis* of the LWRP has identified that all of the Reaches have water-dependent uses. With the exception of Reach 9, each Reach also has a commercial water-enhanced use.

- Reach 1 boasts the only major harbor on Long Island east of the Mt. Sinai/Port Jefferson harbor.
- Reach 2 has a number of water-dependent uses that include several publicly owned recreational access points to Long Island Sound, Great Pond, and Hummel's Pond. Its water-enhanced uses include a motel and a snack bar/restaurant within the motel complex, a restaurant near the beach and a riding stable with trails on the beach.
- Water-dependent uses in Reaches 3 are limited to waterfront parks and beaches, while water-enhanced uses include two resort motels, (one with a restaurant), one proposed motel, and other seasonal residential developments.
- Reach 4's water-dependent uses are limited to waterfront parks, beaches, and fishing access. Its water-enhanced uses consist primarily of seasonal residences and a riding stable with trails along soundfront dunes and the beach.
- The water-dependent and water-enhanced uses in Reach 5 are concentrated near Orient Point, Orient Harbor, Gull Pond, and Sterling Creek and include several marinas (two of which have restaurants with water views), public boat launching ramps, public waterfront parks, two ferry terminals, and an abandoned shellfish processing plant.
- Reach 6's water-dependent and water-enhanced uses are concentrated primarily around Mill Creek and Budds Pond and include water-dependent marinas, boat launching ramps, beach access at road ends, and water-enhanced seasonal cabins, motels, and restaurants.
- The water-dependent and water-enhanced uses in Reach 7 are located on Southold Bay, Town, Jockey and Goose Creeks; and include ten marinas, six public boat launching ramps, four public or park district waterfront parks, a sailing club, one mariculture research facility, a shellfish cage holding area, a restaurant/inn, and a marine science research center.
- Reach 8's water-dependent and water-enhanced uses include nine marinas, four public boat-launching ramps, four small boat launches, three public waterfront parks, commercial fishing, and aquaculture.
- Reach 9 includes three commercial marinas, two public waterfront parks, and additional access to the freshwater lakes of Marratooka and Laurel.
- Reach 10, Fishers Island, contains a number of water-dependent uses including a ferry, US Coast Guard Station, recreational boating facilities, aquaculture, and a US Navy Research facility.

The term "marina" is used here to denote both privately owned marinas operated for profit and not-for-profit marinas owned by property owners within a subdivision.

(iii) Harbor management issues

The harbor management issues along the Long Island Sound shoreline are concentrated solely in Mattituck Inlet and Creek, which is the Town's only harbor on the Long Island Sound. It is both a recreational and commercial port and provides one of the Town's largest concentrations of marine facilities. Issues within Mattituck Inlet are:

- Protection of water-dependent uses and the working waterfront (both recreational and commercial maritime activities)
- Adaptive reuse of underutilized, previously disturbed waterfront properties
- Navigation and dredging, including use of the Town's only congressionally-authorized anchorage*, maintenance dredging, and the protection of navigation channels
- Provision of opportunities for shellfishing and aquaculture
- Expanding access to the water for natural recreation, navigation and shellfishing
- Conflicts between marine uses and the environment
- Substandard water quality and the need to reduce all contributing pollution sources

*(*Note: While this mooring area might not have been designated pursuant to 33 C.F.R. Part 110 (Code of Federal Regulations), nevertheless it was established through congressional authorization, an act which subsequently allowed the Army Corps of Engineers to establish and dredge the channel from Long Island Sound to this area which measures 460' by 570'.)*

The harbor management issues along the Peconic Estuary shoreline are concentrated in the numerous creeks. Common problems include mooring and channel issues, water quality concerns, and the impact of marina development on both the neighborhood and the surface waters. The highest priority issues are located in Stirling Basin and Gull Pond (Reach 5), and in the vicinity of Budds Pond, Mill Creek, and Brickyard Cove (Reach 6). Harbor management issues in the open waters of the Peconic Estuary focus on bay moorings.

The most significant harbor management issues on Fishers Island (Reach 10) occur in West Harbor. The sometimes divergent interests of recreational boaters, marinas and shellfish producers all converge within a harbor that is becoming increasingly congested with boat traffic. The main concern is with the quantity, location and availability of moorings, the protection of the navigation channel, the extent to which transient boaters should be accommodated and the effects of boating activity and upland uses on both water quality and the important shellfish resources of the harbor.

Other significant harbor management issues on Fishers Island include: the improvement and protection of surface water quality; access to and the layout of in-water structures in Hay Harbor; the protection of the ferry access; water quality protection in Silver Eel Pond; localized uses such as the Navy research facility and recreational uses of the beaches, uses of the waters surrounding Fishers Island and the impacts of moorings along the north shore: anchoring in East Harbor and the impacts of this activity on water quality, shellfish resources and habitats.

In response to the increasing congestion and competition for the use of the waters and harbors of Fishers Island, the Town of Southold appointed a 16 member Fishers Island Harbor Committee. Established in May 1994, they were charged with drafting a harbor management plan for all the Town waters and harbors surrounding Fishers Island. The Committee established the following goals and guidelines for harbor management planning for the waters surrounding Fishers Island:

- Ensure balance among existing use of the Island's surrounding waters and harbors
- Protect and maintain the shoreline character, heritage, and existing quality
- Promote and support access to the Island's surrounding waters and other resources in the shoreline areas for all Island residents

- Provide for and regulate multiple uses of the Island's surrounding waters and harbors in a manner that assures safe, orderly and optimum use of the water and shorefront resources
- Maintain the chemical, physical and biological integrity of the Island's surrounding waters and harbors and their dependent habitats

(Fishers Island Harbor Committee, 1995)

In response to these goals and issues, the Fishers Island Harbor Committee presented the Town of Southold with a draft *Fishers Island Harbor Management Plan (1995)*. The Committee also proposed amendments to the code of the Town of Southold to implement and enforce these policies. The *Harbor Management Plan for Fishers Island* and the resulting amendments to the Town code, *Chapter 33*, will be discussed further in *Section IV*.

The preparation of site specific harbor management plans for the key creeks and open water areas identified above will help address these issues, mitigate conflicts between competing water uses and lead to more efficient use of the water surface, shoreline and natural resources. A harbor management plan addresses conflict, congestion and competition for space in the use of a community's surface waters and underwater land. It provides consideration of, guidance and regulation on the managing of boat traffic, general harbor use, optimum location and number of boat support structures, (such as docks, piers, moorings, pumpout facilities, and special anchorage areas), and identification of local and federal navigation channels. It also provides the opportunity to identify various alternatives for optimum use of the waterfront and adjacent water surface, while at the same time analyzing the probable environmental effects of these alternatives.

(iv) Ferries

Four ferry services operate within the Town of Southold. Two of these ferries are located in Reach 5, one is in Reach 8 and the other is in Reach 10. There is another ferry service from Greenport Village to Shelter Island, which lies outside the purview of the Town's Local Waterfront program. That service is discussed in the Village of Greenport's Local Waterfront Revitalization Program.

Within Reach 5, the Cross Sound Ferry Company operates several boats year-round, seven days a week, on a run between Orient Point and New London, Connecticut. This ferry operation is a commercial, for-profit enterprise, providing interstate transport of freight and people between New York and Connecticut. Also within Reach 5, the Plum Island Ferry shuttles employees and supplies to and from Orient to the animal disease research laboratory run by the U.S. Department of Agriculture. Use of this ferry is restricted to employees and visiting scientists at the laboratory. The ferry service is owned and operated by the federal government.

The owner of Robins Island owns and maintains (for his own use) a private ferry slip in New Suffolk in Reach 8. Use of that ferry is limited to the owner, his guests, employees and contractors. Finally, in Reach 10, the Fishers Island Ferry District runs a year-round ferry from Silver Eel Pond, Fishers Island to New London, Connecticut. This ferry provides the only access on and off the Island save by private boat.

Of primary concern to the Town is mitigating the negative impacts of the interstate ferry operating between New York and Connecticut. As discussed in *Section II.J. Reach 5* and elsewhere in this document, the growth of demand for ferry service to and from Long Island has resulted in negative as well as positive impacts on the Town of Southold. The Town's effectiveness in dealing with the

traffic-related impacts of this ferry service through its local zoning powers has been hampered by a lack of Federal and State regulation/oversight over interstate commerce, and a lack of alternative ferry runs to and from the East End, as well as the unpredictable nature of litigation.

The Town's attempts to control the land-based impacts of the growth in ferry service also has been frustrated by the fact that the sole access road to and from the major interstate ferry service operating within its borders is owned by the State Department of Transportation. Cooperation between the State Transportation Department and the Town has been forthcoming in some areas, but sorely lacking in others. For instance, the position of the State Department of Transportation, Region 10, against restricting parking along SR 25 reflects an opinion that the Town should permit expansion of the ferry operation into the residential zoning district to the east.

The disbanding of the federal Interstate Commerce Commission in 1988 shifted responsibility for the regulation of interstate commerce to the U.S. Secretary of Transportation and the surface Transportation Board. However, the U.S. Secretary of Transportation has yet to adopt any licensing, rate-making or service rules pertaining to interstate ferry services. The upshot of this situation is that other than safety issues, which are addressed by the U.S. Coast Guard, there essentially is no federal oversight of interstate commerce operations. And, given the constitutional presumption of federal jurisdiction over interstate commerce and transportation, the State of New York has not moved to provide any framework for reviewing or regulating interstate operations within its own borders. The net result is that there is little communication, and almost no accountability (other than on safety matters), across jurisdictional boundaries and different levels of government over the operations of privately-owned interstate ferry companies within local borders.

It is the Town's position that the void left by the disbanding of the ICC has not been adequately addressed on the federal level. Furthermore, neither has it been pursued at the national level by the State on behalf of its waterfront communities. The Town's LWRP is designed to result in a better integration of local concerns and problems into federal and state decision-making regarding interstate ferry services. While the Town recognizes that its geographic isolation is relieved by ferry service, it also recognizes that it is bearing a disproportionate load of the automobile and freight traffic for the eastern Long Island region, particularly the South Fork. The only other interstate ferry or comparable stature on Long Island is the Port Jefferson-Bridgeport run. Yet, the proposed LWRP for the Town of East Hampton includes a virtual ban on the introduction of any comparable service to that Town, meaning that the Town of Southold, the Village of Greenport and the Town of Shelter Island will be forced to bear with increasing levels of pass-through traffic between New England and the Hamptons. The County of Suffolk has assessed the suitability of several alternative sites to locate additional ferry runs between Long Island and Connecticut. In recent years, however, the County has not taken a leadership role on this matter, probably due to political pressures from communities that do not want a new ferry terminal located nearby. The regional aspects of this situation are discussed again in *Subsection (xv) Transportation Management*, below.

(v) Fishing and aquaculture

The recreational and commercial harvest of finfish, shellfish and crustaceans within the Town of Southold significantly contributes to the local economy. The fate of this industry is dependent primarily upon the continued health of the natural resources that support it. The production and harvest of marketable shellfish is particularly sensitive to changes of water quality in the growing

areas. The Town should continue to develop programs which effectively improve the surface water quality of fresh inland water bodies as well as the tidal creeks, embayments and sound areas.

The Town also requests cooperation and support from federal agencies such as the U.S. Environmental Protection Agency, the U.S. Navy and the U.S. Army Corps of Engineers during the review of dredging and dredging disposal projects proposed within or near Town waters. Of primary concern are projects where contaminated underwater land may be dredged (or contaminated sediment disposed of) near highly productive and pristine fisheries resource areas. A case in point is the dredging of the mouth of the Thames River near Groton and the disposal of that dredged material near the Fishers Island Race.

The dredging issue is of central importance because Long Island Sound has been designated an estuary of national significance under the *National Estuary Program*. Pursuant to that designation, millions of dollars have been and will continue to be spent to improve the water quality and to protect the ecosystem from further degradation. The eastern portion of Long Island Sound, including Fishers Island Sound, lies within the Virginian biogeographic region. It consists of and supports some of the most physically and biologically diverse marine environments in the State of New York. Accordingly, this region supports lucrative commercial and recreational fishing and shellfishing industries.

Unlike other marine habitat within three miles of the shore, certain provisions of the *Ocean Dumping Act* apply to the disposal of dredged materials within Long Island Sound. The New London Disposal Site (NLDS) has been in use since the 1970s. Its location astride the New York – Connecticut underwater boundary lies in the midst of a physically dynamic and biologically rich area of eastern Long Island Sound. Hydrographic information for the area indicates that the disposal site is located in and near the largest “channel” into Long Island Sound. This same channel leads to the Thames River and Groton. Large commercial and military vessels, such as submarines, use this channel to access the harbor.

Deposition of the dredged material from this channel to the NLDS is of concern because of the extent of the material, (millions of cubic yards), its contaminated nature, and its location relative to physically dynamic, biologically diverse and heavily fished waters. Since 1981 and 1990, the *Ocean Dumping Act* (ODA) has been in effect in Long Island Sound. However, the NLDS has not been formally designated as an approved disposal site in accordance with that act. It is the Town’s position that the New London site does not meet the criteria set forth in the ODA, and therefore should be closed to future depositions of dredged material. The standards of the ODA ought to be upheld, not circumvented by federal agencies.

Further, due to the recent outbreak of lobster shell disease in Long Island Sound which occurred close on the heels of the recent dredging of the Thames and the deposition of the dredged material at the NLDS, there are concerns that contaminants released from the site may be affecting the marine habitat. Research should be undertaken to establish the potential effects of the dump site on the habitat. If this research demonstrates that contaminants are being released, then remediation efforts should be developed and implemented immediately.

(a) Commercial fishing

Also of great concern to the Town is the less than effective management of the fisheries resources within State riparian waters. The ongoing dispute between the States of

Connecticut and New York (recounted in detail in *Section II.J. Reach 10*) over management of the lobster fishery is a pertinent case in point. The lobster “wars” have pitted economic and political interests against environmental ones, with the unfortunate result likely to be both the eventual decimation of the lobster population in eastern Long Island Sound and the loss of a way of life for Fishers Island lobstermen. The combination of declining water quality and poor resource management in western Long Island Sound (and elsewhere) has led to increased fishing pressure for lobsters within Reach 10. There is real and not unfounded concern about the ability of the resource to sustain itself in the face of heavy harvesting and continued dumping of contaminated dredged material.

To date, an appeal in 1998 to the State by the Southold Town Board for the imposition of a *conservation zone* designed to “*reduce fishing effort, protect and increase the brood stock abundance and reduce fishing mortality to levels which would minimize the risk of stock depletion and recruitment failure and maintain the stewardship relationship between fisherman and the resource,*” (Town Board resolution to Governor Pataki, dated August 12, 1998.) has gone unanswered. Litigation and political wrangling continues to this day while the lobster fishery attempts to recover from a serious outbreak of shell disease that took place during the year 2000.

The lobster “wars” are illustrative of the difficulty the Town faces in protecting its other fisheries from misguided political and regulatory actions. In addition, the commercial fishing industry within Southold faces certain other issues. These include:

- competition among the commercial fishing fleet and recreational fishers for finite fishery resources
- disagreements between Connecticut and New York about the management of fisheries in Long Island Sound
- impacts of federal dredging and dredged material disposal activities on the long term health of the fisheries resource.
- competition from other uses (residential and commercial development and recreational boating) for limited waterfront lands that provide dockage and upland staging areas
- dwindling availability of key support services such as dockside fueling, ice, refrigeration, gear storage, and repair facilities
- insufficient numbers of fish and seafood processing facilities

The last three issues are land-based, and they are significant. The Town of Southold is lacking in affordable haulage. Dock space (for storage of gear, nets, lobster pots) and affordable marinas or mooring areas that can accommodate commercial fishing boats are relatively few in number. This shortage of adequate and affordable facilities has contributed to the steady decline in the number of local commercial fishermen who derive all, or a significant part, of their income from Southold's coastal waters.

(b) Shellfishing

Nearly all of the coastal waters, embayments, and tidal creeks surrounding the Town of Southold support shellfish; and commercial and recreational shellfishing occurs in all ten Reaches. However, shellfishing in some Reaches is more productive than in others.

Seasonal deterioration of water quality precludes shellfish harvesting for part of the year within many of the Town's Reaches. Production and harvest of shellfish are particularly sensitive to changes of water quality in the growing areas. In June of 1992, the Town formed a Shellfish Advisory Committee that has since worked to reopen closed shellfishing areas by initiating water quality improvement projects. The Town should continue to develop programs to improve its waters to support continued and future shellfishing productivity.

The Town Trustees, the Highway Department, the Engineering Department, the Planning Office, Transportation Commission and the Community Development Director also have contributed time and effort to working with the State Department of Transportation, the State Department of Environmental Conservation and the Suffolk County Department of Public Works to reduce the amount of direct discharge of road runoff from State and County roads into shellfishing areas. While it will be many years before the discharge from these two roads is dealt with satisfactorily, the process has begun. In prior years, the Trustees, the Highway Department, the Engineering Department and the Community Development Director designed and implemented several innovative stormwater runoff retention facilities off local roads. Some of these were funded with federal grant money.

(c) Aquaculture

A considerable amount of aquaculture takes place with Southold Town. The Town itself is actively involved in the spawning and grow-out of clams, oysters and scallops through its seeding program at the Suffolk County Marine Environmental Learning Center at Cedar Beach County Park. This past year, 2001, Cornell's Cooperative Extension branched out in an attempt to educate the public about the realities of shellfish cultivation. It launched a highly successful program at the Marine Center at Cedar Beach. Known as S.P.A.T. (Southold Program in Aquaculture Training), members of the public can undergo training to become "Master Shellfish Gardeners". Up to 2000 each of seed oysters, scallops and clams can be grown by individuals in plots throughout the Town under the guidelines of the training program. Up to 25 % of the survivors must be returned to Cornell Cooperative Extension for seeding purposes. The remaining 75 % can be retained for personal consumption, although they may not be sold commercially. The community response has been exceptional, with more than 100 people enrolled presently. Programs like this facilitate understanding of the marine environment. (Source: Kim Tetrault: *Cornell Cooperative Extension, Marine Program.*)

Land-based aquaculture facilities are located at the head of Mattituck Creek (Reach 1) at the Plock Preserve and the Marine Center at Cedar Beach (both within Reach 7), and on West Harbor (Reach 10). The facilities in Reach 1 and 10 are privately owned. The facilities in 7 are owned by the Peconic Land Trust and the County, respectively. The Town maintains clam grow-out floats in Goose Creek and Town Harbor, both in Reach 7. Within the Peconic Bay Estuary, the cultivation of shellfish in open waters takes place on underwater land owned by the State, the County and private owners. Since 1982, On/Off Bottom Culture Permits and Temporary Marine Area Use Assignments have been issued for the culture of shellfish on these underwater lands. To date, permits have been issued predominately to private entrepreneurs, although the Town holds its own Off-Bottom Culture permit. Most of the aquaculture operations within the Peconics are on racks, small cages and bags. At least 60 % of the culture permits issued by the Department of

Environmental Conservation are within the Peconic Estuary. (Source: E-Correspondence dated June 13, 2001, Debra Barnes, Biologist 2, Marine Shellfish Management Section, Bureau of Marine Resources, Division of Fish, Wildlife and Marine Resources, New York State Department of Environmental Conservation.)

There has been an upsurge of interest and controversy in aquaculture over the last five years. The controversy derives over the clash between traditional methods of aquaculture employed by baymen and the machine-driven methods employed by large commercial operators. The potential for large-scale mechanical seeding and dredging of large expanses of bay bottom has the baymen concerned about the potential negative impacts to the ecological health of the estuary. Clearly, the issue requires coordinated study between the State Department of Environmental Conservation, Suffolk County, the Peconic Estuary Management Program, as well as the Town of Southold in order to ensure that policies and permits are in conformance with the Town's resource management goals.

In addition to shellfish aquaculture, there is a federally-funded, pilot, open-water fish farm located off Plum Island. As discussed in *Section II.J. Reach 5*, the environmental compatibility, the locational suitability and the economic feasibility of open-water fish farms near Plum Island, near Plum Gut and within the Peconic Estuary needs to be determined.

(vi) Protection of agriculture

The Town contains some of the richest agricultural land to be found in the State. Active farmland is located in each of the Reaches with the exception of Fishers Island. Although Fishers Island started out as an agricultural community, today no land is left in agricultural production. A substantial portion of the Town's prime agricultural soils are found in Reaches 1, 2, and 8: Mattituck, Cutchogue and Southold. Unfortunately, less than one-third of this farmland is currently protected. Only in Reach 5 (Orient) has a significant portion of the active farmland been protected.

During the last thirty years, several programs have been implemented to help protect the remaining parcels of farmland left in Southold Town. These programs include the *New York State Agricultural District Act* which provides certain legal protections and reductions in property taxes, and the separate purchase of development rights (PDR) programs run by the Town of Southold and Suffolk County. As of October 2002, over 6,500 acres of agricultural and support land were enrolled in the Southold Agricultural District program. And, the combined acreage saved under the Town and County PDR programs (through October of 2002) amounts to more than 2,850 acres.

An estimated 10,232 acres of land within Southold are in active agricultural production or used as support land. This acreage represents approximately one-third of the Town's landmass. However, between 1968 and 1996, the Town lost an estimated 2,100 acres of farmland to development (Source: Suffolk County Planning Department, 1996, *Agricultural and Farmland Protection Plan*, p. 10). For nearly thirty years, the agricultural land base was being lost faster than it was being saved.

Recently, however, both the Town and the County have stepped up their preservation activity: after recognizing that the increasing pace of development threatened to wipe out the agricultural industry. The Town has been actively leveraging state and federal grants to re-fund its PDR

program. It also seeks partnerships with Suffolk County to acquire key agricultural parcels. The Town has financed its acquisitions through two mechanisms; the CPPP Fund, explained in the next section (vii) *Open space preservation*, and bond issues.

Since 1983, the voters have approved bond issues to finance the acquisition of development rights to farmland, as well as for open space title in full. As noted below, the total value of eight separate bonds is fifteen million dollars.

Table II-31 Value of Bonds

\$1,750,000	1983	Ag Land Development Rights
\$1,750,000	1987	Open Space
\$1,750,000	1991	Ag Land Development Rights
\$1,750,000	1994	Ag Land Development Rights
\$2,000,000	1996	Ag Land Development Rights
\$2,000,000	1997	Open Space and Ag Land Development Rights
\$2,000,000	1998	Open Space and Ag Land Development Rights
\$2,000,000	1999	Open Space and Ag Land Development Rights
\$2,000	2001	Open Space and Ag Land Development Rights

(Source: E-correspondence. John Cushman, Town Comptroller, June 14, 2001, October 2002)

In January of 2000, the Town adopted a *Farm and Farmland Protection Strategy*. Several steps have been taken towards implementing this Strategy, including appointing a Land Preservation Coordinator whose primary function is to facilitate the partnerships needed to accelerate the acquisition of development rights, easements and fee title of targeted properties. Under the Land Preservation Coordinator, the Town has been able to expedite the purchase of open space, of development rights to farmland and to leverage its funds more effectively.

(vii) Open space preservation

As noted above, the voters of Southold Town have passed 17 million dollars worth of bonds for the preservation of key parcels of open space and agricultural land. In June 1998, Governor Pataki signed into law the *Peconic Bay Region Community Preservation Act*, which created a mechanism whereby the Town could use real estate transfer taxes to acquire agricultural land and open space. The legislation required each town to adopt a written plan that outlined the properties that may be considered for acquisition with the funds. Only properties listed in the *Preservation Plan* are eligible for acquisition using transfer tax funds.

Southold Town adopted its *Community Preservation Project Plan* (CPPP) in October 1998. A referendum on November 3, 1998, resulted in the adoption of a mandatory real estate transfer tax on specific property transfers beginning March 1, 1999. Between March of 1999 and October 2002, 9.4 million dollars have flowed into the CPPP fund.

The Town recognizes the importance of open space preservation. In conjunction with its *Farm and Farmland Protection Strategy*, described in *Subsection vi*, above, and *Section II.B. Planning Framework*, it has appointed a Land Preservation Coordinator to facilitate the administration of its open space preservation program.

(viii) Growth on Fishers Island

The Town of Southold has identified the entire land area of Fishers Island as an area of existing stable use. The Island is a well-established seasonal, residential, resort community with a small year-round population of fewer than 500 people. Much of the Island has been developed for residential use or has been subdivided. Seasonal growth continues and is evident through new seasonal residential development and an increasing market in seasonal rental of existing properties. These trends have had the effect of increasing the overall seasonal population (estimated to be around 5,000). Property values have climbed. There are concerns that these trends could negatively impact the environment and community character of the Island. At the same time that seasonal development pressure has increased, Fishers Island has experienced a decline in its year round population. This threatens the vitality of the Island's character and infrastructure.

The entire eastern portion of the island, beyond West Harbor, is privately owned and access over its private road network is highly restricted. This area was developed and remains under the control of the Fishers Island Development Company, commonly known as FIDCO. In 1958, the Southold Town Board adopted an "open development" area or subdivision map for the FIDCO holdings, pursuant to *Section 280-A.4 of New York State Town Law*. Although most of the land was sold for residential use, FIDCO still owns 225 acres on the eastern end of the Island. This land is split up into about 60 building lots. This represents much of the undeveloped land on Fishers Island. In the past FIDCO has sold building lots to raise money, although now it maintains a policy of not selling any of its undeveloped land.

Although future growth potential is difficult to predict and the development potential of some of these undeveloped lots may be limited by environmental constraints, there is a potential for a relatively large increase in the number of developed residential lots on Fishers Island. If this were to occur, many of the negative impacts on environmental and community character that have been identified by the residents of Fishers Island are likely occur.

It is clear that current trends will result in changes that could alter the environment and community character of Fishers Island. The focus of the Town of Southold LWRP is to ensure that the impacts of these changes on the Island's coastal resources, both natural and cultural, are minimized. To this end the LWRP focuses on the protection of the Island's unique natural environment and its water-dependent uses.

(ix) Public access and recreation

The Town of Southold has numerous access points to its shoreline. The main objective of the Town is to improve these facilities, thereby providing enhanced public access to the shoreline. In addition, the Town has identified opportunities to create new public access to the waterfront as well as to link access and recreation sites throughout the Town.

As development along the coastline continues, and opportunities for public access from waterfront properties are reduced, the need to ensure access to the water for recreation, including boating, fishing, swimming and passive activities, grows steadily more important. The Town should take the necessary steps to maximize the appropriate use of waterfront areas and resources, but it must do so in a manner that will not adversely impact sensitive natural resources.

Southold's shoreline has the potential to offer near-continuous right of access along the shore. Given the increase in shoreline development, the opportunity to walk the shoreline of the Long

Island Sound and the Peconic Estuary is a valuable public asset. It remains, however, an unrealized asset because the right of continuous access is useless without the ability to get to the shore and, once on the shore, to walk unfettered. Throughout numerous stretches of Southold's shoreline, the public's rights in the foreshore have been constrained, and sometimes precluded, by privately-owned structures, such as piers, docks, bulkheads and groins that have been placed within the public domain. This is a major public policy concern. The Town of Southold recognizes the importance of protecting the community's *Public Trust Rights* to the shoreline.

As noted in the preceding sections of this document, our evaluation of the condition of existing recreational facilities has shown that, in many cases, they can be more effectively utilized. In some cases, additional amenities and services could be offered, such as an increased or more diverse variety of recreational activities. Some sites could be renovated or redesigned to provide more opportunities for scenic viewing, for walking, and for increased access to the beach, to boating, and to fishing. Where these opportunities exist, efforts have and should continue to be taken to expand and upgrade services and facilities.

Presently, the Town addresses many of the aforementioned issues within its *Parks, Beaches and Recreation Committee*, a standing Town Board committee that operates directly under the Supervisor's direction. This Committee's focus has been steady and sustained. However, as the Town's public land holdings have grown, the need for additional personnel to administer and maintain these properties has become more evident. First steps have been taken to form a park maintenance division which would assume the responsibility for maintaining Town-owned public land.

At some point in the near future, the Town would benefit from an update of the *Parks, Recreation, and Open Space Survey* (Ward Associates, P.C. and Planning Associates. February 1982). While the LWRP contains a comprehensive survey of coastal access points, it does not do justice to the other Town recreational facilities that are not water-dependent or enhanced. A comprehensive inventory and analysis of State, County and autonomous Park District facilities (discussed below) as well as Town parks could lead the way to better use of limited public resources. A survey also could form the basis for a more integrated Capital Improvement Plan and Budget process.

Currently, many County park properties are underutilized. This situation is a direct result of the lack of improvements and maintenance. The County has encouraged the Town to undertake the responsibility for upgrading and maintaining the County parks, particularly where the Town has requested improved public access and facilities. However, while willing to ask the Town to shoulder this financial burden, the County is unwilling to discuss the eventual transfer of ownership of these properties to the Town.

No discussion of the Town's public access and recreation system would be complete without reference to its park districts. Currently, there are four, separate park districts within Southold Town: *Orient-East Marion*, *Southold*, *Cutchogue-New Suffolk* and *Mattituck*. The districts are shown on [Map II-11](#). Each district was formed separately by interested citizens within the respective district. Each is funded through special district tax levies. Residents within each district elect a governing board which is responsible for the development and maintenance of the district's park facilities, administering the budget, overseeing year-round and seasonal personnel and reporting on its stewardship activities to the district residents.

This system reflects an earlier time in the Town's history when local government's role in hamlet and village affairs was limited. Most of the districts were successful in securing key park sites and in developing recreational facilities on those sites, particularly on the waterfront. Their timely action resulted in the preservation of several substantial waterfront sites that are reserved for recreational use. These districts deserve due credit for their far-sightedness in acquiring and maintaining significant waterfront park properties within their respective communities. In addition, there is a strong sense of identification, stewardship and protectiveness by district residents towards their parks.

This system has served the Town well, even if it may not be the most coordinated, cost-effective or practical system for the development of park facilities. Because of the park districts, the Town has a strong system of neighborhood parks, many on key waterfront sites, that are well maintained and heavily used by the local residents. Often, guests and outside groups can access these parks and their associated facilities for a fee that covers the additional maintenance and operational costs to the district. Although this approach is not recommended by State and Federal agencies as a way for local government to provide public access to the coast, it has been an effective approach within the Town of Southold. From the broader, traditional planning perspective, particularly at the State and Federal level, the system has some disadvantages. For instance, there are portions of the Town that do not lie within the boundaries of a park district. Since the use of district facilities on the water during the popular summer months may be restricted to district residents and their guests, people whose homes lie outside a district have fewer recreational options than those within a district. For another, as the Town grows, and people travel more easily from one part to the other, residents may be more inclined to want to avail themselves of the whole range of recreational facilities on the Town's waterfront, not just those that happen to exist within their immediate park district. Finally, there is the issue of duplication of administration. Each district levies taxes to support an administrative overhead that includes personnel, insurance and equipment. (The total tax levy for the four park districts in 1999-2000 was \$569,110. The breakdown is as follows: Orient-East Marion - \$22,000, Southold - \$215,750, Cutchogue-New Suffolk - \$92,750 and Mattituck - \$238,610.)

There are a number of options that the Town and park districts could look at in the future. One is to encourage the creation of additional districts to cover those portions of the Town not covered by an existing district. This would require active organizing by the affected residents. A second is for existing districts to expand their boundaries, thereby increasing their service area, but also their tax base. A third is for the districts themselves to undertake some form of restructuring that would permit a consolidation of their insurance, personnel and equipment expenses. Consolidation also might afford them a greater degree of leverage in obtaining grant and other funds towards acquisition and improvements. For instance, the creation of new vacant lots through subdivision results in mandated monetary contributions by the developer to the Town's Park and Playground Fund. Currently that fund is not accessible to park districts because the districts are not Town-wide in their jurisdictions. Furthermore, the park districts are unable to tap directly into the Town's ability to leverage state and federal grants. Some of these drawbacks might be mitigated by mutually-negotiated agreements among the park districts to allow either reciprocal usage by other park district residents or to Town residents from outside a park district to utilize these facilities, perhaps with the remittance of a user fee to be applied toward facility maintenance and upkeep. (Note: Currently, the Town of Southold contributes money towards the operation of all the free libraries in Town, in return for which each library permits borrowing by other free library patrons. A similar exchange might be considered in the case of park districts.) In closing, these

and other relevant options should be investigated in an effort to provide more cost-effective and equitable opportunities for public access and recreation throughout the Town.

Finally, the public access issue must deal with the question of allowing public access to public shorefront by boat. As was discussed in *Section II.J. Reach 5*, this traditional local means of public access to State parkland is not permitted by the State.

(x) Protection of habitats and wetlands

The Town of Southold is rich in habitats that support diverse and often large wildlife populations, many of which are of commercial or recreational value. The importance of these habitats has been recognized through the state designation of eighteen *Significant Coastal Fish and Wildlife Habitats* in Southold. These habitats cover the full range of habitats typical on the East End of Long Island and include dunes, beaches, wetlands, islands and open water. The Town of Southold recognizes the importance of protecting and enhancing these wetlands and habitats.

All of these habitats have experienced and continue to experience human disturbance. This includes the effects of bulkheading, filling and dredging, removal of vegetation, adjacent land uses, recreational activities and facilities, such as fishing, hunting and boating and the activities associated with marina and other boat launch facilities. These impacts can be managed so they do not destroy or impair the natural resources of the habitats. Further, in addition to avoiding incompatible use of the habitats and adjacent land, many land use management measures can be taken to ensure that negative impacts do not occur.

Probably the most effective way to protect these identified areas is to maintain an undisturbed vegetative upland buffer of sufficient depth around the habitats and other management measures including the use of *Best Management Practices* (BMP). A key factor in an effective BMP is careful site design, minimal re-grading of existing terrain and applied construction techniques. A BMP must be designed to be easily implemented and effectively enforced. The focus of a BMP should be on habitat protection and enhancement. Restoration of damaged habitat can be extremely costly and time-consuming. Given the extensive shoreline within Southold Town, the degree to which that shoreline already is developed, and the potential for shoreline development to negatively impact habitat, the imposition of a BMP should be required for all construction along the shore, residential as well as commercial.

(xi) Protection of water quality

The Town of Southold recognizes the need to maintain high water quality in the community. All surface water that flows on and through Southold ends up in the seas around Southold or in the groundwater aquifer. The Town recognizes its responsibilities to the region and to its residents to ensure that this water is not polluted or loaded with sediment that would impair either the surface or the ground water quality.

(a) Groundwater

The Town of Southold has always relied upon its groundwater resources to supply drinking water needs. There are conflicting opinions about the amount of population the aquifer can safely *sustain*. The *sustainability* question arises out of specific characteristics that are unique to Southold Town. These include: the shallowness of the aquifer coupled with the high degree of permeability of the sandy soils that overlay the aquifer and the elongated shape of the Town, resulting in an aquifer constricted by the pressure of salt water on three

sides. The sustainable capacity issue also is complicated by the fact that the Suffolk County Department of Health Services views agricultural land uses as having greater potential to contaminate the groundwater than residential development. To complicate matters, in January of 2000, the Town Board adopted a clear-cut policy of aggressively pursuing the preservation of farms and farmland within the Town. The bulk of the targeted acreage lies over the deepest part of the Town's aquifer.

In June of 2000, the Town endorsed the *Water Supply Management and Watershed Protection Strategy*. This report acknowledged that sufficient water to supply saturation population may not exist, and that its quality had been compromised by past and ongoing land use practices. The Strategy takes a conservative approach with regard to sustainable development. It proposes a series of recommendations that ultimately would accomplish several objectives: reduction of population density in the area overlying the central and deepest portions of the sole source aquifer, protection of the land resource from the development pressure that may be created by the installation of public water service and prevention of future contamination of the groundwater resource by detrimental land use practices.

Implementation of this policy has already begun with the adoption of a Map showing the *Location of Existing Water Mains and of Potential Future Water Mains Relative to Protected Lands in the Town of Southold (June 2000)*. Additional implementation actions are projected to take place.

(b) Surface water quality

The Town of Southold recognizes the importance of maintaining high surface water quality because of the positive and significant impact it has on the Town's maritime fisheries, the local economy and the quality of life. Generally, the Town's main concerns are impairments to the quality that result from unfiltered stormwater runoff, malfunctioning residential and commercial wastewater treatment systems and careless boaters. On the Long Island Sound shoreline, a key concern is that of the Village of Greenport's Sewage Treatment Plant outfall pipe off Clark's Beach. The extent to which septic systems contribute to the degradation of surface water quality has not been quantified within the Town. However, it is anticipated that the severity of the problem varies from place to place depending on the degree of development, the size of the lots and the location of the septic systems relative to the shoreline and the groundwater table. Unfiltered and direct discharge of road runoff along state, county and local roads is recognized at all levels of government as being a major contributor of contaminants to the Town's surface waters. In some areas, the problem has been aggravated by the channeling of stormwater runoff by homeowners off their residential properties onto the roads.

Significant strides have been made in reducing the impacts of point and non-point sources of pollution to the Town's surface waters. The primary focus of efforts to-date have been on reducing the levels of pollution to a point where closed shellfish beds can be reopened, preferably on a year-round basis. Yet because the rate of development has increased, and the level of public awareness of the impact of individual activities on the water quality is still lacking, the Town's water resources remain at risk. The Town needs to take a more aggressive stance on preventing pollution in the first place, particularly in areas where new development is taking place. This includes expansion of residential structures on the

waterfront. For the near future, the Town's focus is, first, on resolving the remaining known pollution problems, particularly those associated with non-point sources. The second focus is on protecting and, where necessary, restoring the natural resources of the valuable ecological complexes and aquatic ecosystems within and adjacent to the Town of Southold. The third, and perhaps most critical, is on preventing (or mitigating) the negative impacts of new development. Prevention today, ultimately, will be less costly than trying to undo the damage in the future.

Since 1991, the federal Environmental Protection Agency has promoted the *watershed protection approach* as a framework for dealing with water quality issues. This approach has been adopted by the *Peconic Estuary Program* for the protection and management of the water quality and natural resources of the Peconic Estuary. In essence, this approach is an integrated, holistic strategy for restoring and protecting aquatic resources. It uses hydrologically-defined drainage basins and watersheds as geographic parameters for action, rather than arbitrary political boundaries. Necessarily, this strategy looks beyond individual bodies of surface water to all the land from which the water drains to the surface waters: in other words, the entire contributing watershed. This strategy recognizes that as water drains off the land or leaches into groundwater, it carries with it the effects of human activities throughout the watershed. This approach is action oriented. It places emphasis on broad environmental objectives that cover all aspects of water quality. The reorientation of the Town's water quality management efforts in line with this approach is not only proposed in the Town of Southold's Local Waterfront Revitalization Program, it is already being integrated into the Town's operating procedures and budget. This shift will allow for a more comprehensive approach to protecting the quality of the waters of the Town of Southold. And, it will integrate the goal of maintaining and improving the long-term health of the Town's natural resources with those of human health and welfare and economic stability.

The Town of Southold also has identified the need for *Watershed Management Plans* for the main creeks and waterbodies in Southold. Such plans would help fine-tune the Town's day-to-day decisions as they affect surface waters and would apply to decisions made at all levels of government, in the areas of planning, issuance of permits, code enforcement and rehabilitation. A watershed plan was recently completed for Mattituck Creek in Reach 1. Watershed plans should be considered for the following watersheds: Goldsmith Inlet, Great Pond and Lily Pond in Reach 2; Long Beach Bay and Orient Harbor in Reach 5; and all the creek complexes in Reaches 6 through 9.

The Town of Southold also recognizes the need to maintain the predominantly high water quality found on and around Fishers Island. The Town's concern is focused on two general problems. One is the impairment of the surface waters within the harbors, particularly those seeing heavy boating use and those with mooring fields where the discharge of gray and bilge waters poses a problem. The other is the degradation of surface waters in nearshore areas from direct discharge of unfiltered stormwater runoff from roads and developed properties, or from malfunctioning on-site wastewater treatment systems located near the shoreline. Also of particular concern are the surface waters of the three ponds composing the original Fishers Island public water supply. Today, the bulk of the water supply is primarily from underground wells. However, the water quality of the ponds within the watershed is critical because these ponds serve as back-up reservoirs in times of

drought. The *Fishers Island Water Supply/Watershed Study* provides clear guidance on these issues. It was adopted by the Town in 1997.

Finally, the Town finds the cooperation of federal and state agencies is needed in the areas of dredge and dredged material disposal in order to ensure that these types of activities do not have negative impacts on the quality of the Town's surface waters.

(xii) Flooding and erosion

The potential for flooding along certain portions of the shoreline areas of the Town of Southold is high. Most of these flood-prone areas are located along the Peconic Estuary shoreline and its numerous creeks and inlets. However, there are also places along Long Island Sound that are susceptible to flooding. In fact, each of the ten Reaches has areas of localized flooding. These were identified and discussed earlier in *Section II.J. Reach Inventory and Analysis*.

To summarize, flooding problems can result from a combination of factors: low elevation of shoreline relative to sea level, direction of predominant winds during storms, construction of homes and accessory structures too close to shoreline, natural erosion of natural beach and bluff defenses, misguided destruction of natural defenses by property owners, and channeling of stormwater runoff by property owners onto impermeable surfaces.

The Town hopes to address the identified issues through a *Flood Hazard Mitigation Plan (FHMP)* at some point in the near future. An FHMP would enable the Town to develop long-range strategies for developed areas that have been targeted by in the Town's *Emergency Preparedness Plans* as prime flooding or erosion-prone. The goal of such a plan should be to reduce the level of vulnerability, thereby reducing the long-term public cost of emergency preparedness and disaster recovery efforts.

Beach erosion problems exist in many sections of the Town of Southold. These problems were identified and discussed in *Section II.J. Reach Inventory and Analysis*. To summarize here, significant erosion problems are currently impacting the following shorelines:

- Reach 1 – Most of the Reach shoreline around and east of Mattituck Inlet
- Reach 2 - Vicinity of Goldsmith Inlet to Horton Point
- Reach 3 - Vicinity of Horton Point, Town Beach, Hashamomuck Pond
- Reach 4 - Vicinity of Trumans Beach, Petty's Bight, Orient Point
- Reach 5 - Vicinity of Orient Causeway and Orient Beach State Park
- Reach 9 – Most of the Reach shoreline

To summarize: it is difficult to generalize about beach erosion within the Town of Southold. Its shoreline is highly variable because several coastal processes are shaping different glacial landforms. In spite of this variability, certain trends or processes have been identified within areas defined by specific geographical or man-made forms. The *natural* elements of wave exposure, proximity to tidal inlets, bluff height, bluff stability, and flooding can be assessed against the *man-made* elements of land use, lot size and shape, marine-related activity, and the impacts of hard erosion structures constructed on the shoreline. When each of these elements are examined in a geographic context, they suggest a framework for management. In other words, specific situations can be identified where certain coastal processes are dominant, and therefore, where tailored erosion protection policies may be applicable. These management situations are identified and

discussed below by shoreline, since the processes on the Sound are distinctive from those at work on the Estuary.

(a) Long Island Sound shoreline

Three types of management situations can be identified on the Long Island Sound shoreline of the Town of Southold. These are areas directly affected by *low bluffs or dunes*; by *high bluffs*; and by *hard structures*.

Areas of Low Bluffs or Dunes

Areas of low bluffs or dunes include the area east and west of Horton's Point, (discussed above), Hashamomuck Beach, and Petty's Bight. These specific sections of the Sound shoreline are characterized by low bluffs. High bluffs on the Sound shore of Southold tend to be more than 40 feet high, while low bluffs are typically less than 20 feet high. In some cases, dunes may be found behind the beach.

Dunes around the inlets of Mattituck and Goldsmith (discussed earlier) and near Hashamomuck Beach are the only places on Southold's Long Island Sound coast where flooding occurs landward of the shoreline. Excluding the jetties at the two inlets, few shore protection structures are found on Southold's Long Island Sound coast. But, where they are found, they seem to exist in isolation; each structure having been built to protect a single lot or small area as opposed to an overall plan for a long stretch of beach. While built to protect specific sites, these structures may have created other problems elsewhere.

In summary, it appears that analysis of the Reaches (*Section II.J.*) suggests that along low bluffs and dunes, structures should only be allowed when a house on a beach is in danger, and no other alternative will save the house, such as moving the house back from the bluff face. In some areas, a plan for shoreline protection should be developed by the Town before allowing piecemeal construction of shoreline hardening structures. It is clear that more stringent adherence to the 100 foot setback from the Coastal Erosion Hazard Area line coupled with the diligent application of *Best Management Practices* during the construction of homes, swimming pools, and other residential structures would help prevent and mitigate erosion on the Sound shoreline. Further, where construction is permitted within or adjacent to the CEHA, the Town should be more aggressive about promoting (or perhaps requiring) more careful re-grading, and better use of native seaside plants in landscaping behind the bluffs. Prevention measures may add to the initial cost of construction, but, ultimately, they are considered to be less costly than rehabilitation of eroded slopes.

Areas of High Bluffs

High bluffs constitute a considerable extent of Southold's Long Island Sound coast. The bluffs are from 40 feet to nearly 100 feet high and consist of unconsolidated sediment. The composition of the sediment ranges from clay to sand, gravel and huge boulders. These bluffs are the source of the sand and gravel that form Southold's beaches. These bluffs are very important factors or determinants in the shoreline erosion rate.

Few erosion protection structures are found in areas of high bluffs. The lack of structures has worked to the Town's advantage in that the shoreline parallel to these bluffs has eroded, but very slowly. If hard structures were ever built in these areas, this dynamic

would change. The hard structures would cause an overall *increase* in the rate of erosion as the shoreline tries to come into equilibrium with the loss of sand source.

Presence of clay lenses within a bluff can be a problem. The only area with large clay lenses is Petty's Bight (a low bluff area), but some are also found in high bluffs. Clay layers can accelerate bluff erosion because the clay tends to be impervious to water, thus causing water to migrate along its upper surface. If a large source of water, such as a septic system or a swimming pool drain, is located above the clay layer near a bluff face, the water is more likely to flow out to the bluff face instead of down towards the aquifer. This action will create a wet area within the bluff where internal water pressure can be greater than the friction holding the sedimentary material together. When this happens, the sediment will slip causing the bluff to slump.

Hard Structure Areas

Hard structures at Mattituck and Goldsmith inlets and downdrift are influencing the natural coastal processes. Mattituck Inlet is navigable: an important policy consideration. Mattituck Inlet supports a strong, thriving maritime community that is dependent on the navigability of the inlet. By contrast, Goldsmith Inlet is not navigable and does not support any comparable type of commercial human activity.

Section J. contains an analysis of the difficulty of managing natural coastal processes when hard structures influence those processes. It should be noted here that the erosion protection policies (discussed in the next chapter, *Section III. Waterfront Revitalization Policies*), are focused on the predominant coastal trend whereby erosion occurs downdrift of the jetties. The Town recognizes that methods that permit or facilitate the movement of sand past the jetties onto the downdrift shoreline are desirable. Bypassing has the double advantage of preventing sand from being lost offshore and supplying it immediately to an area prone to erosion.

(b) Peconic Estuary shoreline

The coastal dynamics of the Peconic Estuary shoreline of the Town of Southold are more varied than that of the Long Island Sound shoreline. Many inlets, marshes, varying wave exposures, and opposing tidal currents characterize the estuarine shoreline. Generally four management situations have been identified. These are *creek mouths*, *wave exposed shorelines*, *wave protected shorelines*, and *flood-prone areas*. Certain locations may have two or more of these characteristics. In those cases, application of policy decisions will involve weighing management objectives.

Creek Mouths

Creek mouths act as a funnel for tidal currents, speeding water flow and carrying sediment in and out of the creeks. When the current reaches wider areas inside and outside of the mouth, the current slows down and sediment is deposited. These deposits form shoals around the creek. Almost all of the creeks on the Estuary shoreline are used for navigation. Therefore, the shoals need to be dredged regularly in order to provide sufficient navigation depth. Use of dredged materials is the key management objective in these areas. This dredged sand is a valuable resource that needs to be used wisely to prevent erosion and to maintain beaches. The most beneficial use of sand varies from inlet to inlet, and may vary

at the same inlet in different years depending on storm damage and other variables in the coastal processes.

Within this management unit, the length of jetties installed with the intent of stabilizing the inlets is important. For instance, at James Creek, the west jetty is 200 feet long while the east jetty is 50 feet long. This length has stabilized an offset inlet with the west side seaward of the east side. However, the east side erodes to the point where it requires periodic beach fill, while the west side holds back the trapped sand. It has become clear that when jetties are proposed or reconstructed, more careful thought should be given to the relative length and placement of the structures and to designs that permit bypassing of sand.

Exposed Shores

Several places on the Peconic Bay Side of Southold's estuarine shoreline are exposed to waves coming across Great Peconic Bay, Hog Neck Bay, and Gardiners Bay. For the most part, these shorelines have been heavily protected with bulkheads and groins. The low-lying nature of a great portion of this shoreline and the easily eroded sediment in the bluffs led to early use of erosion protection structures. However, because so many of these erosion-control structures have been installed, the few remaining unprotected lots are eroding. Given the extent of hard shoreline structures, there is a clear precedent that has been set and it is likely that the property owners along the remainder of the shoreline will seek permission to construct bulkheads. The Town should develop a standard design and installation guideline for bulkheads that will minimize effects on updrift and downdrift properties and prevent undue creeping of bulkheads seaward. Further, where wetlands and beaches are still extant, greater care needs to be exercised to protect these fragile resources.

Groins are particularly common in these areas as well. Although they tend to be installed by individual property owners, they should be thought of and permitted to be constructed only as groin fields. As an example, an eight-groin field had been installed in one such area of exposed shoreline and it has worked well. However, when a ninth groin -- longer and two feet higher than the existing groins -- was installed, erosion ensued and the entire groin field no longer functioned properly. Therefore, the Town should take a more proactive stance when a groin is proposed, and should study the entire affected area. If a groin field is deemed necessary, it should be designed as a whole, with each groin's specific length, height, angle, and spacing dimensions devised so that the individual groins function to reinforce each other as a unit, thereby providing the most benefit to all property owners in the vicinity.

Protected Shores

Protected shores include Hallocks Bay, Pipes Cove, Conkling Point, and parts of Southold Bay and Cutchogue Harbor. Many stretches of shoreline in these areas are heavily protected with bulkheads and, in some cases, groins. Flooding from seaward and erosion from wave action seem to be the predominate reasons for most of the bulkhead construction. A bulkhead constructed with a substantial amount of backfill allows a house to be raised ten feet above the flood plain.

In these areas, it is suggested that the granting of permits for bulkheads should not be automatic, especially for groins. Wave action probably is the major cause of erosion, but improperly placed or designed groins also can exacerbate wave effects. Therefore, the

application of non-structural measures (including removal of poorly placed groins) should be analyzed first. In many cases, prudent and timely use of beach fill may solve or at least ameliorate the problem. Better use and placement of dredged material from the inlet mouths would resolve some of these problems as well. If harbor management plans are developed for these specific areas, it is anticipated that these issues would be addressed in sufficient detail in those plans to guide Town and property owners.

It is evident that the Town will have to initiate and facilitate cooperation among neighbors and with regional agencies such as the Suffolk County Department of Public Works, the New York State Department of Environmental Conservation and the U.S Army Corps of Engineers in order to address some of the issues noted above.

Flood-Prone Areas

Many areas on the Peconic Bay side of Southold are flood-prone. The problem with flooding is not the physical process itself, which is an inconvenience, but the damage to houses and property. As noted in the previous section, the traditional method of preventing damage has been to construct bulkheads and to backfill behind the bulkheads to a ten-foot height above sea level. Federal flood insurance regulations have set the standard of ten-feet above sea level. It is evident though, that in some places, the bringing in of fill is creating a problem for adjoining properties and roadways. Since building permits are issued without consideration to the proposed changes to site elevations or the provision of on-site drainage, it is not uncommon for a flooding problem to be shifted to a neighbor's property or a local road. Again, prevention is less costly than dealing with the new problem. On some local roads, public funds are continually being expended to deal with flooding caused by poor or faulty residential site re-grading and lack of on-site drainage facilities. The problem is more acute in residential areas than in business zones, because commercial construction undergoes a site plan review process by the Planning Board. Site Plan review requires drainage plans that result in on-site retention of all stormwater runoff. It is clear that the Town will have to require review and approval of site design and drainage in conjunction with the residential building permit process. Further, it should examine the possibility of requiring consideration of alternative methods to back-filling. One such method recommended by the *National Flood Insurance Program* (NFIP) consists of building the house on piles. These and other details would be best addressed in a *Flood Hazard Mitigation Plan*.

In the final analysis, a balance must be achieved between the proper siting of shoreline hardening structures, the introduction of beach nourishment efforts, and letting natural processes take their course. With the construction of an increasing number of man-made erosion protection structures and little or no assessment of their impact on the initial erosion problem, nor of the rate at which erosion is occurring, this situation is not being properly addressed. It would be highly beneficial if the Town began conducting beach width surveys at regular intervals of the Long Island Sound and Peconic Estuary shorelines on an annual basis. Coupled with Geographic Information System technology, these surveys would establish initial baseline data for current and future analysis of erosion rates and causes. The information would enable more accurate and effective assessments of existing and proposed erosion protection measures or structures. The end result would be better use of limited public resources.

(xiii) Protection of historic and archaeological resources

As described in Section II. J., the Town contains an abundance of cultural resources, some historic, some archaeological in nature. These resources are found throughout the entire Town, including submerged under its offshore waters. While these resources tell the story of human activity through the centuries, they also have an aesthetic and an economic value to the Town.

Historic

The historic resources of the Town of Southold are extensive in number and widely distributed throughout the Town. They are a vivid reminder of the community's early development and its rich maritime tradition. The historical and architectural values of these resources have been recognized by the listing of six (6) properties and two (2) historic districts on the State and National Registers of Historic Places. The two historic districts include more than 160 structures, over 130 of which are located in the Orient district alone. According to the New York State Office of Parks, Recreation and Historic Preservation, the Town contains over six hundred (600) additional sites that merit closer review for eligibility for State and/or National ranking.

Locally there are fifty-five (55) Town-recognized landmark designations, one of which includes the remaining 22 of 24 Mile Markers that were installed in 1755 over a 30 mile distance between Riverhead and Orient Point by Postmaster General Benjamin Franklin, who is reported to have measured the mileage himself. The markers are rectangular granite stones with the location and mileage chiseled on the face. They trace the path of the original Kings Highway, now known by the modern route names of State Route 25, Boisseau Avenue and County Route 48.

It is important to emphasize that the Town's maritime-related buildings, the lighthouses in particular, occupy a prominent place in the National, State and Local historic registers. One of the Town's eight (8) lighthouses is included on the National as well as the State and Local Registers and a second is eligible for inclusion. As described in more detail in *Section II. F. Historic Resources*, a significant number of the old lighthouses that dot Southold Town's shorelines have been restored (or rebuilt) and re-commissioned by determined local citizens who did not want that heritage to be lost. This effort has extended to presentation in the Horton Point Lighthouse Museum of artifacts retrieved from sunken sailing vessels in Long Island Sound. It is not known to what extent submerged resources are still extant and recoverable.

The local effort to restore old lighthouses runs counter to the prevailing operational policy of the U.S. Coast Guard which has steadily moved to dismantle most working lighthouses in the United States and replace them with automated towers. The U.S. Lighthouse Society estimates that there are only 594 lighthouses left in the U.S. Sixty-five of them are found in New York State. Suffolk County and Southold Town have more lighthouses than any other county or town in the United States. (Source: United States Lighthouse Society website, October 8, 2002). In Southold Town, the local citizenry has taken an active interest in the restoration, re-commission and maintenance of its lighthouses.

In addition to the sites of potential State or National significance, the potential listing of local landmarks is considerable. In 1988, the Society for the Preservation of Long Island

Antiquities conducted an extensive survey of the Town. It found and documented approximately fifteen hundred (1500) historic structures. A long overdue update was conducted during the summer of 2000. That update included a survey that was mailed to the property owner. Since 1988 an undetermined number of structures had been lost to demolition or inappropriate renovation. Still others were discovered that had been overlooked in the first survey. The results of that survey will be incorporated into an updated computerized inventory that will facilitate access by the Building Department and the Tax Assessor's Office, as well as by other Town officials.

The Town of Southold recognizes the importance of protecting the historic resources of the community. In 1983, the Town adopted a *Landmark Preservation Law* and a *Landmark Preservation Commission*. However, both the legislation and the Commission's powers are limited. The Commission is actively working with interested citizens to develop improved legislation that would afford greater protection to historic structures. There is recognition that owners of historic properties might benefit from established state and federal tax incentives for historic preservation. Currently, however, the Town provides no incentives, financial or otherwise, for the renovation of historic properties. The Town recognizes that it needs to strengthen its Landmark Preservation Law. The actual form which that amendment will take is a subject of ongoing debate as the Town struggles to balance private property rights against the demonstrated economic, aesthetic and cultural benefits of historic preservation to the community.

In the meantime, the Town has begun taking steps to improve its record keeping so as to prevent the inadvertent destruction of structures through the issuance of demolition or renovation permits. Eventually, this updated record will be tied-in to the Town's GIS database. Further, the Town needs to move more aggressively to address the problems and issues highlighted in *Section II.F. Historical Resources* and within selected reaches, as identified in *Section II.J. Reach Inventory and Analysis*.

With regard to the Town's nautical history, greater federal and state recognition of the importance of the Town's historical resources, particularly those pertaining to its maritime tradition such as lighthouses, would help the local citizenry in their attempts to preserve some of the best and last vestiges of maritime history left on the Eastern Seaboard of the United States.

Archeological

The Town's archeological resources are not as well known, and not as well documented, but are no less important. As described in *Section II.G. Archeological Resources*, most of the Town is defined by the New York State Archaeological Sensitivity Map (March 1992) as having *multiple site sensitivity*. The resources are widely distributed throughout the Town and most of it is aboriginal in content (e.g. Native American artifacts). Two museums, the Indian Museum in Southold and the Henry Fergusen Museum on Fishers Island, have extensive collections of Native American artifacts. The former museum houses the largest such collection in the State of New York. Additionally, The Fort Corchaug Archeological Site, in Cutchogue, is on the *National Register of Historical Places*.

The Town recognizes the importance of protecting the archeological resources of the community. In 1994, the Town expanded the jurisdiction of *the Landmark Preservation*

Law and the Commission to include *sites*. Prior to that time the law and the Commission only had jurisdiction over *structures*. However, there still are no protocols for protecting artifacts and sites that become unearthed during new development activity. On commercial sites, the Town requires an assessment of the site's archeological sensitivity as part of the environmental review. In some cases, cultural assessments are required and input from the State's Office of Parks, Recreation and Historic Preservation is sought. However, this procedure is not foolproof. For one thing, the degree of public (as opposed to scholarly) information about potential sites is sketchy. Nor does the Town's environmental review cover residentially zoned properties. It is probably safe to say that a portion of the Town's archeological resources are steadily being lost to new development activity, primarily due to public ignorance of its location and value. There is concern on the part of the archeological community about publicizing sites or general areas of known sensitivity for fear of raiding of artifacts by amateur archeologists. There also is a concern that sites would be obliterated by unscrupulous developers in order to remove all traces of aboriginal activity.

It is suggested that the Town's archeological resources would benefit from better publicity and greater scrutiny. Finally, the Town needs to move more aggressively to address the problems and issues highlighted in *Section II.G. Archeological Resources* and within selected reaches, as identified in *Section II.J. Reach Inventory and Analysis*

(xiv) Protection of scenic resources

The Town of Southold's scenic resources are unique and contain great variety. They can be categorized as falling within three patterns that are typical for the Town. These include: the traditional business hamlets surrounded by the older homes of the early settlements, the sweeping, open sky vistas in the agricultural areas, and the mix of open and enclosed water views along with that of commercial and recreational maritime activities.

Inland Southold is characterized by a mostly open agricultural landscape with low and medium residential development concentrated in and around the hamlets and along the major transportation routes. A great deal of the residential development is not immediately evident as it is tucked in wooded enclaves. By contrast, the Sound shoreline is a mostly open landscape with a concentration of low and medium residential development along and behind the bluffs. The shoreline there features dramatic bluffs fronted by gravelly and stony beaches. The steep bluffs provide a distinct edge to the landscape. Much of the Peconic Estuary shoreline to the south is developed with low and medium density residential development. Usually the impact of these structures on the scenic quality of the shoreline is minimized by the extensive landscaping and woods. The numerous creeks and inlets, fringed with extensive wetlands, are the main scenic component of this shoreline. These inlets provide contrast to the smooth bay shoreline.

Many of these scenic components can be viewed from the State and County roads, many local roads and from the public parks along the shoreline. Many of these roads offer distinctive vistas of local significance; and some of these vistas, such as that from NY Route 25 on the Orient Causeway, are considered to be of State-wide significance. The view of the shoreline from the water in most places is still pleasing, although there are some areas that are beginning to be converted to an unbroken line of houses, docks and boats, one next to the other with no vegetative relief other than fenced, manicured lawns. This type of development not only diminishes the

natural beauty of the Town's waterfront, it can pose navigational threats to boaters at night by introducing light pollution along the shoreline.

The Town's scenic resources were detailed in *Section II.H. Scenic Resources* and further examined within *Section II.J. Reach Inventory and Analysis* as well as the *Scenic Byways Corridor Management Plan*, February 2001. The Town recognizes the importance of the protection and enhancement of the scenic resources to its local economy, as well as to its unique quality of life. Further, the visual quality of the coastal waterfront is a significant resource, one that has significant economic as well as aesthetic impact. It is understood that the preservation of the scenic character of the Town is critical to the continuance of its attraction as a *quality* waterfront community.

The Town also recognizes that negative visual elements can be introduced through poor site design, lack of property maintenance and excessive or poorly located signage and lighting, as well as misguided tree trimming practices. The Planning Board and its Architectural Review Committee review all proposed commercial site plans and signage with an eye to ensuring that the new development does not detract from the scenic qualities of the neighboring streetscape. Additionally, since 1996, the Town's Transportation Commission has worked with state and county transportation agencies to facilitate better highway design, upgrades and maintenance practices. Towards that end, the Town actively works with the State and County highway engineers on road projects at the design stage. Further, the Town has actively supported and worked with local business groups to develop scenic "gateways" to the business districts along State and County roads. It also has supported business districts in the renovation of the streetscape along local roads.

The Town recognizes that the threat to the landscape from utility companies can equal if not exceed that perpetuated by haphazard new development. In the fall of 2000, the Town Board took a strong stance against the Long Island Power Authority's proposal to upgrade electrical service on the North Fork by replacing the existing 23,000 volt line with a 69,000 volt line. The 50 foot high metal towers that carry the 23,000 volt line would be replaced with 85 foot tall towers. Along with the neighboring Town of Riverhead, the Town of Southold is insisting that all upgraded transmission lines be buried underground. Further, the Town would like to see distribution lines buried in certain places, such as along the Orient Causeway and within business district centers. This position is in keeping with the Town's policy since 1989 of requiring that all utility lines within new subdivision developments be placed underground.

The Town's efforts to develop a *Scenic Byways Corridor Management Plan* are an attempt to prevent or mitigate negative visual impacts of new development (and the revitalization of existing development) through the application of a cohesive set of design standards and principles. The Plan is designed to be used by property owners, developers, architects and highway engineers, as well as planners.

(xv) Transportation management

There are several significant transportation-related issues on the front burner within the Town of Southold. Some of the issues were described in general earlier in this text, specifically:

- *Section II.A. Introduction 2. Transportation,*
- *Section II.B. Planning Framework, 9. Transportation Planning*
- *Section II. K. Subsection 2. Key Issues, (iv) Ferries*

In addition, the initiative to keep County Route 48 as a functioning bypass, was described in several places in *Section II.J. Reach Inventory and Analysis*, as well as being summarized earlier in this *Section II.K. under Subsection 1. Opportunities for Land Use Changes, (iv) Areas of Special Concern*.

It is clear that transportation management issues, both regional and site-specific in scope, are going to be the focus of Town concerns for the foreseeable future. Resolution of some of these problems will require ongoing and sensitive negotiations (and dialogue) with State and County transportation officials as individual, site-specific problems manifest themselves and new or amended site plans are proposed. In recent years this dialogue has taken place primarily through the Town's Transportation Commission and the Town's Planning Department.

The Town understands that the scenic qualities of its roadways are an integral part of its overall physical attraction to tourists and second-home residents, as well as to its year-round residents. In order to protect this economic base, the Town understands that land use and transportation planning must be integrated carefully in order to prevent traffic congestion and air pollution, as well as to maintain traffic and pedestrian safety. In order to prevent the widespread suburbanization of its road network, the Town understands that this type of integrated planning must take place with every proposal for new or expanded development. Use of traffic calming, access management and other contextually sensitive management techniques should be considered on all of the Town's roads, but particularly the state and county roads because they are the major east-west traffic conduits within the Town.

This is a critical point because some of the Town's traffic problems are a reflection of larger, unresolved regional issues. In order for Southold Town to be successful in preserving its unique character in the face of continuing and strong development pressure throughout the East End region, it needs support and cooperation at the County and State levels of government. The geographic configuration of the East End is such that land use decisions of other towns and villages have an impact on traffic in the Town of Southold, and vice versa. Transportation modes, like rivers, cross government jurisdictional boundaries. It will become imperative for the entire East End community to work together to develop a consensus about how to solve the problems.

The Town recognizes the importance of achieving a regional consensus within the East End. For that reason, it has taken a very active leadership role in promoting the work of its own Transportation Commission. The Commission works closely with the State Department of Transportation, the Suffolk County Department of Public Works and the Metropolitan Transportation Authority-Long Island Rail Road.

The Southold Town Planner and the Southold Transportation Commission Chairman play leadership roles within the East End Transportation Council. The Council is a research arm of the East End Supervisors and Mayors Association, which membership consists of the five East End Towns and nine incorporated Villages. Since 1996, the Council has successfully brokered a working roundtable of local, county, and state transportation and planning officials. The technical and political dialogue that ensued has resulted in changes in the way transportation planning is conducted and implemented within the region. In 1999, the Council initiated a *SEEDS* program: the acronym stands for *Sustainable East End Development Strategies*. Funded with federal monies designated to promote better regional planning at the *transportation – land use nexus*, the

consensus-building exercise will engage all land use and transportation agencies within the region, as well as local interest groups concerned about transportation-related issues. SEEDS is focused on arriving at a consensus about two fundamental things: defining a sustainable level of land use and land use practices (including zoning), and determining suitable transportation improvements to accommodate that level throughout the East End. The goal is to permit a certain amount of new growth without destroying the economic base of the region, which is based on its unique character and high environmental quality. Throughout this process, the Town intends to advocate for more balanced regional distribution of traffic burdens, particularly where interstate ferry services are involved. This will prove a challenge given that the Town of East Hampton adopted legislation in 1997 severely limiting the possibility of new or expanded interstate ferry service being introduced between that Town and New England.

In the final analysis, it is intended that Southold Town's LWRP will result in a greater level of regional cooperation and assistance at the federal and state levels to help and mitigate the local, land-based impacts of ferry transportation.

(xvi) Stewardship of land and water resources

The Town recognizes that the preservation of its unique environmental, aesthetic, historic, agricultural, nautical and scenic characteristics is critical to its attraction as a *quality community*. To help achieve this goal, the Town has engaged in a number of activities designed to promote the careful stewardship of its land and water resources.

For several years now, the Peconic Land Trust has been retained to provide assistance and professional services related to the Town's stewardship responsibilities and obligations pursuant to *Chapter 59 (Open Space Preservation)* and *Chapter 6 the Community Preservation Fund*. One of the top priorities has been the development of a management plan for the Downs Farm Preserve/Fort Corchaug property. (*See Section II.J. Reach 8 for more information about this preserve, which is on the National Register of Historic Places*). A second priority is stewardship of the recently acquired Dam Pond property on the northwest end of the Orient Causeway (*See Section II.J. Reach 4. for more information about this property.*)

Stewardship services will include, but not be limited to, the following activities:

- land preserve management and maintenance,
- the preparation of baseline documentation reports for land preserves and easements,
- the preparation and implementation of management statements and management plans,
- the monitoring and enforcement of the Town's purchase of development rights easements/agreements at Dam Pond and Fort Corchaug.

Stewardship is an evolving process, one that the Town and Peconic Land Trust will continue to work on in the coming years. Further, the recently created position of Land Preservation Coordinator is seen as containing a stewardship component in the future.

Finally, the Town has been nurturing a partnering stewardship program with the Suffolk County Parks Department, whereby the Town's facilitates the stewardship of County parks by finding local non-profit organizations to partner in the stewardship efforts. Initial results have been promising.

3. Conclusions

Section II.K. provided a rather brief synopsis of *Section II.J.*, which presented a more exhaustive Inventory and Analysis of the land uses and dominant issues throughout the Town of Southold. A distinct set of conclusions can be drawn from this analysis.

One of the key conclusions is that in recent years, the Town has made significant strides towards identifying problems and solving them. But, also, that its own permitting and enforcement offices are not working in a sufficiently cohesive manner to mitigate the impacts of new development and re-construction. Good intentions are being undermined by lack of staff, procedural loopholes, and in some cases, disagreements over interpretation of Town policies and legislation.

Another of the key conclusions is the fact that federal, state and county agencies exert considerable influence within the Town's coastal area and while there is growing cooperation, there still are situations where these agencies may make decisions that work against the Town's Vision, as described in this document. *Section VI. State and Federal Actions and Programs Likely to Affect Implementation* provides a generic but exhaustive listing of agencies whose actions or programs are most likely to affect the Town's implementation of its LWRP.

It also must be noted here that although this document reflects a federal mandate for coastal zone management planning, its jurisdictional boundary (as defined by federal mandate and state regulation) *specifically excludes land and facilities owned by federal agencies* (such as the Animal Disease Research Laboratory on Plum Island). It is the Town's position that federal consistency requirements require a sincere effort on the part of all agencies to work with the Town and to attempt to accommodate disparate goals within the framework of the Southold Town LWRP.

Throughout this document, a sincere attempt has been made to identify significant points of conflict between the Town's LWRP and the standard operating procedure of key federal, state, county and regional agencies, as well as with other Town LWRPs. In some cases, potential solutions are suggested. The clear conclusion is that it is impossible for this coastal management program to be implemented without the ongoing and sensitive cooperation of each of these agencies.

This position is taken with a clear understanding and recognition of the sovereignty of each of these levels of government within their areas of jurisdiction. However, we must emphasize that Southold Town's own home rule is older than any of the other levels of government. The tradition of stewardship that was started in the Town of Southold in 1640 still extends down to the present. While this LWRP document represents an attempt to upgrade stewardship efforts to reflect modern threats and solutions, its effectiveness will be of limited value without genuine cooperation and consistency at the federal, state and county levels of government.