

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: Papscanee Marsh and Creek

Designated: November 15, 1987

County: Rensselaer

Town(s): East Greenbush, Schodack

7½' Quadrangle(s): Delmar, NY; East Greenbush, NY

Score Criterion

- 12 Ecosystem Rarity (ER)
One of the major freshwater wetland and tributary system in the upper Hudson River subzone, but rarity reduced by human disturbance.
geometric mean: $(9 \times 16)^{1/2} = 12$.
- 16 Species Vulnerability (SV)
Least bittern (SC) nesting.
- 6 Human Use (HU)
The marsh provides a variety of fish and wildlife related recreational uses for residents of the Capital District.
geometric mean: $(4 \times 9)^{1/2} = 6$.
- 6 Population Level (PL)
Concentrations of various migratory birds and anadromous fish species are uncommon in the ecological subzone; geometric mean:
 $(4 \times 9)^{1/2} = 6$.
- 1.2 Replaceability (R)
Irreplaceable.

SIGNIFICANCE VALUE = [(ER + SV + HU + PL) X R]
= 48

DESIGNATED HABITAT: PAPSCANEE MARSH AND CREEK

HABITAT DESCRIPTION:

Papscanee Marsh and Creek is located on the east side of the Hudson River, beginning just south of the City of Rensselaer and extending south along the west side of N.Y.S. Route 9J for approximately four miles. The fish and wildlife habitat is located in the Towns of East Greenbush and Schodack, Rensselaer County (7.5' Quadrangles: Delmar, N.Y.; and East Greenbush, N.Y.).

The Papscanee Marsh and Creek habitat is primarily a floodplain wetland area, encompassing a large tidal creek, emergent marshes, freshwater tributaries, old fields, and young woodlands. The habitat also includes an approximate one mile segment of the Moordener Kill, which is a medium gradient, warmwater stream, with a gravelly substrate and a drainage area of approximately 33 square miles. Papscanee Marsh and Creek has been subject to considerable human disturbance, as a result of agricultural use, and nearby commercial and industrial developments.

FISH AND WILDLIFE VALUES:

Papscanee Marsh and Creek is the northernmost of several major wetland areas located along the upper Hudson River. The marsh is very productive biologically and is a major contributor to the food chains of many fish and wildlife species in the northern section of the Hudson Valley. Papscanee Marsh is an important resting and feeding area for migratory waterfowl such as black duck, mallard, teal, wood duck, and pintail, and is used by limited numbers of waterfowl for nesting. Probable or confirmed breeding bird species in the area include green-backed heron, least bittern (SC), Canada goose, mallard, black duck, wood duck, Virginia rail, common moorhen, common snipe, spotted sandpiper, belted kingfisher, marsh wren, and swamp sparrow.

Papscanee Creek and its tributaries, especially the Moordener Kill, are important spawning and nursery areas for a variety of anadromous fish species, such as blueback herring, alewife, white perch, and American shad. Hudson River tributaries such as this are important producers of forage fish (killifish, shiners, etc.) which are consumed by the larger fish species noted above. Many resident freshwater fish species are also found here, including white catfish and black bass (largemouth and smallmouth). A population of map turtles has been reported to reside in this area.

Papscanee Marsh and Creek provides recreational and educational opportunities to residents from throughout the Capital District, including Albany, Rensselaer, and Columbia Counties. Waterfowl, hunting, trapping, fishing, and birdwatching are all significant recreational uses. However, human use of the area is limited somewhat by the lack of public access facilities.

IMPACT ASSESSMENT:

A **habitat impairment test** must be met for any activity that is subject to consistency review under federal and State laws, or under applicable local laws contained in an approved local waterfront revitalization program. If the proposed action is subject to consistency review, then the habitat protection policy applies, whether the proposed action is to occur within or outside the designated area.

The specific **habitat impairment test** that must be met is as follows.

In order to protect and preserve a significant habitat, land and water uses or development shall not be undertaken if such actions would:

- destroy the habitat; or,
- significantly impair the viability of a habitat.

Habitat destruction is defined as the loss of fish or wildlife use through direct physical alteration, disturbance, or pollution of a designated area or through the indirect effects of these actions on a designated area. Habitat destruction may be indicated by changes in vegetation, substrate, or hydrology, or increases in runoff, erosion, sedimentation, or pollutants.

Significant impairment is defined as reduction in vital resources (e.g., food, shelter, living space) or change in environmental conditions (e.g., temperature, substrate, salinity) beyond the tolerance range of an organism. Indicators of a significantly impaired habitat focus on ecological alterations and may include but are not limited to reduced carrying capacity, changes in community structure (food chain relationships, species diversity), reduced productivity and/or increased incidence of disease and mortality.

The *tolerance range* of an organism is not defined as the physiological range of conditions beyond which a species will not survive at all, but as the ecological range of conditions that supports the species population or has the potential to support a restored population, where practical. Either the loss of individuals through an increase in emigration or an increase in death rate indicates that the tolerance range of an organism has been exceeded. An abrupt increase in death rate may occur as an environmental factor falls beyond a tolerance limit (a range has both upper and lower limits). Many environmental factors, however, do not have a sharply defined tolerance limit, but produce increasing emigration or death rates with increasing departure from conditions that are optimal for the species.

The range of parameters which should be considered in applying the habitat impairment test include but are not limited to the following:

1. physical parameters such as living space, circulation, flushing rates, tidal amplitude, turbidity, water temperature, depth (including loss of littoral zone), morphology, substrate type, vegetation, structure, erosion and sedimentation rates;

2. biological parameters such as community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, meristic features, behavioral patterns and migratory patterns; and,
3. chemical parameters such as dissolved oxygen, carbon dioxide, acidity, dissolved solids, nutrients, organics, salinity, and pollutants (heavy metals, toxics and hazardous materials).

Although not comprehensive, examples of generic activities and impacts which could destroy or significantly impair the habitat are listed below to assist in applying the habitat impairment test to a proposed activity.

Any activity that would substantially degrade water quality, increase turbidity or temperature, or alter water depths in the littoral zones, wetlands, and streams making up this habitat would result in significant impairment of the habitat. Discharges of stormwater runoff or wastewater containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) may result in adverse impacts on fish and wildlife populations in the area. Barriers to fish migration, whether physical or chemical, would also have significant impacts on fisheries resources in Papscanee Creek as well as in the Hudson River.

Physical alteration of Papscanee Creek, through dredging, filling, or bulkheading, would eliminate productive shallow water areas. Elimination of wetlands, through filling or drainage, would result in a direct loss of valuable habitat area. Expansion of agricultural activities in recent years has resulted in such habitat losses, but could be designed to maintain or enhance certain wildlife species.

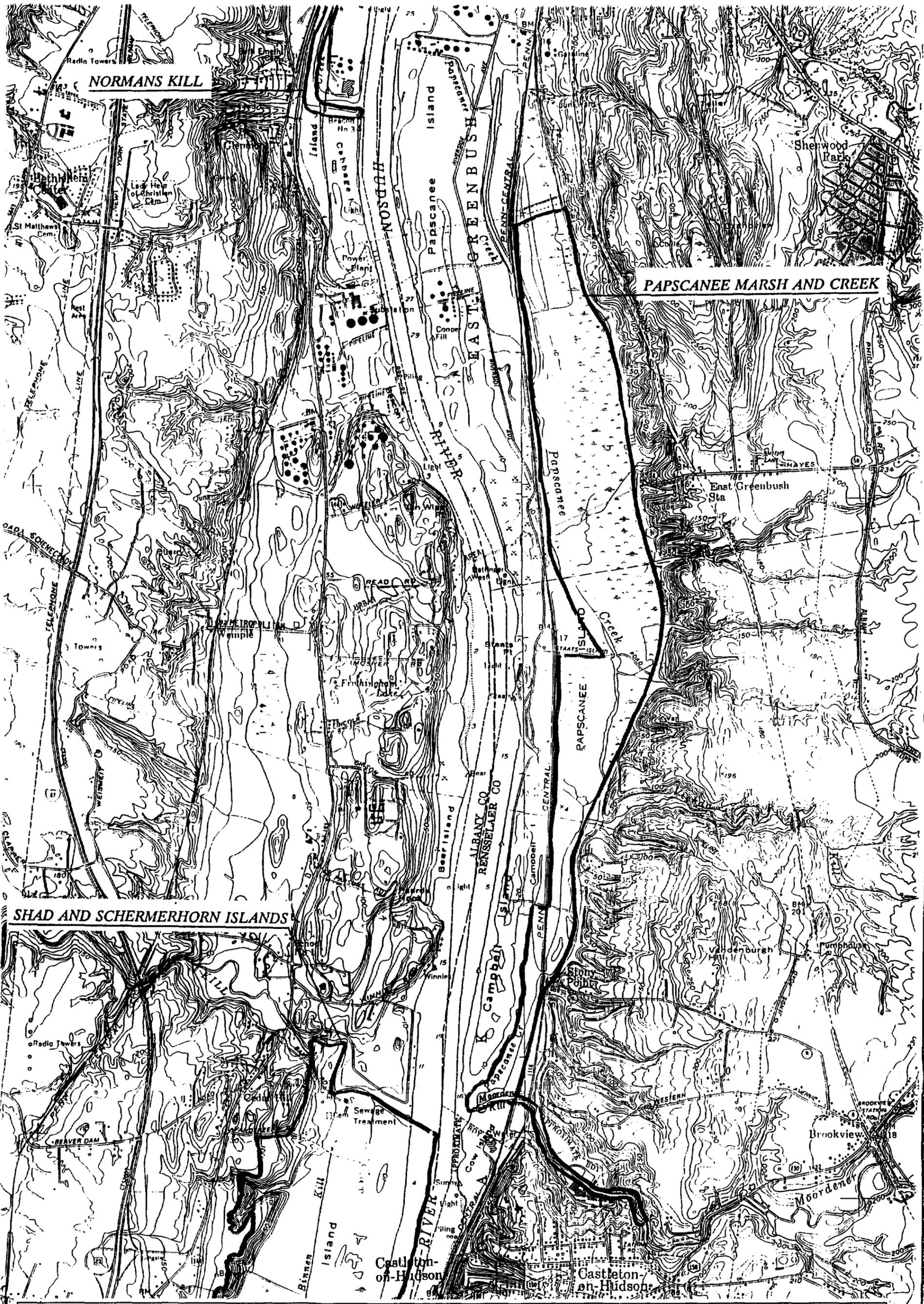
Habitat management activities, including restoration of tidal wetlands, may be especially productive in the Papscanee Marsh and Creek area. Habitat disturbances in Papscanee Marsh and Creek would be most detrimental during fish spawning and incubation periods (April-July for most warmwater species) and wildlife breeding seasons (April-July for most species). Existing areas of natural vegetation bordering aquatic and wetland areas should be maintained to provide bank cover, soil stabilization, and buffer zones. Development of public access to the area may be desirable to ensure that adequate opportunities for compatible human uses of the fish and wildlife resources are available.

KNOWLEDGEABLE CONTACTS:

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SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Papscaene Marsh and Creek / Shad and Schermerhorn Islands (In part) / Normans Kill (In part)

