COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Schodack and Houghtaling Islands and Schodack Creek**

Designated: **November 15, 1987**

County(ies): **Rensselaer; Columbia; Greene**

Town(s): **Schodack; Stuyvesant; New Baltimore**

7½' Quadrangle(s): **Delmar, NY; Ravena, NY**

Score	Criterion
25	Ecosystem Rarity (ER) Schodack Creek and the associated inland habitats comprise a large, undeveloped floodplain and wetland ecosystem type that is rare on the Hudson River.
25	Species Vulnerability (SV) Osprey (T) roosting and feeding area.
8	Human Use (HU) Area contributes to commercial shad fishery of regional significance; geometric mean: $(4 \times 9)^{1/2} = 6$. Recreational fishing and waterfowl hunting important at county level; Additive division: $6 + 4/2 = 8$.
6	Population Level (PL) Concentrations of anadromous and resident fish species are unusual in t he upper Hudson Valley subzone; geometric mean: $(4 \times 9)^{1/2} = 8$.
1.2	Replaceability (R) Irreplaceable.

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

= **77**

DESIGNATED HABITAT: SCHODACK AND HOUGHTALING ISLANDS AND SCHODACK CREEK

HABITAT DESCRIPTION:

Schodack and Houghtaling Islands and Schodack Creek are located along the eastern shore of the Hudson River, beginning approximately one mile south of the Village of Castleton-on-Hudson, and including portions of the Town of New Baltimore in Greene County, the Town of Schodack in Rensselaer County, and the Town of Stuyvesant in Columbia County (7.5' Quadrangles: Delmar, N.Y.; and Ravena, N.Y.). The Schodack and Houghtaling Islands and Schodack Creek area is approximately 1,800 acres in size, containing a diverse combination of ecological communities, including extensive floodplain forests, brushlands, cultivated fields, tidal creeks and mudflats, littoral zones, the lower portion of the Muitzes Kill, and emergent marshes. Much of this area is within Castleton Island State Park, which is an undeveloped property administered by the NYS Office of Parks, Recreation, and Historic Preservation. Habitat disturbances in the area are generally limited to occasional dredge spoil disposal, agricultural activities, and uncontrolled recreational use.

FISH AND WILDLIFE VALUES:

Schodack Creek and its associated riverine islands comprise a large, complex, floodplain ecosystem that is rare in the Hudson Valley. The creek is a relic side-channel of the Hudson River, that now functions as a biologically productive backwater area. Schodack Creek generally supports larger populations of fish, plankton, and rooted plants than the river, and serves as a major nursery area for post-larval and young-of-the-year fish.

Although considered a minor tributary, the creek is a significant spawning, nursery, and feeding area for American shad, white perch, alewife, blueback herring, black bass, and other freshwater fish species. Schodack Creek is the northernmost shad spawning area on the Hudson River. Adult and juvenile shortnose sturgeon (E) have been found in the Schodack Creek area, but habitat use has not been thoroughly documented. Mudflats, littoral zones, and wetlands are also important in various life stages of fish species inhabiting the area.

Wetland areas around Schodack and Houghtaling Islands and Schodack Creek serve as nesting habitats for a variety of bird species, such as green-backed heron, mallard, black duck, spotted sandpiper, American woodcock, marsh wren, and swamp sparrow. Upland habitats on the islands support many species of wildlife, including white-tailed deer and ruffed grouse. During spring and fall migrations (March-May and September-November, generally), Schodack and Houghtaling Islands and Schodack Creek receive considerable use by concentrations of waterfowl, raptors, shorebirds, and passerines. Of particular note is the regular occurrence of osprey (T) on Lower Schodack Island during the spring migration of

this species. As many as 10 osprey have been observed roosting in trees on the island, and the lower end of Schodack Creek probably provides a feeding area for these birds.

The Schodack Islands area is used by residents of the Albany area for hunting, birdwatching, trapping, and informal nature study. In addition to supporting the commercially important shad, Schodack Creek is used by local residents for recreational fishing.

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 appplying 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 sewage or stormwater runoff containing sediments or chemical pollutants may adversely affect fish or wildlife populations. Bulkheading, dredging, and dredge spoil disposal could be especially significant in these areas. Barriers to fish migration, whether physical or chemical, would have adverse impacts on fish populations in the area. Aquatic habitat disturbances would be most detrimental during fish spawning and incubation periods, which generally extend from April-July for most warmwater species. Disturbance of mature woodlands on the islands could reduce the potential value of the area to certain wildlife species. Human disturbance of lower Schodack Island should be minimized when osprey are in the area. Significant development of the islands for residential or commercial uses would eliminate an unusual example of Hudson River floodplain ecosystem. However, development of appropriate 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. Adjacent undeveloped upland areas are particularly important for maintaining the water quality and habitat value of Schodack Creek and should be preserved as a buffer zone.

KNOWLEDGEABLE CONTACTS:

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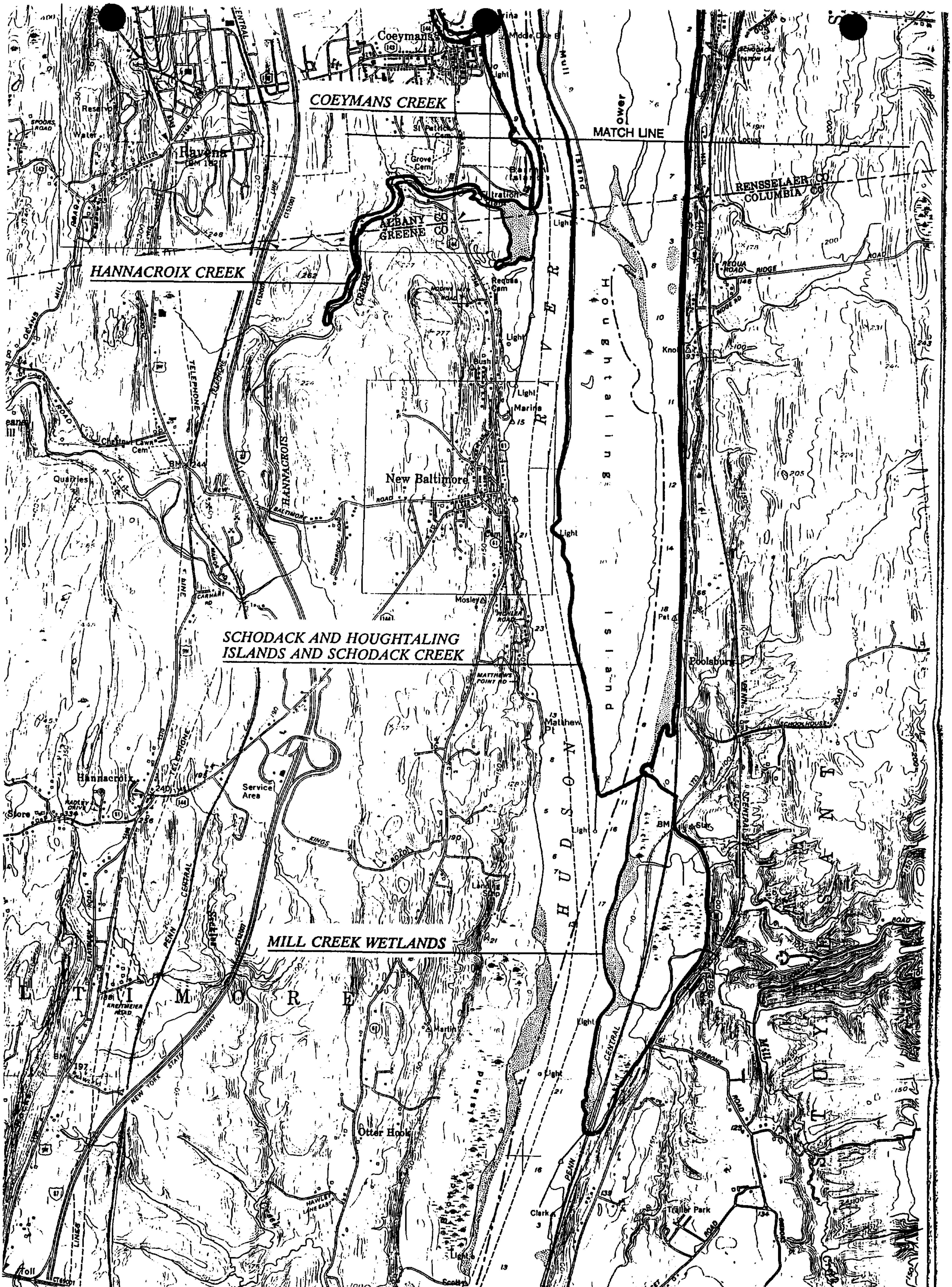

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Schodack and Houghtaling Islands and Schodack Creek (in part) / Coeymans Creek (in part) / Hannacroix Creek / Mill Creek Wetlands

Miles

0 ½ 1

N

New York State Department of State Division of Coastal Resources and Waterfront Revitalization

Prepared by T. Hart and G. Capobianco September 1990

SHAD AND SCHERMERHORN ISLANDS

SCHODACK AND HOUGHTALING ISLANDS AND SCHODACK CREEK

COEYMANS CREEK

HANNACROIX CREEK

MATCH LINE

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Coeymans Creek / Hannacroix Creek / Schodack and Houghtaling Islands and Schodack Creek (in part) / Shad and Schermerhorn Islands (in part)

New York State Department of State Division of Coastal Resources and Waterfront Revitalization

Miles

0 ½ 1

N

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