COASTAL FISH AND WILDLIFE RATING FORM

Name of area: **Schodack and Houghtaling Islands and Schodack Creek**
Designated: **November 15, 1987**
Revised: **August 15, 2012**
County: **Rensselaer, Columbia, Greene**
Town(s): **Schodack, Stuyvesant, New Baltimore**
7.5' Quadrangles: **Delmar, NY; Ravena, NY**

Assessment Criteria	**Score**
Ecosystem Rarity (ER) -- the uniqueness of the plant and animal community in the area and the physical, structural and chemical features supporting this community.	
ER Assessment – Schodack Creek and the associated inland habitats comprise a large, undeveloped floodplain wetland ecosystem type that is rare on the Hudson River; freshwater tidal wetlands and tidal swamp are also present.	**25**
Species Vulnerability (SV) – the degree of vulnerability throughout its range in New York State of a species residing in the ecosystem or utilizing the ecosystem for its survival.	
SV Assessment – Bald eagle (T), least bittern (T), American bittern (SC), osprey (SC). Atlantic sturgeon (C-Fed) Additive division: 25 + 25/2 + 16/4 + 16/8= 43.5	**43.5**
Human Use (HU) -- the conduct of significant, demonstrable commercial, recreational, or educational wildlife-related human use, either consumptive or non-consumptive, in the area or directly dependent upon the area.	
HU Assessment –Recreational fishing, trapping, bird watching and waterfowl hunting important at county level.	**4**
Population Level (PL) – the concentration of a species in the area during its normal, recurring period of occurrence, regardless of the length of that period of occurrence.	
PL Assessment – High concentrations coastal migratory and resident fish species; high concentrations of Pectoral Sandpipers, other shorebirds, passerines and wading birds (more than fifty pairs of Great Blue Heron are also present). Geometric mean: $\sqrt{4} \times \sqrt{9} = 6$	**6**
Replaceability (R) – ability to replace the area, either on or off site, with an equivalent replacement for the same fish and wildlife and uses of those same fish and wildlife, for the same users of those fish and wildlife.	
R Assessment – Irreplaceable	**1.2**
Habitat Index (ER+SV+HU+PL)= 78.5	**Significance (HI x R)= 94.2**

LOCATION AND 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 2,000 acres in size, and contains a diverse combination of ecological communities including extensive floodplain forests, brushlands, cultivated fields, freshwater tidal wetlands, tidal swamp, tidal creeks, submerged aquatic vegetation beds and mudflats, littoral zones, the lower portion of the Muitzes Kill and emergent marshes. Much of this area is within Schodack Island State Park, which is a largely undeveloped park and boat launch administered by the NYS Office of Parks, Recreation, and Historic Preservation. A portion of the park has been designated a state Bird Conservation Area (BCA).

Habitat disturbances in the area are generally limited to periodic dredge spoil disposal operations associated with Federal navigation channel maintenance, stream channel alteration as well as recreational boating. Substantial areas of shallow secondary channel habitat were filled with dredge spoil connecting islands together and to the mainland. The invasive plants purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*) and water chestnut (*Trapa natans*) are also present.

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. The Muitzes Kill, of which a portion lies within the habitat, supports migratory fish and provides a spawning area for spottail shiners (*Notropis hudsonius*).

Schodack Creek is a significant spawning, nursery, and feeding area for American shad (*Alosa sapidissima*), white perch (*Morone americana*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieui*) and other freshwater fish species. Adult and juvenile shortnose sturgeon (*Acipenser brevirostrum*)(E) and American eel (*Anguilla rostrata*) have been found in the Schodack Creek area. Mudflats, littoral zones, and wetlands are also important in various life stages of fish species inhabiting the area. The submerged aquatic vegetation water celery (*Vallisneria americana*) provides food for fish, invertebrates and waterfowl as well as refuge for fish and invertebrates.

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 (*Butorides virescens*), mallard (*Anas platyrhynchos*), black duck (*Anas rubripes*), spotted sandpiper (*Actitis macularia*), American woodcock(*Scolopax minor*), marsh wren (*Cistothorus palustris*), and swamp sparrow (*Melospiza georgiana*). Upland habitats on the islands support many species of wildlife, including white-tailed deer (*Odocoileus virginianus*) and ruffed grouse (*Bonasa umbellus*). 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 including American bittern (*Botaurus lentiginosus*) (SC), cerulean warbler (*Vermivora pinus*) (SC), king rail (*Rallus elegans*) (T) and least bittern (*Ixobrychus exilis*)(T).

Of particular note is the regular occurrence of osprey (*Pandion haliaetus*) (SC) on Lower Schodack Island during the spring migration of this species. Bald eagles (T) also use this are for foraging and roosting. Nesting bald eagles can be found within the vicinity of the Islands. The Islands support a large concentration of great blue heron and thousands of waterfowl and shorebirds have been found here. Unusual concentrations of wood thrush (*Hylocichla mustelina*) (IBA species at risk) and cerulean warblers (*Vermivora pinus*) nest in the floodplain forest.

The Schodack Islands area is used by residents of the Albany area for bird watching, boat access to the Hudson River, and informal nature study. Schodack Creek is used by local residents for recreational fishing.

IMPACT ASSESSMENT

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 storm water runoff containing sediments or chemical pollutants may adversely affect the habitat area. Spills of oil or other hazardous substances are a significant threat to this area, because the biological activity of tidal flats is concentrated at the soil surface, much of which may be directly exposed to these pollutants.

Substantial alteration of the stream channel, such as impoundment or creation of barriers to fish passage should be prohibited. Impediments to movement and migration of aquatic species, whether physical or chemical (e.g., dams, dikes, channelization, bulkheading, filling), would have adverse impacts on fish populations in the area. Plans to reduce or eliminate the impacts of existing hydrological modifications should be developed, including improvements to fish passage, and/or the removal of obstructions or barriers. Aquatic habitat disturbances would be most detrimental during bird nesting, and fish spawning and nursery periods, which generally extend from March through August for most warm water species.

Disturbance of adjacent wetland and forested habitats could reduce the potential value of the area to certain wildlife species. Such areas should be protected and where possible, restored, to provide bank cover, soil stabilization, maintain or improve water quality and provide buffer areas.

The presence of invasive species and the expansion of their range within the habitat may result in changes in native plant, vertebrate and invertebrate species composition and abundance. In particular, changes in plant communities may affect marsh-nesting birds. Effective control of invasive plant species, through a variety of means, may improve fish and wildlife species use of the area. Control methods, including biological controls and regulated use of herbicides must only be implemented, if other methods of control have been explored, and then only under permit with strict adherence to all precautionary measures to avoid impacts to non-target species. The primary goals of such efforts must be recovery and maintenance of habitat for native fish and wildlife species.

The expansion of water chestnut (*Trapa natans*) and replacement of submerged aquatic vegetation may also result in changes in fish and invertebrate species composition in the areas occupied by this invasive plant. Activities that may result in expansion of water chestnut should be avoided.

Where opportunities exist, appropriate restoration of intertidal and subtidal shallow habitats should be undertaken using the best available science and proper monitoring protocols. Restoration of secondary channel habitats should be considered. Restoration and enhancement efforts should be monitored, and the associated habitat effects should be reported and evaluated.

Human disturbance of lower Schodack Island should be minimized when osprey and bald eagle are in the area. However, maintenance of appropriate public access to the area may be desirable to allow compatible human uses of the fish and wildlife resources. Human use of the area should be conducted in a manner to avoid impacts.

HABITAT IMPAIRMENT TEST

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:
>
> 1. destroy the habitat; or,
>
> 2. 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 and 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 includes but is 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).

KNOWLEDGABLE CONTACTS

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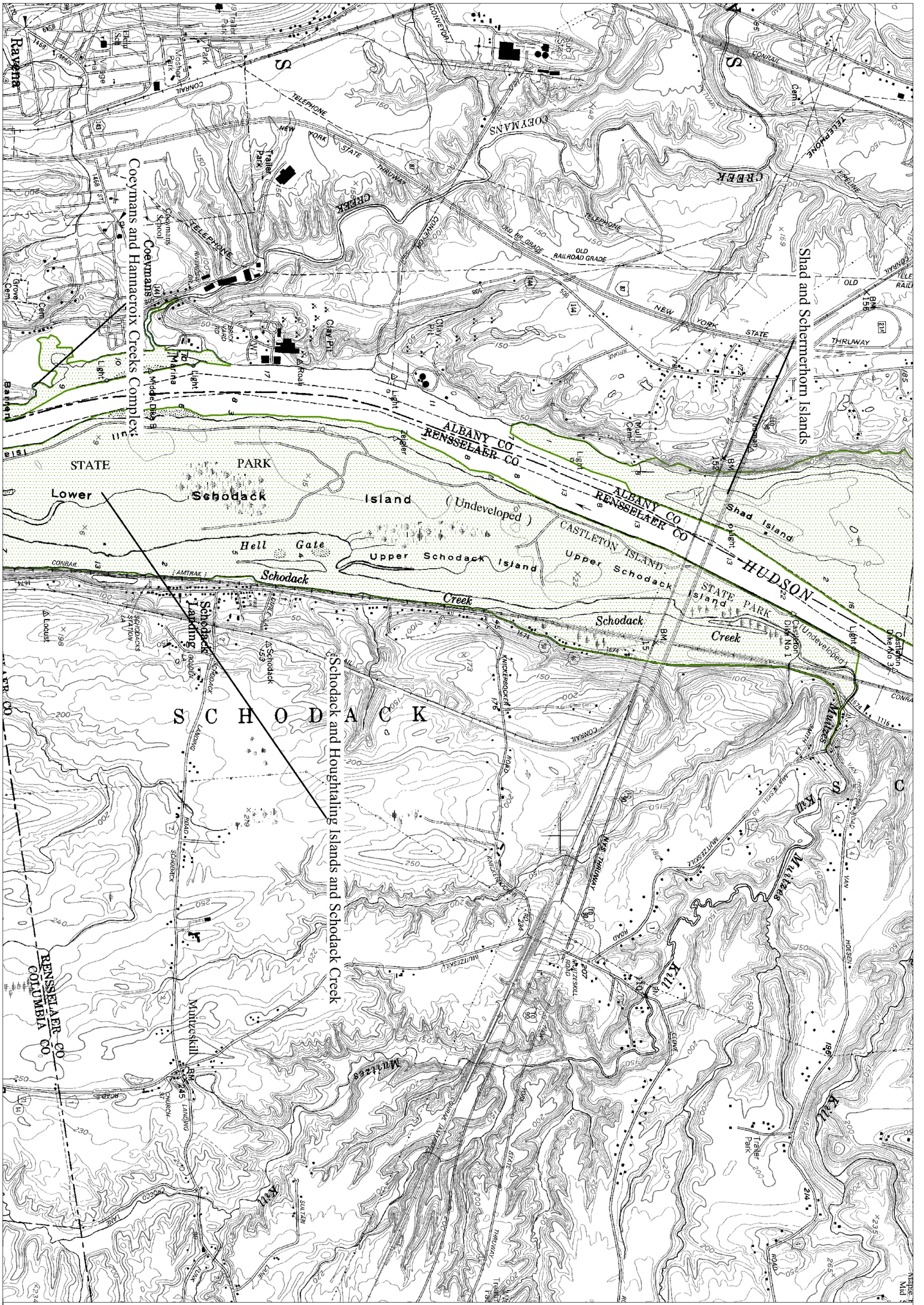
Coeymans and Hannacroix Creeks Complex
Shad and Schermerhorn Islands
Schodack and Houghtaling Islands and Schodack Creek
STATE PARK
Lower Schodack Island
(Undeveloped)
Upper Schodack Island
Shad Island
CASTLETON ISLAND STATE PARK
ALBANY CO
RENSSELAER CO
HUDSON
Hell Gate
Schodack Creek
SCHODACK
Schodack Landing
Coeymans
Ravena
Mattes
Kaul
Muitzeskill
RENSSELAER CO
COLUMBIA CO
Significant Coastal Fish and Wildlife Habitats
Schodack and Houghtaling Islands and Schodack Creek (In Part) part 1 of 2
Coeymans/Hannacroix Creeks (In Part)
Schad and Schermerhorn Islands (In Part)
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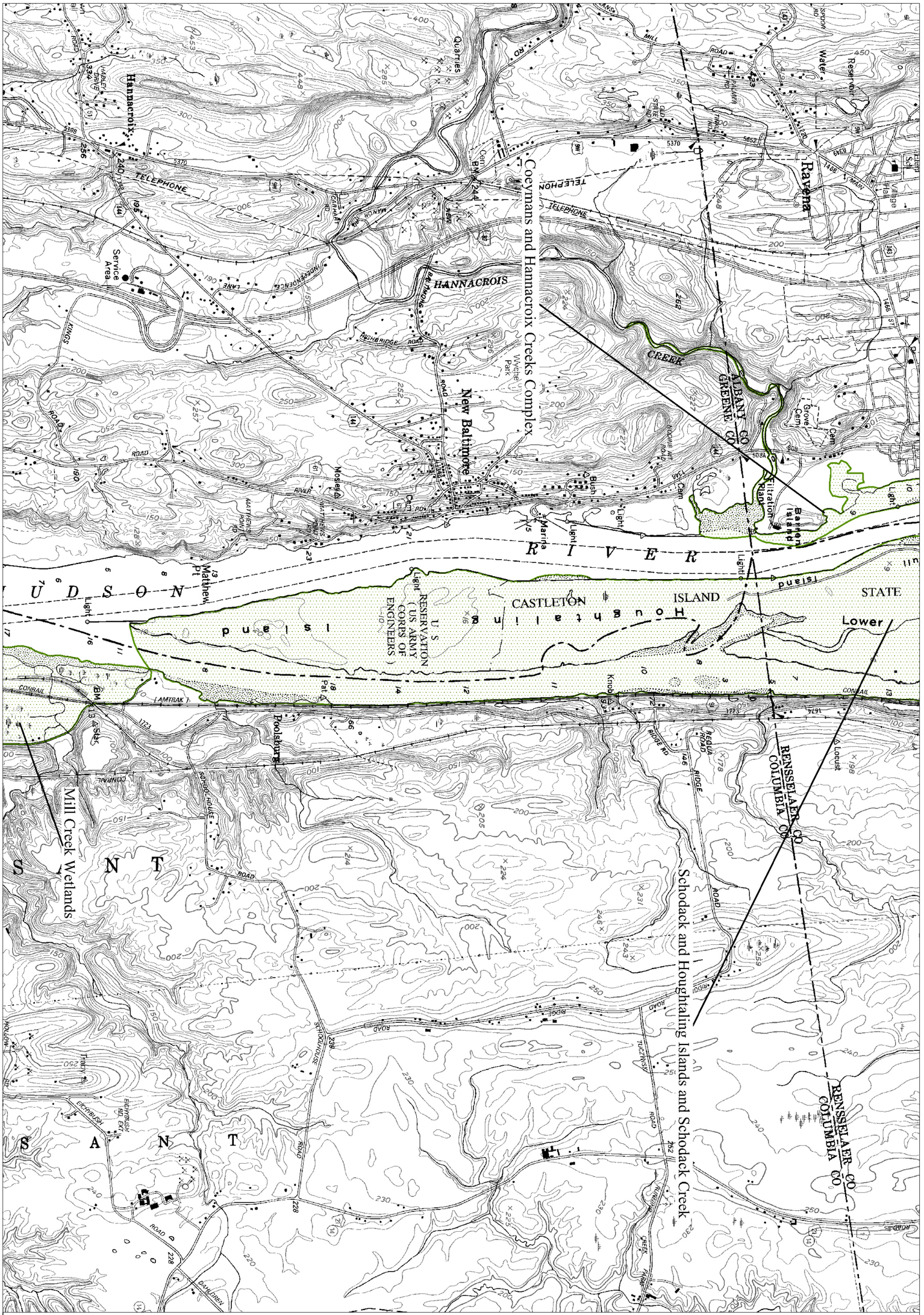

Significant Coastal Fish and Wildlife Habitats

Schodack and Houghtaling Islands and Schodack Creek (In Part) part 2 of 2
Coeymans and Hannacroix Creeks Complex (In Part)
Mill Creek Wetlands (In Part)

NEW YORK STATE DEPARTMENT OF STATE

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