

COASTAL FISH AND WILDLIFE ASSESSMENT FORM

Name of area: **Coeymans/Hannacroix Creek Complex**

Designated: **August 15, 2012**

County: **Albany, Greene**

Town(s): **Coeymans; New Baltimore**

7.5' Quadrangles: **Ravena, NY**

<u>Assessment Criteria</u>	<u>Score</u>
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 –Sizeable freshwater tributaries of the upper Hudson River, rare freshwater tidal wetlands.	16
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 –Wood turtle (SC)	16
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 and waterfowl hunting attract significant use by residents of Albany County.	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 –Significant spawning streams for coastal migratory fishes in the upper Hudson River. Geometric mean: $\sqrt[4]{4 \times \sqrt{9}} = 6$	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
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Habitat Index (ER+SV+HU+PL)= 42	Significance (HI x R) = 50.4

LOCATION AND HABITAT DESCRIPTION

Coeymans and Hannacroix Creek Complex is located on the west side of the Hudson River, in the Town of Coeymans, Albany County and the Town of New Baltimore in Greene County (7.5' Quadrangle: Ravena, N.Y.). The fish and wildlife habitat, approximately 93 acres, encompasses portions of the freshwater tributaries Coeymans and Hannacroix Creeks. The Creeks are medium gradient, perennial, warm water streams, approximately 10-20 feet wide with a gravel and rock substrate. The drainage areas of the Coeymans and Hannacroix Creeks are over 50 and 60 square miles, respectively. The habitat includes a shallow water and marsh area extending approximately one-half mile south along the river's edge to the mouth of the Hannacroix Creek, which broadens into an undeveloped sheltered, tidal cove, containing mudflats, emergent marsh, submerged aquatic vegetation beds and shallow littoral areas (less than 6 feet deep below mean low water).

Water celery (*Vallisneria americana*) comprises most of the submerged aquatic vegetation. Davis's sedge (T) (*Carex davisii*) is found in the wetlands.

Habitat disturbances include highway crossing, discharges of runoff from upstream agricultural and municipal areas, discharges of treated sewage effluent at the mouth of Hannacroix Creek, the development of a small craft marina at the mouth of Coeymans Creek, and invasive species including purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*).

FISH AND WILDLIFE VALUES

The Coeymans and Hannacroix Creeks Complex offers significant spawning habitat for coastal migratory and resident freshwater fishes in the upper Hudson River. The sheltered nature of the lower creek channels and tidal coves provides favorable habitat conditions for a variety of fish species. The habitat is a valuable spawning area for alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), and white perch (*Morone americana*). The shallows are a valuable nursery area for larval fish moving into the estuary from upstream spawning areas. In addition, the shallow subtidal areas at the mouth of the Coeymans and Hannacroix Creeks serve as spawning sites for American shad (*Alosa sapidissima*), which concentrate in such areas between mid-April and June, as well as yellow perch (*Perca flavescens*), white sucker (*Catostomus commersoni*) and spottail shiner (*Notropis hudsonius*). The submerged aquatic vegetation beds in the tidal cove provide food for fish, invertebrates and waterfowl as well as refuge for fish and invertebrates.

The area is known to be habitat for wood turtle (*Clemmys insculpta*) (SC), painted turtles (*Chrysemys picta*), common map turtles (*Graptemys geographica*), Eastern American toad (*Bufo americanus*), American bullfrog (*Rana catesbeiana*), and green frog (*Rana clamitans*). The tidal wetlands and mudflats along the river shorelines provide resting and feeding areas for a variety of waterfowl during spring and fall migrations and support submerged aquatic vegetation.

The Coeymans Creek area supports waterfowl hunting in the fall and recreational fishing during the spring and summer months, attracting significant use by Albany and Greene County residents.

IMPACT ASSESSMENT

Any activity that would substantially degrade water quality, increase turbidity or sedimentation, alter flows, temperature or water depths in the Coeymans/Hannacroix Creeks Complex would result in significant impairment of the habitat. All species may be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity or sediment loading, nonpoint source pollution, and waste disposal. Discharges or runoff of

sewage effluent, pesticides, or other hazardous materials into the creek could result in significant impairment of the habitat. Eutrophication caused by runoff from fertilizers, roads, and lawns is of considerable concern, as over-enrichment of waters may contribute to the establishment of invasive, non-native plants and concurrent displacement of the native flora.

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), should be prohibited. 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. Habitat disturbances would be most detrimental during bird nesting, and fish spawning and nursery periods, which generally extend from March through August.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously altered by human activity would result in the loss of productive areas which support the fish and wildlife resources of the Coeymans/Hannacroix Creeks Complex. Construction of structures in areas previously altered may result in a direct loss of valuable habitat. Elimination, disturbance, or alteration of riparian areas, wetlands, littoral zones, or mudflats associated with the creeks, through the loss of tidal connection, excavation, filling, or bulkheading could result in the direct loss of valuable habitat. In addition, bulkheading or other shoreline modifications could indirectly result in loss of intertidal and subtidal habitats by scouring habitats, and/or precluding the gradual natural upslope migration of these habitats as sea level rises. Existing areas of natural vegetation and existing bordering woodlands should be maintained and where possible restored to provide bank cover, stabilize soil, maintain or improve water quality and provide buffer areas from development.

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, expansions of common reed (*Phragmites australis*) have been correlated with reductions in populations of several marsh-breeding birds and declines in avian biodiversity. 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.

Unrestricted use of motorized vessels, including personal watercraft, in shallow waters can have adverse effects on the benthic community, and on fish and wildlife populations through re-suspension of sediments and through shoreline erosion which would reduce water clarity and increase sedimentation. Use of motorized vessels should be controlled (e.g., no wake zone, speed zones, zones of exclusion) in and adjacent to shallow waters. Docks, piers, catwalks, or other structures may be detrimental to submerged aquatic vegetation beds through direct or indirect effects from shading, mooring chain and propeller scarring, and other associated human uses. In particular, the submerged aquatic vegetation beds are especially vulnerable to impacts that decrease light penetration into the water.

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

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, 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

Natural Resources Bureau
NYS Department of State
99 Washington Ave, Suite 1010
Albany, NY 12231
Phone: (518) 474.6000

Hudson River National Estuarine Research Reserve
Norrie Point Environmental Center
PO Box 315
Staatsburg, NY 12580
Phone: (845) 889.4745

Hudson River Fisheries Unit
NYS Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, NY 12561
Phone: (845) 256.3071

The Hudson River Estuary Program
NYSDEC Region 3
21 S Putt Corners Rd
New Paltz, NY 12561
Phone: (845) 256.3016

New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757
Phone: (518) 402.8935

