

COASTAL FISH AND WILDLIFE RATING FORM

Name of area: **Brandow Point Marsh and Flats**
 Designated: **August 15, 2012**
 County: **Greene, Columbia**
 Town(s): **Athens, Greenport**
 7.5' Quadrangles: **Hudson North, NY; Hudson South, 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 – Includes freshwater tidal wetlands, freshwater tidal shrub swamp, large areas of submerged aquatic vegetation; rare in New York State.	64
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 – Least bittern (T)	25
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 – Popular area for recreational fishing and waterfowl hunting; area also used for passive recreational activities such as bird watching.	9
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 – Major American shad and striped bass spawning area in the Hudson River, concentrations are unusual in New York State. Large concentrations of migrant waterfowl in this ecological region of New York State occur in this habitat.	16
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)= 114	Significance (HI x R)= 136.8

LOCATION AND DESCRIPTION OF HABITAT

Brandow Point Marsh and Flats are located on the west side of the Hudson River, south of the Village of Athens, in the Town of Athens, Greene County (7.5' Quadrangles: Hudson North, N.Y. and Hudson South, N.Y.). Brandow Point Marsh and Flats is an approximately 427- acre area including freshwater tidal marsh, freshwater tidal shrub-swamp and submerged aquatic vegetation beds. Shallow and intertidal areas contain beds of submerged and emergent aquatic vegetation, dominated by wild celery (*Vallisneria americana*).

Several rare plant species occur in Brandow Point Marsh and Flats including, Golden club (*Orontium aquaticum*) (T) and Long's bittercress (*Cardamine longii*) (T). In addition, habitat is disturbed by the expansion of the invasive common reed (*Phragmites australis*).

FISH AND WILDLIFE VALUES

The freshwater tidal wetlands and swamp within Brandow Point Marsh and Flats are areas of high productivity, providing food for a number of fish and wildlife species including migratory waterfowl. The submerged and emergent aquatic vegetation are valuable feeding areas for many species of ducks, especially during spring (March - April) and fall (mid-September - early December) migrations. The submerged aquatic vegetation also provides spawning and juvenile fish forage and refuge habitat for a variety of resident and coastal migratory fish species, including American shad (*Alosa sapidissima*), striped bass (*Morone saxatilis*), largemouth (*Micropterus salmoides*) and smallmouth bass (*Micropterus dolomieu*).

This productive habitat supports a number of wading and shorebirds including least bittern (*Ixobrychus exilis*) (T). Bald eagle (*Haliaeetus leucocephalus*) (T) has also been observed in this area.

The shores of this area provide habitat for common map turtles (*Graptemys geographica*). In addition this area also provides high quality habitat for a number of other reptiles and amphibians including: spotted turtle (*Clemmys guttata*), wood turtle (*Clemmys insculpta*), water snake (*Nerodia s. sipedon*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamander (*Ambystoma laterale*), red-spotted newt (*Notophthalmus v. viridescens*), redback salamander (*Plethodon cinereus*), mudpuppy (*Necturus maculosus*), American toad (*Bufo americanus*), gray tree frog (*Hyla versicolor*), spring peeper (*Pseudacris crucifer*), bullfrog (*Rana catesbeiana*), green frog (*Rana clamitans*), wood frog (*Rana sylvatica*) and Northern leopard frog (*Rana pipiens*).

Brandow Point Marsh and Flats provides recreational fishing opportunities, especially for striped bass and resident sport species. The area is also a popular waterfowl hunting site during the fall migration period.

IMPACT ASSESSMENT

Any activity that would substantially degrade water quality, increase turbidity or sedimentation, alter flows, temperature or water depths at Brandow Point Marsh and Flats 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 runoff, and waste disposal. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides and/or insecticides) may result in adverse impacts on the habitat area. Spills of oil or other hazardous substances are an especially 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.

Any physical alteration of the habitat, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Disruption of plant communities or benthos in the area would result in significant impairment of the habitat. Activities that would subdivide this relatively large, undisturbed area into smaller fragments should be avoided. Existing woodlands bordering Brandow Point Marsh and Flats should be maintained to provide bank cover, soil stabilization, and buffer areas. 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.

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.

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 bottom sediments and through shoreline erosion which may reduce water clarity and increase sedimentation. Use of motorized vessels should be controlled (e.g., no wake zone, speed zones, no motor zone) in and adjacent to shallow waters and adjacent wetlands. 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:

- 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).

KNOWLEDGABLE CONTACTS

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