

COASTAL FISH AND WILDLIFE RATING FORM

Name of area: **Smith's Landing**
 Designated: **August 15, 2012**
 County: **Greene, Ulster**
 Town(s): **Catskill, Saugerties**
 7.5' Quadrangles: **Cementon, NY; Saugerties, 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 – Freshwater tidal marsh and intertidal mudflats.	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 – No endangered, threatened or special concern species have been found in the area.	0
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, boating, and picnicking by county residents.	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 – No unusual concentration of species.	0
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) = 20	Significance (HI x R)= 24

LOCATION AND DESCRIPTION OF HABITAT

Smith's Landing is located on the western shore of the Hudson River in the towns of Catskill and Saugerties, Greene and Ulster Counties (7.5 Quadrangle: Cementon, NY). The area includes an approximately 35 acre tidal cove that contains a progression of habitats from mudflats to lower and upper marsh. Smith's Landing has been recognized by the New York Natural Heritage Program as containing significant intertidal mudflats. The area includes State-regulated freshwater wetlands. There are also significant submerged aquatic vegetation beds in shallow subtidal areas, dominated by water celery (*Valisineria americana*).

Golden club (*Orontium aquaticum*) (T), a federally listed plant is found in the habitat.

Limited disturbance has resulted from surrounding residential housing, construction of bulkheads and maintenance of the Federal navigation channel. Smith's Landing is used by county residents for recreational fishing, boating, and other passive recreation.

FISH AND WILDLIFE VALUES

The freshwater tidal marsh portion of this habitat is highly productive and contributes to maintaining water quality of the Hudson River. These flats also serve as important nursery and feeding areas for migratory and resident fish species including striped bass (*Morone saxatilis*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), Blueback herring (*Alosa aestivalis*), white perch (*Morone americana*), smallmouth bass (*Micropterus dolomieu*), and largemouth bass (*Micropterus salmoides*). The submerged and emergent aquatic vegetation provides food and refuge for fish and invertebrates and valuable feeding areas for many species of ducks, especially during spring (March - April) and fall (mid-September - early December) migrations.

Songbirds, shorebirds, wading birds and waterfowl are also found in this area. In addition Smith's Landing contains habitat used by painted turtle (*Chrysemys picta*), water snake (*Nerodia s. sipedon*), spotted salamander (*Ambystoma maculatum*), red-spotted newt (*Notophthalmus v. viridescens*), redback salamander (*Plethodon cinereus*), mudpuppy (*Necturus maculosus*), American toad (*Bufo americanus*), gray treefrog (*Hyla versicolor*), spring peeper (*Pseudacris crucifer*), bullfrog (*Rana catesbeiana*), green frog (*Rana clamitans*), wood frog (*Rana sylvatica*) and Northern leopard frog (*Rana pipiens*).

Opportunities for recreation including recreational boating, bird watching and fishing attract local and county residents to this area. Access to the area includes a boat launch and town park.

IMPACT ASSESSMENT

Any activity that would substantially degrade water quality, increase turbidity or sedimentation, alter flows, temperature or water depths in Smith's Landing 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. Oil and other hazardous substance spills 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.

Disruption of plant communities or benthos in the area, through dredging or filling, would have major impacts on habitat quality. In particular, the submerged aquatic vegetation beds would be negatively impacted by changes by dredging or filling, in the littoral zone as well as changes in water quality. No new navigation channels should be created in the area; dredging activities to maintain the existing adjacent navigation channel should be scheduled between September 1 and February 28 to minimize potential impacts on most aquatic organisms and migratory birds. Habitat disturbances would be most detrimental during bird nesting, and fish spawning and nursery periods, which generally extend from April through August for most warm water 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 resuspension 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, zones of exclusion) 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.

Thermal discharges, depending on time of year, could have adverse effects on use of the area by migratory and resident species. Entrainment and impingement causes significant mortality to all life stages of fish, including endangered species. Activities that would enhance migratory, spawning, or nursery fish habitat, particularly where an area is essential to a species' life cycle or helps to restore an historic species population would be beneficial.

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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