

COASTAL FISH AND WILDLIFE RATING FORM

Name of area: **Hook Mountain**
 Designated: **November 15, 1987**
 Revised: **August 15, 2012**
 County: **Rockland**
 Town(s): **Clarkstown**
 7.5' Quadrangles: **Nyack, NY**

<u>Assessment Criteria</u>	<u>Score</u>
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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 - Wooded mountain top with rock outcrops; not a rare ecosystem type. **0**

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 reside 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 – A valuable site for observation of migratory birds; a major source of raptor population data in the Northeast and a popular hawk watching area in New York; Additive division: $25 + 16/2 = 33$. **33**

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 -- Concentrations of raptors and passerines observed here during the fall are unusual in New York State, but species seen are probably concentrated at many locations in the Hudson Valley. **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 – Concentrations of migratory hawks are Irreplaceable, but replacement of the public viewing area may be possible. **0.8**

Habitat Index (ER+SV+HU+PL)= 33	Significance Value (HI x R)= 26
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LOCATION AND DESCRIPTION OF HABITAT

Hook Mountain is located just north of the Village of Upper Nyack, within Hook Mountain State Park, in the Town of Clarkstown, Rockland County (7.5' Quadrangle: Nyack, N.Y.). The primary area of importance is the peak of Hook Mountain (approximate elevation 730 feet m.s.l) and the sheer cliffs rising above the shoreline to the summit. Meadow and wetland areas at the base of the south face of Hook Mountain are known to be resting and feeding areas for migratory songbirds and hawks.

FISH AND WILDLIFE VALUES

Hook Mountain is an excellent site for observing migrating raptors as well as a variety of other birds. An average of 12,000 hawks and several thousand other land birds and waterfowl are tallied each autumn from this area. The raptors seen from this point include ospreys (*Pandion haliaetus*) (SC), sharp-shinned hawk (*Accipiter striatus*) (SC), Cooper's hawks (*Accipiter cooperii*) (SC), Northern goshawks (*Accipiter gentilis*) (SC), red-shouldered hawks (*Buteo lineatus*) (SC), northern harriers (*Circus cyaneus*) (T), bald eagles (*Haliaeetus leucocephalus*) (T), golden eagles (*Aquila chrysaetos*) (E), peregrine falcons (*Falco peregrinus*) (E), broad-winged hawks (*Buteo platypterus*), red-tailed hawks (*Buteo jamaicensis*), American kestrels (*Falco sparverius*) and merlin (*Falco columbarius*). The Hook Mountain lookout is of primary importance to birdwatchers because it provides excellent viewing opportunities, where birds can be seen at close range, often at level or below. Migrating birds fly close to the mountain ridge to take advantage of updrafts created by the steep slope of the mountain.

The peak of fall migration (mid-September through early November) attracts large numbers of observers from the local area and also from Long Island, New York City, upstate New York, Connecticut, and New Jersey.

IMPACT ASSESSMENT

Major disruption or elimination of prevailing air currents along the cliffs in this area could reduce or eliminate the large number of certain species of raptors utilizing this corridor during fall migration. Placement of tall structures on Hook Mountain could result in high mortality of birds migrating through the area.

Elimination or disturbance of adjacent forested habitats, meadow and wetlands would adversely affect the habitat. Such areas should be protected, and where possible restored in order to maintain and/or improve habitat quality and allow continued monitoring of raptor species that are endangered, threatened and species of special concern.

Any activity that would eliminate access to or cause obstruction of view from Hook Mountain would impair the human use of the area.

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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