COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area:	**Nissequogue Inlet Beaches (Short Beach Town Park)**
County:	**Suffolk**
Town(s):	**Smithtown**
7½' Quadrangle(s):	**Saint James, NY**
Originally Designated:	**March 15, 1987**
Modified:	**October 15, 2005**

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: Undeveloped segments of barrier beach, adjacent to a major inlet; rare on Long Island.	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. (E = Endangered, T = Threatened, SC = Special concern)	
SV assessment: Piping plover (E, T-Fed), and least tern (T) nesting. Documented use by horned lark (SC). Additive Division: 36 + 25/2 + 16/4 = 52.5	52.5
Human Use (HU)-- the conduct of significant, demonstrable commercial, recreational, or educational wildlife-related human uses, either consumptive or non-consumptive, in the area or directly dependent upon the area.	
HU assessment: Although it provides access to the Nissequogue River fishery, there are no significant fish or wildlife related human uses of the area.	0
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 nesting least tern (T) significant in Suffolk County.	4
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] = 74.5 **Significance = HI x R = 89.4**

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

NISSEQUOGUE INLET BEACHES
(SHORT BEACH TOWN PARK and portions of SUNKEN MEADOW STATE PARK)

LOCATION AND DESCRIPTION OF HABITAT:

The Nissequogue Inlet beaches are located on either side of the mouth of the Nissequogue River on the Long Island Sound, in the Town of Smithtown, Suffolk County (7.5' Quadrangle: Saint James, NY). The fish and wildlife habitat consists of two distinct areas totaling approximately 82 acres. The first area comprises approximately two-thirds of the habitat area, and consists of vegetated dredged material placement areas along with the adjoining beach and dunes to the east of the mouth in Short Beach Town Park. The second area to the west of the mouth in and adjacent to Sunken Meadow State Park comprises approximately one-third of the habitat area, and is similar in composition to its counterpart. The New York Natural Heritage Program has documented the presence of approximately 70 acres of maritime dune habitat on both sides of the Nissequogue River inlet. According to the New York Natural Heritage Program, the maritime dune community is relatively rare in New York State. The beach is subject to disturbance, particularly east of the river's mouth as a result of the heavy recreational use (*e.g.*, pedestrians, campers, and off road vehicles) during the summer. Short Beach Town Park is fenced and posted to protect shorebird nesting areas.

FISH AND WILDLIFE VALUES:

The Nissequogue Inlet Beaches habitat consists of relatively small segments of undeveloped barrier beach ecosystems. Although the biological communities in this area are not uncommon in Suffolk County, the existence of undeveloped beaches in close proximity to a major inlet is rare on the north shore of Long Island.

Short Beach Town Park is an important nesting site for least tern (T) and piping plover (E, T-Fed). From 1993 to 2002, estimated annual average numbers of nesting shorebirds included approximately 110 pairs of least terns (T) [270 in peak year] and 4 pairs of piping plover (E, T-Fed) [7 in peak year]. Common tern (T) and roseate tern (E) have been observed, but recent documentation for these species is needed. Short Beach Town Park was formerly one of the five largest least tern (T) nesting colonies on Long Island, of statewide significance. Human disturbance from Sunken Meadow State Park may have forced the majority of nesting birds to move to Short Beach Town Park. Other bird species which use the area include yellow-crowned night heron, great horned owl, horned lark (SC), and red-tailed hawk. Diamondback terrapins nest on the south side of the eastern spit, and use both areas for feeding and cover.

Despite heavy recreational use of the beach areas (including surfcasting), there are no significant human use activities specifically associated with the wildlife resources of this habitat.

IMPACT ASSESSMENT:

Any activity that would disturb or eliminate marsh, natural beach, and duneland plant communities would result in a loss of valuable habitat for a number of important wildlife species. Elimination and fragmentation of the natural dune and wetland communities, through excavation, filling, or other land developments would adversely affect concentrations of wildlife.

Nesting shorebirds inhabiting Nissequogue Inlet beaches are highly vulnerable to disturbance by humans, especially during the nesting and fledging period (March 15 through August 15). Significant pedestrian traffic or recreational use of the beach (*e.g.*, boat and personal watercraft landing, off-road vehicle use, picnicking) could easily eliminate the use of this site as a breeding area and should be minimized during this period. Predation of chicks and destruction of eggs or nests by unleashed pets (*e.g.*, dogs, cats) and natural predators may also occur, and predator control should be implemented where feasible. Fencing and/or continued annual posting of shorebird nesting areas should be provided to help protect these species. Control of vegetative succession, through beneficial use of dredged material or other means may improve the availability of nesting habitat in this area.

Any activity that would substantially degrade the water quality of the adjacent Nissequogue River would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity, and waste disposal (including vessel wastes) would adversely affect all fish and wildlife that rely on these waters as a food source, or utilize these waters during a portion of their life-cycle.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of the Nissequogue Inlet Beaches. Development of the area for residential or recreational use would result in a direct loss of wildlife habitat. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Control of invasive nuisance plant species, through a variety of means, may improve fish and wildlife species use of the area and enhance habitat wetland values.

HABITAT IMPAIRMENT TEST:

A **habitat impairment test** must be applied to 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** 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).

Although not comprehensive, examples of generic activities and impacts which could destroy or significantly impair the habitat are listed in the impact assessment section to assist in applying the habitat impairment test to a proposed activity.

KNOWLEDGEABLE CONTACTS:

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New York Natural Heritage Program
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Office of Ecology
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Bureau of Environmental Management
County Center
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Significant Coastal Fish and Wildlife Habitats

Nissequogue River (In Part)
Part 1 of 3
Nissequogue Inlet Beaches

New York State Department of State
Division of Coastal Resources