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COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

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Name of Area: **Wading River Marsh and Beach**  
County: **Suffolk**  
Town(s): **Brookhaven; Riverhead**  
7½' Quadrangle(s): **Wading River, NY**  
Originally Designated: **March 15, 1987**  
Modified: **October 15, 2005**

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**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: One of the largest areas of undeveloped salt marsh on Long Island's north shore; rare in ecological subregion. 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. Northern harrier (T) and osprey (SC) feeding. Additive Division:  $36 + 25/2 + 25/4 + 16/8 = 56.75$  56.75

**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: 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: No unusual concentrations of any fish or wildlife species in the area. 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] = 72.75**

**Significance = HI x R = 87.3**

NEW YORK STATE  
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT  
NARRATIVE

**WADING RIVER MARSH AND BEACH**

LOCATION AND DESCRIPTION OF HABITAT:

Wading River Marsh and Beach is located on the north shore of Long Island, approximately one half mile north of the hamlet of Wading River, in the Towns of Brookhaven and Riverhead in Suffolk County (7.5' Quadrangle: Wading River, NY). The fish and wildlife habitat totals approximately 209 acres, and consists of undeveloped salt marsh dominated by salt meadow grass (*Spartina patens*) protected by approximately 15 acres of barrier beach. The only open water area within the habitat is the Wading River, which is a relatively large tidal creek channel that flows through the marsh. Wading River Marsh is bordered by undeveloped woodlands to the south, a low density residential area to the east, a dense seasonal residential area on the barrier beach to the north, and the Long Island Lighting Company's Shoreham nuclear power plant to the west. Wading River Marsh provides an important coastal wetland link between Significant Fish and Wildlife Habitats of western Long Island and those of the Peconic fork to the east.

Silverweed (*Potentilla anserina* ssp. *egedii*), a state-threatened plant species, and saltmarsh bulrush (*Bolboschoenus novae-angliae*), a state-endangered plant species, are both documented within the habitat area.

FISH AND WILDLIFE VALUES:

Wading River Marsh is one of a few large areas of undeveloped salt marsh ecosystem remaining on the north shore of Long Island. Construction of the nuclear power plant in the late 1970s and development of the beachside residential area has resulted in some loss of wetland habitat in the area. Despite these disturbances, Wading River Marsh continues to support a variety of fish and wildlife species, particularly those that are characteristic of Long Island's coastal marshes. Piping plover (E, T-Fed) nest annually at Wading River Beach. An estimated annual average of 2 nesting pairs of piping plover (E, T-Fed) were observed from 1996 to 2002, with a peak of 4 pairs in 2001 and 2002. Wading River Beach has also supported an average of 8 pairs of nesting least tern (T) from 2000 to 2002, despite irregular use by this species in earlier years. Other confirmed or probable breeding bird species include mallard, Canada goose, green heron, American bittern, clapper rail, Virginia rail, red-winged blackbird and swamp sparrow. In addition, this area serves as a valuable feeding area for herons, egrets, plovers, sandpipers, waterfowl, northern harrier (T), and osprey (SC), throughout much of the year.

Wading River Marsh is a productive area for finfish (including winter flounder) and shellfish, contributing to the biological productivity of Long Island Sound. The Wading River Marsh and nearby portions of Long Island Sound may also be important feeding and resting areas for juvenile

Atlantic ridley sea turtles (E), especially during the late summer and fall (August 15-December 15). More documentation is needed on the use of this area by this species as well as other sea turtle species.

Harbor seals have used Wading River Creek as a pupping site, but use of this site by seals is not well documented. There are no significant human uses of the fish and wildlife resources in Wading River Marsh; the area provides waterfowl hunting opportunities of local significance and is closed to shellfishing.

#### IMPACT ASSESSMENT:

Any activity that would substantially degrade the water quality in Wading River Marsh 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). Efforts should be made to improve water quality, including reduction or elimination of discharges from vessels and upland sources. Vegetated upland buffer zones should be protected or established to reduce non-point source pollution and sedimentation from upland sources.

Alteration of tidal patterns in Wading River Marsh could have negative impacts on the biotic communities present. No new navigation channels should be excavated within the area. Dredging to maintain existing boat channels should be scheduled between September 15 and December 15 to minimize adverse effects on aquatic organisms, and to allow for the upland placement of dredged material when wildlife populations are least sensitive to disturbance. Dredged material placement in this area would be detrimental, but such activities may be designed to maintain or improve the habitat for certain species of wildlife.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks can have adverse effects on aquatic vegetation and fish and wildlife populations. Use of motorized vessels should be controlled (*e.g.*, no wake zones, speed zones, zones of exclusion) in and adjacent to shallow waters and vegetated wetlands.

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development (*e.g.* natural salt marsh, tidal flats, or shallows), may result in the loss of productive areas which support the fish and wildlife resources of Wading River Marsh. Elimination of salt marsh and intertidal areas, through loss of tidal connection, ditching, excavation, or filling, would result in a direct loss of valuable habitat area. 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 overall wetland values.

Thermal discharges, depending on time of year, may have variable effects on use of the area by marine species and wintering waterfowl. Installation and operation of water intakes could have a significant impact on juvenile (and, in some cases, adult) fish concentrations, through impingement

or entrainment.

Nesting shorebirds inhabiting Wading River Marsh and Beach 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 permanent alteration or human disturbance of harbor seal pupping at Wading River Creek, or obstruction of seal migrations, would adversely affect this species. Significant underwater noise, from dredging or other activities, could also preclude harbor seals from using the area.

#### 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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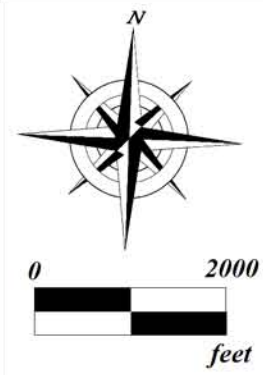
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Bureau of Marine Resources  
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Significant Coastal Fish and Wildlife Habitats

Herod Point Shoals  
Wading River Marsh and Beach

