

Attachment B:

COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area: **Mecox Bay and Beach**
Designated: **March 15, 1987**
Date Revised: **December 15, 2008**
County: **Suffolk**
Town(s): **Southampton**
7½' Quadrangle(s): **Sag Harbor, NY**

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: Relatively large brackish pond and barrier beach inlet; rare in Suffolk County. **9**

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), least tern (T), and osprey (SC) nesting. 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: One of 2 locations on Long Island where white perch are fished commercially, but due to relatively small catch, the fishery is only of county-level significance. **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 concentrations of any fish or wildlife species occur 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**

Habitat Index: (ER + SV + HU + PL) = 65.5

Significance: (HI x R) = 78.6

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

Mecox Bay and Beach

LOCATION AND DESCRIPTION OF HABITAT:

Mecox Bay and Beach are located approximately two miles east of the Village of Southampton, on the south shore of Long Island, in the Town of Southampton, Suffolk County (7.5' Quadrangle: Sag Harbor, N.Y.). This approximately 1,100 acre area includes Mecox Bay, Mill Creek, Hayground Cove, Channel Pond, adjoining wetlands (predominantly reedgrass communities), the inlet to Mecox Bay, and a portion of Mecox Beach, located east of Mecox Inlet. Portions of the Mecox habitat are comprised of maritime dunes fronted by maritime beach, with small scattered inland interdunal swales. Maritime beach is a sparsely vegetated community dominated by beach grass (*Ammophila breviligulata*). Maritime beach occurs on unstable sand, gravel, or cobble ocean shores above mean high tide, where the shore is modified by storm waves and wind erosion. The community is an important nesting ground for beach nesting shore birds. The maritime dune community is comprised of grasses and low shrubs in a mosaic of vegetated patches dominated by beach grass and seaside goldenrod (*Solidago sempervirens*). Mecox Bay is a predominantly freshwater to slightly brackish, shallow coastal bay (less than 3 feet deep at mean low water), with an intermittently open channel connecting it to the ocean. Mecox Beach is an area of unvegetated sand beach which receives moderate recreational use during the summer months. Portions of the beach are posted as bird nesting areas. Mecox Bay and Beach are bordered by light to medium density residential development, which has resulted in some shoreline bulkheading and filling of wetlands.

FISH AND WILDLIFE VALUES:

Mecox Bay and Beach is the largest of the coastal pond and wetland ecosystems east of Shinnecock Bay on the south shore of Long Island. The inlet which connects Mecox Bay to the ocean, through the barrier beach, is a relatively uncommon element of the coastal zone in eastern Long Island. This entire area is important to a variety of fish and wildlife species throughout the year. Mecox Beach serves as an important nesting site for piping plover (E, T-Fed) and least tern (T). For the 9 year period from 1991-1999, shorebirds surveys indicated an annual average of 4 breeding pairs of piping plover (E, T-Fed) and 39 breeding pairs of least tern (T). Least tern (T) nest in large colonies located in sand, gravel, shells, and seaweed above the high tide mark. Piping plover (E, T-Fed) nest well above the high tide mark in generally grassless sand beaches. Mecox Bay and its inlet are important feeding areas for shorebirds in the area. Mecox Bay is also host to osprey (SC) and for the six year period from 1998-2003 an annual average of one osprey (SC) breeding pair has inhabited its shores.

Mecox Bay is significant as a waterfowl wintering area (November - March). Mid-winter aerial surveys of waterfowl abundance for the 13 year period from 1986-1998 (excluding 1997) indicate average annual concentrations of 900 (5,050 in peak year) birds in the bay, including approximately 769 Canada geese (5,050 in peak year) and 69 American black ducks (550 in peak year) with lesser numbers of mallard and (hooded, common, and/or red-breasted) mergansers. Waterfowl use of the bay during winter is influenced in part by the extent of ice cover each year. However, the concentrations of Canada geese which take refuge at Mecox Bay can generally be attributed to the presence of large agricultural fields nearby, which serve as

primary feeding areas. Concentrations of waterfowl also occur in the area during spring and fall migrations (March - April and October - November, respectively).

In addition to being an important habitat for migratory birds, Mecox Bay is a productive area for marine finfish and shellfish. The creeks and wetlands which drain into the bay contribute to the biological productivity of this area. The bay contains populations of many estuarine species, including soft clam, American oyster, blue claw crab and white perch. A natural population of black-spotted stickleback occurs in Channel Pond; this species is unusual on Long Island. During the winter months (November-March), Mecox Bay is one of only two places on Long Island where a commercial fishery (seining) for white perch exists; however, the catch is relatively small compared to other fish species in the region. Significant opportunities for recreational or commercial shellfishing exist in Mecox Bay. However, the bay waters are only certified for this use when the inlet is open to provide adequate water circulation and mixing. Currently, 1,042 acres of Mecox Bay waters are permanently closed. Shellfishing in Mecox Bay is restricted to town residents.

IMPACT ASSESSMENT:

Any activity that would degrade water quality, increase turbidity, increase sedimentation, or alter flows, temperature, or water depths would affect the biological productivity of this area. All species would be adversely affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity or sediment loading, non-point source run-off, waste disposal (including vessel wastes), and stormwater runoff. Efforts should be made to improve water quality in the bay, including the reduction or elimination of discharges from vessels and upland sources, effective oil and toxic chemical spill prevention and control programs, upgrading of wastewater treatment plants, enactment of pet waste ordinances to reduce coliform contributions to the bay, and the implementation of erosion control and stormwater pollution prevention best management practices. Vegetated upland buffer zones (e.g. wetlands, dunes, and forested areas) should be protected or established to reduce non-point source pollution and sedimentation from upland sources.

Alteration or elimination of tidal patterns in Mecox Bay, by modification of inlet configurations or other means, would have negative impacts on the biotic communities present (although maintaining the inlet throughout the growing season may be favorable). No new navigation channels should be excavated within the area. Maintenance dredging activities in the bay 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. Siltation of shellfish beds resulting from dredging or upland sediment loads would adversely affect this resource at any time of the year. Unregulated dredged material placement in this area would be detrimental to the habitat, but such activities may be designed to maintain or improve the habitat for certain species of wildlife

Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development (e.g., natural beach, salt marsh, tidal flats, or shallows), would result in the loss of productive areas which support the fish and wildlife resources of Mecox Bay and Beach. Elimination of salt marsh and intertidal areas, through loss of intertidal connection, ditching, excavation, or filling, would result in a direct loss of a valuable habitat. Restoration of previously connected portions of the habitat, including the removal of structures (e.g. bulkheads, groins, jetties) which disrupt natural sedimentation and deposition patterns and physically alter the habitat may be beneficial. Maintenance of existing erosion control structures which interfere with natural coastal process should be carefully evaluated for need and where possible, non-structural solutions should be utilized.

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. 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.

Thermal discharges, depending on time of year, may have variable effects on use of the area by marine species and overwintering waterfowl. Installation and operation of water intakes could have significant impact on juvenile (and adult, in some cases) fish concentrations, through impairment or entrainment. 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. Where appropriate, hydrological modifications (e.g. dams, dikes, channelization, bulkheading, sedimentation, etc.) should be mitigated or removed, including the rejoining of formerly connected tributaries, and the removal of obstructions or improvements to fish passage.

Nesting birds utilizing Mecox Beach and inlet inhabiting the beaches and dunes are highly vulnerable to disturbance by humans from April 15 through August 15. Significant pedestrian traffic or recreational use (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) of the area 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 annual posting of the bird nesting area should be provided to help protect the nesting bird species.

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:

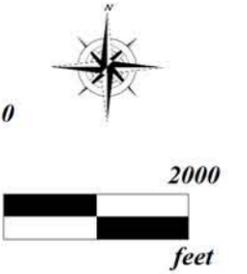
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Significant Coastal Fish and Wildlife Habitats

- Mecox Bay & Beach
- Sagaponack Inlet
- Long Pond Greenbelt (In Part)