COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area:	**Manhasset Bay**
County:	**Nassau**
Town(s):	**North Hempstead**
7½' Quadrangle(s):	**Flushing, NY; Sea Cliff, 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: One of several major bays on the north shore of Long Island; 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: Documented osprey (SC) nesting on constructed platforms at Plum Point. Least tern (T) nesting, but presence not well documented.	**16**
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: Recreational fishing is of regional significance.	**9**
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: One of about five major waterfowl wintering areas on the north shore of Long Island, of regional significance.	**9**
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] = 50 **Significance = HI x R = 60.0**

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

MANHASSET BAY

LOCATION AND DESCRIPTION OF HABITAT:

Manhasset Bay is located on the north shore of Long Island, between Great Neck and Manhasset Neck, in the Town of North Hempstead, Nassau County (7.5' Quad-rangles: Flushing, NY; and Sea Cliff, NY). The fish and wildlife habitat is approximately 2,139 acres in size, consisting mostly of open water area in the bay, extending out to Kings Point on the west, and to Barker Point on the east. The habitat also includes part of Sheets Creek and the adjoining intertidal marsh in the Village of Manorhaven, Mitchells Creek and its associated tidal wetland complex in Kings Point, and Plum Point, which is the tip of a narrow peninsula that extends into the Bay west of Manorhaven. Most of Manhasset Bay ranges from 6 to 18 feet in depth below mean low water, and has a tidal fluctuation of approximately 7 feet. The bay is bordered by residential development ranging from light to dense, and by extensive recreational boating facilities (especially between Port Washington and Manorhaven), with only a few areas of undeveloped salt marsh remaining. Losses of tidal wetlands have been documented in North Sheets Creek, in the cove at Plum Point, and at the south end of the Bay; investigations into the cause or causes of these losses is ongoing.

Mitchells Creek, a tributary on Manhasset Bay's west shore, is the last remaining undeveloped stream/wetland community associated with the Bay, and is significant as remnant open space in this densely populated area despite past stream channeling and mosquito ditching of the marsh. This approximately 30-acre wetland contains saltwater marsh in its central and northern areas and is brackish in its southern reach up to Wildwood Road in Kings Point.

FISH AND WILDLIFE VALUES:

Manhasset Bay is one of several major embayments on Long Island's north shore. This relatively shallow coastal bay is important to fish and wildlife throughout the year. Least tern (T) nesting was documented at Plum Point in 1996 (13 pairs) and 1997 (16 pairs), but recent human disturbance of the area has reduced Plum Point's importance as a least tern (T) nesting location. An osprey (SC) nesting platform installed around 1999 in the Plum Point area has been used successfully by this species. A pair of nesting American oystercatcher was observed in 2002 at Plum Point. Common tern (T) has also been observed in Manhasset Bay, but use of this species in the bay is not well documented.

Manhasset Bay is one of five major waterfowl wintering areas (November-March) on the north shore. Mid-winter aerial surveys of waterfowl abundance for the ten year period 1987-1996 indicate average daily concentrations of 2,125 birds in the bay each year (5,894 in peak year), including approximately 1,654 greater and/or lesser scaup (5310 in peak year), 40 canvasback (225 in peak year), and 99 American black duck (283 in peak year), along with lesser numbers of mallard, Canada

goose, common goldeneye, bufflehead, long-tailed duck and red-breasted merganser. The mid-winter aerial survey for 1999 documented 802 American black duck, 575 Canada goose, and 187 mallard. The 2002 Manhasset Bay Christmas Bird Count documented 750 ruddy duck. Hooded merganser over-winter in the bay regularly, utilizing both the Bay and nearby feeder ponds. Northern shoveler, green-winged teal, and northern pintail also utilize the ponds that feed directly into Manhasset Bay. Concentrations of waterfowl are also documented in Manhasset Bay during spring and fall migrations (March-April and October-November, respectively). Waterfowl use of the bay during winter is influenced in part by the extent of ice cover each year.

In addition to its importance as a waterfowl wintering area, Manhasset Bay, and its immediate shoreline, also supports a diversity of other bird species, including great blue heron, great egret, snowy egret, black-crowned night heron, laughing gull, ring-billed gull, great black-backed gull, herring gull, double-crested cormorant, red-winged blackbird, belted kingfisher, killdeer, sanderling, and greater yellowlegs.

Manhasset Bay also serves as a productive area for marine finfish and to a lesser extent, shellfish. The bay serves as a nursery and feeding area (from April 1 - November 30, generally) for striped bass, scup, bluefish, Atlantic silversides, Atlantic menhaden, winter flounder, and blackfish. As a result of the abundant fisheries resources in the bay, and its proximity to the New York metropolitan area, Manhasset Bay supports an extensive recreational fishery, of regional significance. Although winter flounder has had a history of providing a strong recreational fishery in the Bay, their populations have dropped significantly in recent years. The bay waters are not certified for commercial shellfishing, but Manhasset Bay does provide some recreational clamming and crabbing activities.

IMPACT ASSESSMENT:

Any activity that would substantially degrade the water quality in Manhasset Bay would adversely affect the biological productivity of this area. Degradation of water quality in the bay, or to its water sources, from chemical contamination (including food chain effects), oil spills, excessive turbidity, and waste disposal (including vessel wastes), would adversely affect all fish and wildlife utilizing the habitat. Efforts should be made to improve water quality in the bay, including the control and reduction of discharges from vessels and upland sources. Vegetated upland buffer zones should be protected or established to further reduce water quality impairment from upland sources.

Alteration of tidal patterns in Manhasset Bay could have adverse effects on the fish and wildlife communities present. Dredging to maintain existing boat channels should be scheduled between September 15 and December 15 to minimize potential impacts on aquatic organisms, and to allow for placement of dredged material when wildlife populations are least sensitive to disturbance. 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. Existing and proposed dredging operations in this area should incorporate the use of best management practices to avoid and reduce adverse effects.

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 Manhasset Bay. 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.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of bays, harbors, and tidal creeks could 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.

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 Plum Point in Manhasset Bay are highly vulnerable to disturbance by humans, especially during the nesting and fledging period (March 15 through August 15). Recreational activities (*e.g.*, boat and personal watercraft landing, off-road vehicle use, picnicking) as well as pedestrian traffic in the vicinity of bird nesting areas should be minimized during this period in order to avoid the elimination of the use of this site as a breeding area.. 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. Construction of adjacent recreational facilities should be designed to minimize impacts to the nesting areas.

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

Manhasset Bay (In Part)
Part 1 of 2

Little neck Bay (In part)

New York State
Department of State

Division of
Coastal Resources

0 2000
feet

Significant Coastal Fish and Wildlife Habitats

Manhasset Bay (In Part)
Part 2 of 2

New York State
Department of State

Division of
Coastal Resources

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2000 1000 0 2000 feet