COASTAL FISH & WILDLIFE HABITAT ASSSESSMENT FORM

Name of Area: **Lloyd Harbor**
County: **Suffolk**
Town(s): **Huntington**
7½' Quadrangle(s): **Lloyd Harbor, NY-CT**
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: Relatively large, shallow, undeveloped salt marsh and tidal mudflats, rare on the north shore of Long Island.	**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) nesting. Valuable feeding area for osprey (SC), least tern (T), common tern (T), and black skimmer (SC). Possible use by Atlantic ridley (E) and loggerhead (T) sea turtles, but use not well documented. Additive Division: 36 + 25/2 + 25/4 + 16/8 + 16/16 = 59.75	**59.75**
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: Target Rock National Wildlife Refuge provides an important environmental education opportunity, of significance at the county level. The harbor is used by local residents for commercial and recreational shellfishing.	**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: Wintering waterfowl concentrations of county-level significance.	**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] = 76.75 **Significance = HI x R = 92.10**

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

LLOYD HARBOR

LOCATION AND DESCRIPTION OF HABITAT:

Lloyd Harbor is located on the north shore of Long Island, south of Lloyd Neck, between Cold Spring Harbor and Huntington Bay. This approximately 850 acre area is located in the Town of Huntington, Suffolk County, (7.5' Quadrangle: Lloyd Harbor, NY-CT). The fish and wildlife habitat consists of salt marsh, intertidal mudflats, and open water area in the harbor, extending from Lloyd Beach at its west end to East Beach and East Fort Point on the northeast side, and to the mouth of Huntington Harbor on the southeast side. Target Rock National Wildlife Refuge, a small federally-owned property of approximately 80 acres, forms the northeast arm of the habitat area. Most of Lloyd Harbor is less than 8 feet deep at mean low water, and has a tidal range of approximately 7 feet. The bay is bordered by sparse residential development and undeveloped wooded slopes, including lands of Caumsett State Park. The harbor is utilized to some extent for recreational boating and commercial shellfishing.

FISH AND WILDLIFE VALUES:

Lloyd Harbor is one of several relatively large, shallow, coastal wetland ecosystems on Long Island's north shore. Consequently, the harbor is an important fish and wildlife habitat throughout the year. The Target Rock National Wildlife Refuge component of the habitat is comprised mostly of wooded upland habitat, with a small ponded area and maritime beach fronting on Huntington Bay.

Lloyd Harbor is used extensively as a feeding area by osprey (SC) and other wading birds throughout much of the year including herons, and egrets. Least tern (T), common tern (T), and black skimmer (SC) have also been documented foraging in this area. These species also utilize the beach at Target Rock National Wildlife Refuge for foraging. During the mid-1970's, least terns (T) were reported nesting on East Beach; this area is still a valuable potential nesting site. During each of the years 1997-1999, one pair of piping plover (E,T-Fed) was documented nesting on Lloyd Neck East Beach.

Lloyd Harbor is a valuable waterfowl wintering area (November - March) on the north shore of Suffolk County. Mid-winter aerial surveys of waterfowl abundance for the 11 year period from 1986-1996 indicate average daily concentrations of approximately 416 birds in the harbor each year (1,777 in peak year) including approximately 170 American black duck, along with fewer numbers of scaup (greater and/or lesser), mallard, Canada goose, canvasback, common goldeneye, American wigeon, and bufflehead. American black duck abundance was 525 birds in the peak year of 1999. Concentrations of waterfowl are also documented off the shore of Target Rock NWR within Huntington 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.

The harbor serves as a nursery and feeding area (from April 1 - November 30, generally) for various marine fish species, including scup, bluefish, Atlantic silversides, Atlantic menhaden, winter flounder, and blackfish. Concentrations of hard clams, blue mussels, and ribbed mussels are documented in Lloyd Harbor, and provide a commercial shellfishery and limited recreational shellfishery for local residents. Recreational fishing for striped bass is also popular off the Target Rock refuge shore within Huntington Bay. Target Rock National Wildlife Refuge and its facilities provides a valuable environmental education experience for its approximately 58,000 annual visitors.

Lloyd Harbor may also be an important resting and feeding habitat for the Atlantic ridley sea turtle (E), especially during the late summer or fall (August 15-December 15). More documentation is needed on the use of this area by sea turtle species, including Atlantic ridley (E).

IMPACT ASSESSMENT:

Any activity that would substantially degrade the water quality in Lloyd Harbor 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), oil spills, excessive turbidity, and waste disposal (including vessel wastes). 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 Lloyd Harbor, would adverse effects on the biotic communities present. 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 dredged material placement 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. 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 Lloyd Harbor. 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 the harbor 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 fish concentrations, through impingement or entrainment.

Nesting shorebirds inhabiting Lloyd Harbor 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.

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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LLOYD POINT

CAUMSETT STATE PARK

Target Rock National Wildlife Refuge

EATON'S NECK POINT

NORTHPORT BAY

HUNTINGTON BAY

Lloyd Point

Fly Island

The Sand Hole

Fresh Pond

Water Towers

L L O Y D N E C K

CAUMSETT STATE PARK

OYSTER BAY

Northwest Bluff

Whitewood Point

Oyster Bay National Wildlife Refuge

Marina

LLOYD HARBOR

TARGET ROCK NATIONAL WILDLIFE REFUGE

East Fort Point

Eatons Neck Point Light

U.S.C. Station

Flat

Tidal

EATONS NECK

NORTH

Hobart Beach

Hobart Beach Park

Prince Bend

West Beach

Sand City Island

NORTH

East Beach

Lloyd Beach

OYSTER BAY AND COLD SPRING HARBOR

Lloyd Harbor

Immaculate Conception Seminary

Lloyd Neck Beach Club

Wincoma Point

Wincoma

Huntington Bay

Crescent Beach

Crescent Beach Town Park

SUFFOLK CO
NASSAU CO

INDEFINITE BOUNDARY

N

0 2000 feet

Significant Coastal Fish and Wildlife Habitats

Caumsett State Park
Eatons Neck Point
Huntington Bay
Lloyd Harbor
Lloyd Point
Sand City (Eaton's Neck)
Cold Spring Harbor (In Part)
Northport Bay (In Part)

New York State Department of State
Division of Coastal Resources