
COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area: **Port Jefferson Harbor**
County: **Suffolk**
Town(s): **Brookhaven**
7½' Quadrangle(s): **Port Jefferson, 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: Use of Port Jefferson Harbor by Atlantic ridley sea turtle (E) has been documented. Piping plover (E, T-fed), least tern (T), and common tern (T) foraging.
Additive Division: $36 + 36/2 + 25/4 + 25/8 = 63.3$

63.3

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 finfishery of county level importance. Recreational shellfishery within Port Jefferson Harbor has significance at the county level, but importance is diminished by uncertified shellfishing areas.

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] = 80.1

Significance = HI x R = 96.12

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

PORT JEFFERSON HARBOR

LOCATION AND DESCRIPTION OF HABITAT:

Port Jefferson Harbor is located on the north shore of Long Island, between Strongs Neck and Mount Misery, in the Town of Brookhaven, Suffolk County (7.5' Quadrangle: Port Jefferson, NY). The habitat is an approximately 990 acres. The fish and wildlife habitat consists of the open water and intertidal flats in the harbor. Most of Port Jefferson Harbor ranges from 6 to 30 feet in depth below mean low water, with maximum depths of over 50 feet. This area has a tidal range of approximately 7 feet. The harbor is bordered by medium density residential development, undeveloped barrier beach and headlands, a Long Island Lighting Company power plant, and a large commercial marina (and other commercial entities) in the Village of Port Jefferson. The salt marshes and tidal flats which border and drain into Port Jefferson Harbor are instrumental to the biological productivity of this ecosystem.

FISH AND WILDLIFE VALUES:

Port Jefferson Harbor is one of several major embayments on Long Island's north shore. This protected coastal bay is important to fish and wildlife throughout the year. The northern part of Port Jefferson Harbor provides important feeding habitat for shorebirds including piping plover (E, T-Fed), least tern (T), and common tern (T).

Port Jefferson Harbor is also 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 concentrations of nearly 232 birds in the bay each year (604 in peak year), including 96 American black duck (332 in peak year), along with lesser numbers of mallard, scaup (lesser and/or greater), Canada goose, canvasback, common goldeneye, bufflehead, long-tailed duck, American wigeon, greater, and/or lesser, and/or red-breasted merganser, and scoter. Waterfowl use of the harbor during winter is influenced in part by the extent of ice cover each year. Concentrations of waterfowl are also documented in Port Jefferson Harbor during spring and fall migrations (March-April and October-November, respectively).

In addition to waterfowl use, Port Jefferson Harbor is a productive area for marine finfish, shellfish, and crustaceans. The bay serves as a nursery and foraging area (from April 1 - November 30, generally) for scup, bluefish, Atlantic silversides, Atlantic menhaden, northern puffer, striped bass, and blackfish. Winter flounder are documented in the harbor throughout the year, and spawning during the winter months (January-March).

As a result of the abundant fisheries resources in the area, Port Jefferson Harbor supports a moderate recreational finfishery from late winter through fall, of county-level significance. Seaboard Cove

in the northeast corner of the harbor is an especially popular fishing area. The Port Jefferson Harbor habitat is also an important shellfish producing area, with much of the area open seasonally or conditionally for recreational or commercial harvest of shellfish, including American oyster and hard clam. The southeastern portion of the Harbor is uncertified for shellfishing and the central and northern portions are open for either seasonal or conditional harvest resulting in a designation of 27% of the area as certified waters. Shellfish harvested from the habitat include American oyster and hard clam. The area south of Old Field Beach and The Narrows is certified for year-round shellfishing.

Port Jefferson Harbor and nearby portions of Long Island Sound may be important habitat for juvenile Atlantic ridley turtles (E) especially during the late summer and fall (August 15-December 15).

IMPACT ASSESSMENT:

Any activity that would substantially degrade the water quality in Port Jefferson 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 harbor, 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 Port Jefferson Harbor, could have 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 placement of dredged material when wildlife populations are least sensitive to disturbance. 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.

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. 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 Port Jefferson Harbor. Alternative strategies to the use of structures to protect 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 habitat values.

Unrestricted use of motorized vessels including personal watercraft in the protected, in shallow waters of Port Jefferson 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 would have a significant impact on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment.

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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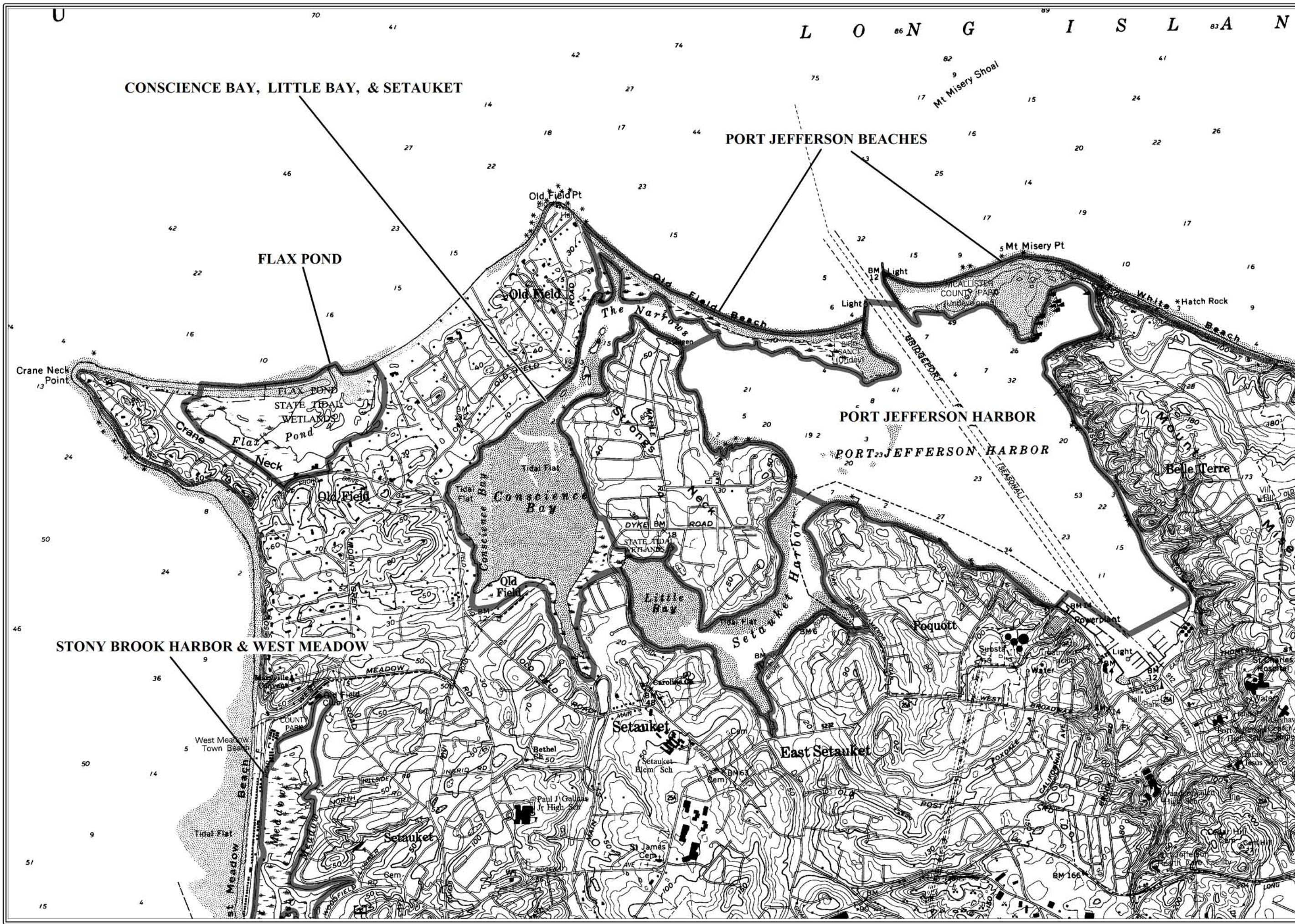
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Significant Coastal Fish and Wildlife Habitats

- Flax Pond
- Conscience Bay, Little Bay & Setauket
- Port Jefferson Harbor
- Port Jefferson Beaches
- Stony Brook Harbor & West Meadow (In Part)

