
COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area: **Flax Pond**
County: **Suffolk**
Town(s): **Brookhaven**
7½' Quadrangle(s): **Saint James, 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: Undeveloped barrier beach-wetland ecosystems; 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: Osprey (SC) nesting. Historic piping plover (E, T-Fed), least tern (T), and common tern (T) nesting, but none in recent years. 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: Research activities of regional significance. Also used by local residents and school groups for nature study. Additive Division: $9 + 4/2 = 11$ 11

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

Habitat Index = [ER + SV + HU + PL] = 36

Significance = HI x R = 43.2

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

FLAX POND

LOCATION AND DESCRIPTION OF HABITAT:

Flax Pond is located approximately two miles north of the Village of Stony Brook, on Crane Neck, in the Town of Brookhaven, Suffolk County (7.5' Quadrangle: Saint James, N.Y.). The fish and wildlife habitat consists of approximately 173 acres of State-owned tidal wetlands, and a smaller, privately owned area. The habitat area includes salt marsh, mudflats, shallow water areas, and portions of the barrier beach separating Flax Pond from Long Island Sound. The New York State Department of Environmental Conservation operates a marine biology research station at this location. Flax Pond is connected to the Sound by a narrow inlet, and is bordered by undeveloped woodlands and low-density residential development.

FISH AND WILDLIFE VALUES:

Flax Pond is a relatively large, undeveloped, coastal wetland area designated as part of the National Coastal Barrier Resources System. Comparable areas are uncommon on the north shore of Suffolk County. In 2003, and 2004, one pair of nesting osprey (SC) were observed on a platform within the marsh. Flax Pond also provides habitat for least tern (T), with areas of barrier beach for nesting, in addition to wetland areas appropriate for feeding. In 1983, the population of least terns at Flax Pond was among the four largest on Long Island, with approximately 300 nesting pairs. Despite the presence of good habitat, these birds have not been observed in recent years. Historically, common terns (T) and least terns (T) were observed foraging and nesting in the habitat area. In recent years, common tern (T) has only been documented breeding at Flax Pond in 1995, with 12 nesting pairs observed. Piping plovers (E, T-Fed) have also been observed at Flax Pond, but nesting is unconfirmed.

The protected bay, intertidal mudflats, and salt marsh areas at Flax Pond serve as valuable feeding and nesting areas for many other migratory bird species, including great egret, horned grebe, great blue heron, green heron, black-crowned night heron, brant, mallard, American black duck, gadwall, green-winged teal, and American widgeon. Locally significant concentrations of marine finfish including alewife, American eel, Atlantic menhaden, Atlantic mackerel, Atlantic silversides, cunner, Atlantic tomcod, northern pikefish, and sheepshead minnow are found at Flax Pond. The habitat area is also of local significance for shellfish species, including soft clams, ribbed mussel, and blue mussel.

In addition to its ecological value, Flax Pond is an important area for coastal fisheries and shellfisheries research. Staff from the New York State Department of Environmental Conservation and the Marine Sciences Research Center at SUNY/Stony Brook utilize the area as a field headquarters for marine biology studies. Flax Pond is also open to the public (although an access

permit is required) for a variety of recreational uses, including nature study, shellfishing, and photography. Most visitors, including individuals and school groups, are from the local area.

IMPACT ASSESSMENT:

Any activity that would substantially degrade the water quality in Flax Pond 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 the water quality in Flax Pond, including the 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. It is essential that any potential impacts in this area be reviewed for compatibility with the research programs that are being conducted here.

Alteration of tidal patterns in Flax Pond 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 disposal 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 (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 Flax Pond. 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. 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. Losses of tidal wetlands within the Flax Pond habitat have been documented; investigation into the cause or causes of these losses should continue.

Unrestricted use of motorized vessels including personal watercraft in the protected, shallow waters of Flax Pond 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.

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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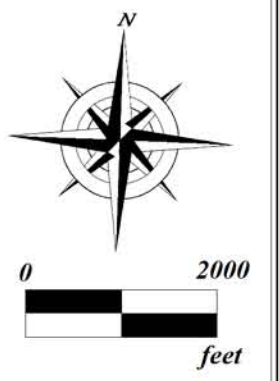
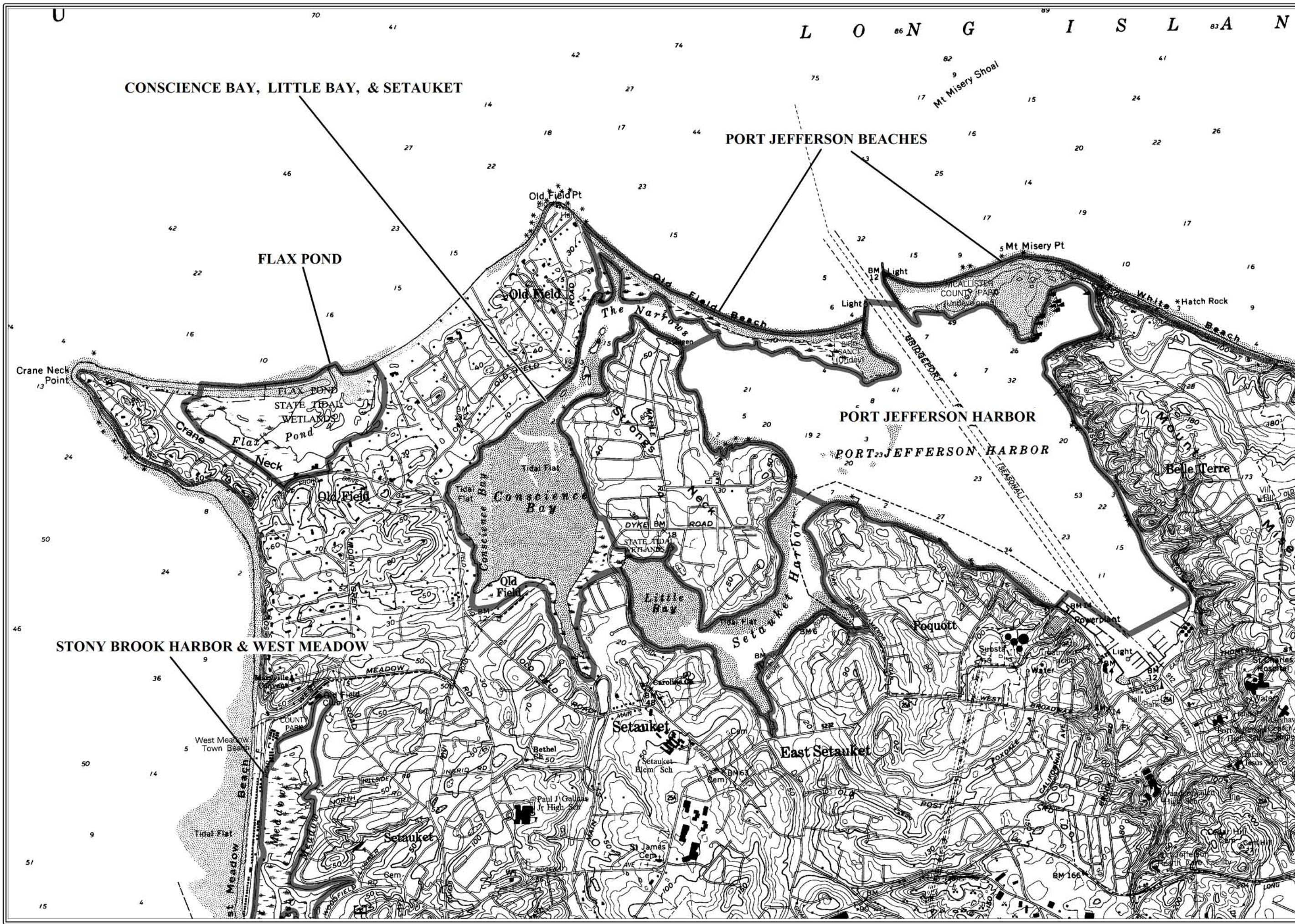
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Significant Coastal Fish and Wildlife Habitats

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

