

COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area: **Shelter Island Eastern Shallows**
Designated: **May 15, 2002**
County: **Suffolk**
Town(s): **Shelter Island**
7½' Quadrangle(s): **Greenport, NY**

Assessment Criteria

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: Eelgrass beds of state importance. 64

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.

SV assessment: Atlantic ridley (E) and loggerhead (T) turtles have been documented at this habitat. Calculation: $36 + (25/2) =$ 48.5

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: Bay scallop fishery of recreational and commercial significance in the State of New York. 16

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: Bay scallop population of significance at a level in between the State of New York and the Mid-Atlantic region of the United States. Calculation: $\sqrt{(16 \times 25)} =$ 20

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] = 148.5

Significance = HI x R = 178.2

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

SHELTER ISLAND EASTERN SHALLOWS

LOCATION AND DESCRIPTION OF HABITAT:

The Shelter Island Eastern Shallows are located off the eastern shore of Shelter Island, NY (7.5" Quadrangle: Greenport, NY) stretching from Hay Beach Point southeastward to Reel Point on Ram Island. The habitat consists of marine shallows and submerged aquatic vegetation (SAV) on muddy and gravelly sand substrates approximately within the twelve foot bathymetric contour. Between Hay Beach Point and Cornelius Point, SAV covers 90% of the bottom, dominated almost exclusively by eelgrass (*Zostera marina*). Some green fleece (*Codium fragile*) and rockweed (*Fucus* spp.) are also present. Along the shore of Little Ram Island to Reef Point on Ram Island submerged aquatic vegetation accounts for 20-50% of bottom cover, consisting of medium-density eelgrass beds, rockweed, knotted wrack (*Ascophyllum nodosum*), and banded weeds (*Ceramium* spp.).

FISH AND WILDLIFE VALUES:

The Shelter Island Eastern Shallows habitat is one of only a few remaining eelgrass meadows in the State of New York. Eelgrass habitats are among the most productive ecosystems in the world and play a critical role in supporting coastal food webs.

Eelgrass meadows provide critical habitat for a variety of aquatic species, including recreationally and commercially important bay scallop (*Argopecten irradians*) populations. Juvenile bay scallops use the canopy for refuge from predators. Adult bay scallops settle at the base of the shoots. The Shelter Island Eastern Shallows support an important population of bay scallop, and the bay scallop fishery in this area is of statewide importance.

Lobsters have been observed in the northeastern portion of the area. Mud crabs, which congregate preferentially in beds of submerged aquatic vegetation, have been documented in the Shelter Island Eastern Shallows, along with hermit crab, spider crab, and whelk (locally called conch). Spider crabs are an important prey item for juvenile Atlantic ridley (E) and loggerhead sea turtles (T), and these turtle species have been documented in the Shelter Island Eastern Shallows area. Horseshoe crabs also forage in eelgrass beds. This species itself is prey for juvenile loggerhead turtles, crabs, whelks, and sharks.

Other species found in eelgrass meadows include shellfish such as hard clam and juvenile finfish such as tautog (also called blackfish) and oyster toadfish. Many finfish species with demersal eggs use eelgrass meadows for spawning and nursery areas. Atlantic silversides spawn in the eelgrass beds of the Peconic Bays. The eggs of this species are an important food source for sea birds, waterfowl, and blue crab. Adult Atlantic silversides are an important prey species for bluefish,

summer flounder, rainbow smelt, white perch, Atlantic bonito, and striped bass. Brant, a goose frequently found overwintering in embayments of the Peconics region feeds directly on eelgrass.

IMPACT ASSESSMENT:

Any activity that would substantially degrade water quality in the Shelter Island Eastern Shallows would affect the biological productivity of this area. Eelgrass beds are particularly sensitive to alterations in water quality parameters including temperature, salinity, light penetration, organic matter concentration, and the presence of pollutants. 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. It is essential that high water quality be maintained in the area to protect the eelgrass meadows and bay scallop fishery.

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

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 the Shelter Island Eastern Shallows. Alternative strategies for the protection of shoreline property should be examined, including innovative, vegetation-based approaches. Docks may be detrimental to nearshore eelgrass beds because of shading, and review of any proposed new docks in the Shelter Island Eastern Shallows area should be conducted with potential impacts to eelgrass beds fully considered. Restoration opportunities for eelgrass may exist if water quality parameters are appropriate. Aerial photography conducted in 1969, 1984, and 1994 shows a decrease in area of the eelgrass meadows off Hay Beach and Cornelius Points. These meadows once extended southeast off Cornelius Point. Evidence of former eelgrass beds (observations of dead, loose eelgrass) have been documented.

Thermal discharges, depending on time of year, may have variable effects on use of the area by marine species, such as sea turtles and overwintering waterfowl. Installation and operation of water intakes could have a significant impact on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment.

Dredging to maintain existing boat channels in the area should be scheduled between September 15 and December 15 to minimize potential impacts on aquatic organisms, and to allow for disposal when wildlife populations are least sensitive to disturbance. Dredged material disposal in this area would be detrimental.

KNOWLEDGEABLE CONTACTS:

Habitat Unit

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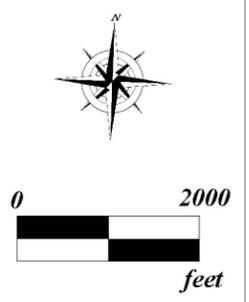
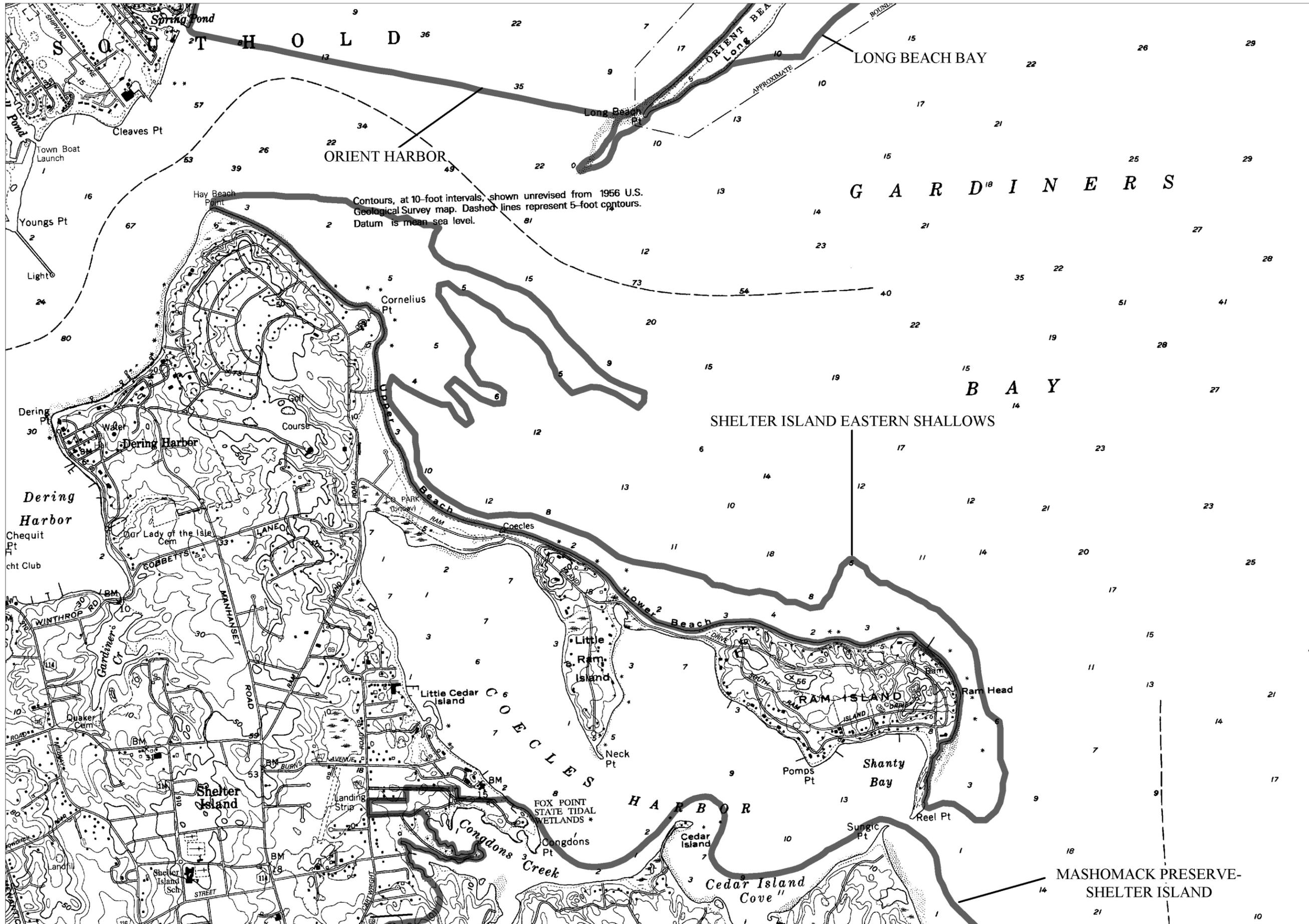
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Significant Coastal Fish and Wildlife Habitats

- Shelter Island Eastern Shallows
- Long Beach Bay (In part)
- Mashomack Preserve-Shelter Island (In part)
- Orient Harbor (In part)

