

**Attachment B:**

COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

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Name of Area: **Dune Road Marsh**  
Designated: **March 15, 1987**  
Updated: **December 15, 2008**  
County: **Suffolk**  
Town(s): **Southampton**  
7½' Quadrangle(s): **Quogue, NY and Shinnecock Inlet, NY**

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**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 tidal wetland ecosystem, rare in New York State. **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. (E = Endangered, T = Threatened, SC = Special concern)**

SV assessment: Roseate tern (E), common tern (T), least tern (T), and black skimmer (SC) nesting. Additive division:  $36 + 25/2 + 25/4 + 16/8 = 56.75$  **56.75**

**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: Recreational uses such as waterfowl hunting and fishing are important primarily to Suffolk County residents. Clamming in the area is of county level significance. **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: Regionally significant concentration of nesting common tern (T). **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**

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**Habitat Index: ( ER + SV + HU + PL ) =133.75** **Significance = HI x R = 160.5**

NEW YORK STATE  
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT  
NARRATIVE

**DUNE ROAD MARSH**

LOCATION AND DESCRIPTION OF HABITAT:

Dune Road Marsh is located on the south shore of Shinnecock Bay, extending approximately six and one-half miles along the Tiana Beach barrier island, west of Shinnecock Inlet. Dune Road Marsh is separated from Tiana Beach by Dune Road which runs along the Dune Road Marsh southern boundary. This approximate 1,500 acre area is in the Town of Southampton, Suffolk County (7.5' Quadrangles: Quogue, N.Y. and Shinnecock Inlet, N.Y.). The fish and wildlife habitat is comprised primarily of undeveloped salt marshes, tidal mudflats, and dredged material islands. Characteristic communities of this estuarine intertidal subsystem include high salt marsh, low salt marsh (a 468 acre coverage) and maritime beach dominated by smooth cordgrass (*Spartina alterniflora*), salt hay grass (*Spartina patens*), and common glasswort (*Salicornia europaea*). The Dune Road Marsh habitat contains one of the few remaining examples of unaltered salt marsh, with few human disturbances, on Long Island. Maritime beach is a sparsely vegetated community dominated by beach grass (*Ammophila breviligulata*). Maritime beach occurs on unstable sand, gravel, or cobble ocean shores above mean high tide, where the shore is modified by storm waves and wind erosion. This community is an important nesting ground for beach nesting shore birds. Shallow open water areas (less than approximately 4 feet deep at mean low water) dominate the aquatic portion of this habitat.

Seabeach knotweed (T) (*Polygonum glaucum*) has also been observed at this site. Seabeach knotweed (T) is rare in New York State with fewer than 35 occurrences and globally is rare and restricted throughout its range with between 21 and 100 occurrences.

FISH AND WILDLIFE VALUES:

Undeveloped coastal wetland ecosystems of this size are rare in New York State. This diverse area is important to fish and wildlife throughout the year. Roseate terns (E) and common terns (T) nest in many locations throughout Dune Road Marsh, including Sedge Island, Lanes Island, Greater Greenbacks Island, Lesser Greenbacks Island, Warner Islands (located east of the Ponquogue Bridge), Gull Island, Tiana Marsh, and Ponquogue Spoil Island. Shorebird surveys estimate, for the 13 year period from 1993-2005, an annual average of 1,205 common tern (T) pairs (1,794 in peak year) and 37 roseate tern (E) pairs (95 in peak year) nested in Dune Road Marsh. Surveys conducted in 2001, 2004, and 2005, have shown that 12, 20, and 25 piping plover (E, T-Fed) breeding pairs nested, respectively, in Dune Road Marsh. In 2005, 791 least tern (T) nested in Dune Road Marsh. Other species nesting in the area include Canada goose, herring gull, great black-backed gull, glossy ibis, black skimmer (SC), American oystercatcher, mallard, clapper rail, sharp-tailed sparrow, and seaside sparrow. Other potential species nesting in or near the habitat include yellow crowned night heron, gadwall, boat tailed grackle, and green winged teal. Common tern (T) nest in large colonies located in sand, gravel, shells, and seaweed above the high tide mark. Black skimmer nests in association with common (T) and least tern (T) colonies. Similarly, roseate tern (E) nest in association with other tern species (such as common tern) on small

offshore salt marsh islands and beaches with sparse vegetation.

Dune Road Marsh is also an important feeding area for a variety of colonial wading birds, including snowy egret, great egret, black-crowned night heron, little blue heron, and tri-colored heron. The islands of Dune Road Marsh support one of the few rookeries west of Sagaponack Inlet on the south shore of Long Island. The salt marshes, intertidal flats, and shallows in Dune Road Marsh are used extensively as feeding areas for birds nesting here and for many other species during migration (shorebirds in particular). Waterfowl wintering in Shinnecock Bay which forage in Dune Road Marsh include greater and/or lesser scaup, black duck, brant, mallard, common, and/or hooded, and/or red-breasted merganser, common goldeneye, and Canada goose. Generally, most waterfowl feed in open water areas through midwinter, while later in spring (prior to migration), the birds feed extensively in the salt marshes. Portions of Dune Road Marsh are open to the public for waterfowl hunting, and the area supports hunting pressure of county level significance.

In addition to having significant bird concentrations, Dune Road Marsh is a productive area for marine finfish, shellfish, and other wildlife. The Shinnecock Bay serves as a nursery and feeding area for bluefish, winter flounder, fluke, weakfish, and forage species such as Atlantic silverside, pipefish, and sticklebacks. The interconnected waters of Dune Road Marsh, in turn, provide critical foraging grounds, nursery grounds, and cover for marine life in Shinnecock Bay. The Dune Road Marsh itself probably receives limited recreational fishing pressure from spring through fall because of the relatively small amount of open water area it contains. The marsh is inhabited by hard clams and bank mussels, contributing to the significant commercial and recreational shellfishery in Shinnecock Bay. Diamondback terrapin nest among the salt marsh islands in the bay.

Dune Road Marsh encompasses 65 acres of submerged rooted aquatic vegetation beds. These beds are dominated primarily by eelgrass (*Zostera marina*) with some wigeon grass (*Ruppia maritima*). Submerged aquatic vegetation beds provide spawning and foraging habitat for an array of mollusks, crustaceans, juvenile fish, as well as diving ducks. The distribution and abundance of benthic species in the bay's eelgrass community is likely controlled by a number of factors that include eelgrass stem density, water temperature and salinity, sediment type, predation, food supply, and human harvest.

#### IMPACT ASSESSMENT:

Any activities that would degrade water quality, increase turbidity, increase sedimentation, or alter flows, temperature, or water depths in Dune Road Marsh (i.e., Shinnecock Bay) would affect the biological productivity of this area. All species would be adversely affected by water pollution, such as chemical contamination (including food chain effects resulting from bioaccumulation), oil spills, excessive turbidity or sediment loading, non-point source run-off, waste disposal (including vessel wastes), and stormwater runoff. Efforts should be made to improve water quality, including the reduction or elimination of discharges from vessels and upland sources, effective oil and toxic chemical spill prevention and control programs, upgrading of wastewater treatment plants, enactment of pet waste ordinances to reduce coliform contributions to the bay, and the implementation of erosion control and stormwater pollution prevention best management practices. Vegetated upland buffer zones (e.g. wetlands, dunes, and forested areas) should be protected or established to reduce non-point source pollution and sedimentation from upland sources.

Alteration of tidal patterns in Dune Road Marsh (e.g., sediment removal by dredging, channelization, bulkheading), would have negative impacts on the biotic communities present. 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.

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), would result in the loss of productive areas which support the fish and wildlife resources of Dune Road Marsh. Elimination or significant disturbance of natural salt marsh and intertidal areas, through loss of intertidal connection, ditching, excavation, or filling, would result in a direct loss of a valuable habitat. Restoration of previously connected portions of the habitat, including the removal of structures (e.g. bulkheads, groins, jetties) which disrupt natural sedimentation and deposition patterns and physically alter the habitat may be beneficial. Maintenance of existing erosion control structures which interfere with natural coastal process should be carefully evaluated for need and where possible, non-structural solutions should be utilized.

Unrestricted use of motorized vessels, including personal watercraft, in shallow waters can have adverse effects on the benthic community, and on fish and wildlife populations through resuspension of seafloor sediments and through shoreline erosion which may reduce water clarity and increase sedimentation. Use of motorized vessels should be controlled (e.g., no wake zone, speed zones, zones of exclusion) in and adjacent to shallow waters and adjacent wetlands. Docks, piers, catwalks, or other structures may be detrimental to submerged aquatic vegetation (SAV) beds through direct or indirect effects from shading, mooring chain scarring, and other associated human uses. Where environmental parameters are appropriate, opportunities for restoration of SAV beds may exist. Any restoration of SAV beds should utilize the best available science and implement proper monitoring protocols.

Thermal discharges, depending on time of year, may have variable effects on use of the area by marine species and overwintering waterfowl. Installation and operation of water intakes could have significant impact on juvenile (and adult, in some cases) fish concentrations, through impairment or entrainment. Activities that would enhance nursery or foraging fish habitat would be beneficial.

Nesting birds inhabiting the islands of Dune Road Marsh are highly vulnerable to disturbance by humans from April 15 through August 15. Significant pedestrian traffic or recreational use (e.g., boat and personal watercraft landing, off-road vehicle use, picnicking) of the marsh islands 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 annual posting of the bird nesting area should be provided to help protect the nesting bird species.

Activities to protect or restore wetland habitat in Dune Road Marsh, consistent with best management practices, (including the restoration of historic tidal regime, planting of native vegetation, control of invasive species, etc.) may enhance habitat values for fish and wildlife 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.

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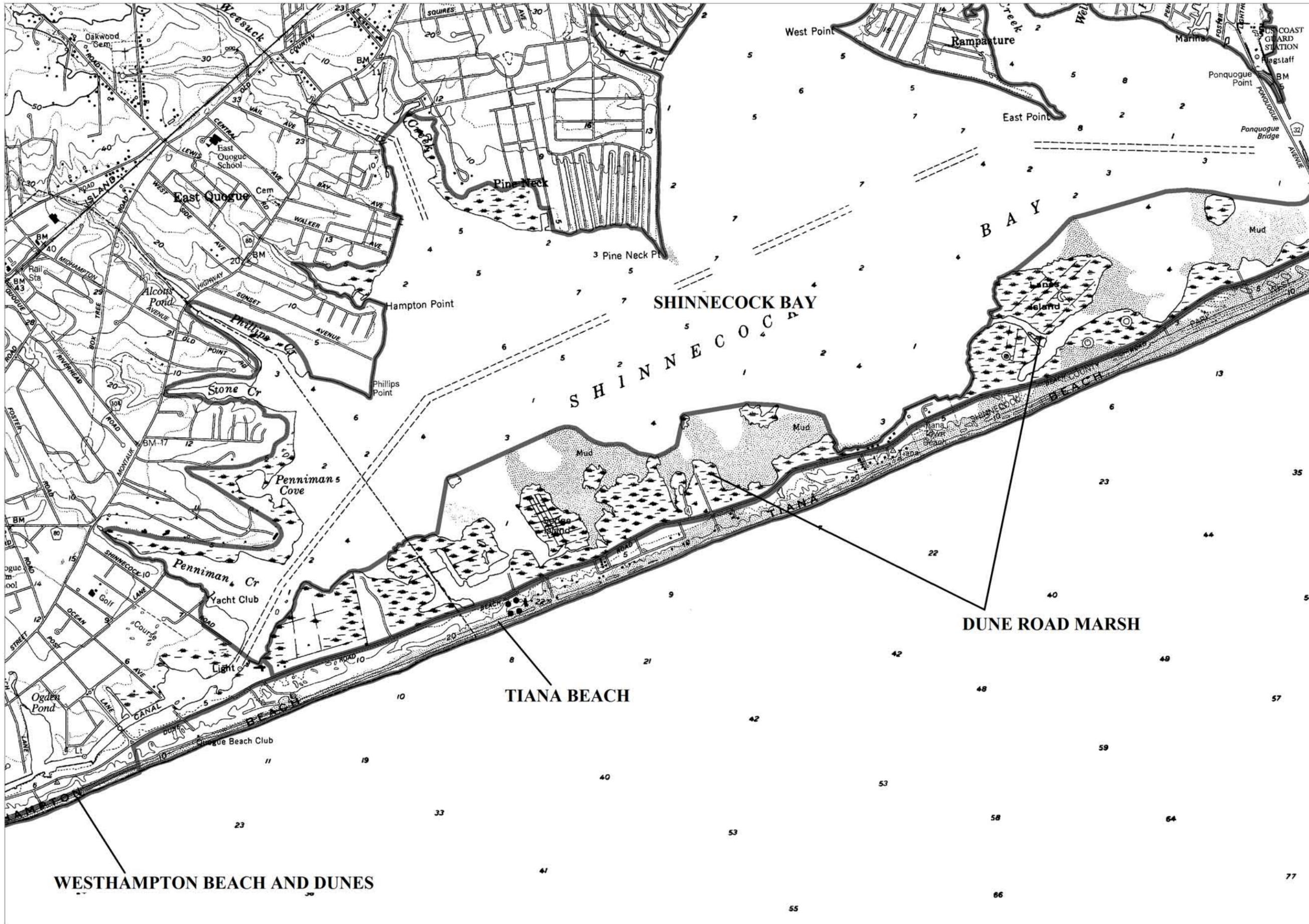
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### Significant Coastal Fish and Wildlife Habitats

- Dune Road Marsh (In Part)  
part 2 of 2
- Shinnecock Bay (In Part)
- Tiana Beach (In Part)
- Westhampton Beach and Dunes (In Part)

New York State  
Department of State  
Division of  
Coastal Resources

