COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area:	**Peconic River**
Designated:	**March 15, 1987**
Date Revised:	**May 15, 2002**
County:	**Suffolk**
Town(s):	**Brookhaven, Riverhead, Southampton**
7½' Quadrangle(s):	**Wading River, NY; Moriches, NY; Riverhead, 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: The longest river on Long Island; the Peconic is a relatively large, slow moving, acidic river with a very undeveloped watershed. Unique on Long Island.
Calculation: $\sqrt{}(25x64)$ = 40

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: Tiger salamander (E), banded sunfish (T), eastern spadefoot toad (SC), eastern hognose snake (SC), spotted turtle (SC), southern sprite damselfly (T), coastal barrens buckmoth (SC), painted bluet (T), and pine barrens bluet (T) present.
Calculation: 36 + (25/2) + (25/4) + (25/8) + (25/16) = 59.44

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 fishing for warmwater species attracts anglers from throughout Long Island. 9

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: One of only 2 locations in the state supporting banded sunfish. One of only 4 major documented alewife spawning areas in Peconics region. 16

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] = 124.44 **Significance = HI x R =**

149.3

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

PECONIC RIVER

LOCATION AND DESCRIPTION OF HABITAT:

The Peconic River is located in central Long Island, in the Towns of Brookhaven, Riverhead, and Southampton, Suffolk County (7.5' Quadrangles: Wading River, NY; Moriches, NY; and Riverhead, NY). The river flows in a west to east direction, beginning near Brookhaven National Laboratory, and emptying into Flanders Bay. The fish and wildlife habitat is the freshwater portion of the river, which extends approximately 15 miles, from County Route 63 in the center of Riverhead, to the headwaters in Peconic River County Park. The coastal plain pond complexes to the north of the river are also included in this habitat, encompassing Horn Pond, Round Pond, Peasys Pond, Woodchopper's Pond, Duck Pond, Sandy Pond, Grassy Pond, Twin Ponds, Jones Pond, Zeeks Pond, North Pond, Prestons Pond, Forest Pond, Linus Pond, Fox Pond, Sandy Pond, and Swan Pond. This stretch of the river is a warm, slow-moving, naturally acidic, and nutrient poor, freshwater stream ecosystem. Early settlers dammed the river in many places to create mill ponds, and to control water levels for cranberry farming; today, there are a number of small ponds and large impoundments on the main river channel and its tributaries. The rare coastal plain pond and pond shore communities, as well as coastal plain poor fen and pine barrens swamp, occur at the headwaters of the river. Above Connecticut Avenue, the river winds through the undeveloped Peconic River County Park, and has a wilderness character, bordered by marshes, swamps, upland forest (including pine barrens, pitch pine-oak forest, and red maple-black gum swamp), and a small number of houses. In this stretch, the Peconic River is generally very narrow, heavily vegetated, and bordered with a variety of bog plant species. Between Connecticut Avenue and Peconic Lake (also called Forge Pond), the river is similar in nature to the upstream segment, but is bordered by greater numbers of residences and farms. The river widens below Peconic Lake, and commercial and residential development along the shore increases considerably as one approaches Riverhead. Average river discharge at Riverhead is approximately 37 cubic feet per second, from a total drainage area of approximately 75 square miles. River flows are regulated to some extent by pond discharges and by a discharge of treated effluent from Brookhaven National Laboratory. The Peconic River is part of the Central Pine Barrens Core Preservation Area.

FISH AND WILDLIFE VALUES:

The Peconic River is one of four major rivers on Long Island, and nearly all of the upper watershed area remains in a relatively undisturbed condition. This is especially rare on Long Island. The Peconic River has been designated as a candidate Wild and Scenic River by the U.S. Department of the Interior, because it represented the last significant undeveloped river within the unique Long Island pine barrens area; New York State designated it as a Scenic and

Recreational River under the Wild, Scenic, and Recreational Rivers System Act (under Article 15, Title 27 of the Environmental Conservation Law) to encourage preservation and restoration of its outstanding natural resource qualities. The Peconic River and its estuary were also designated as an estuary of national significance by the U.S. EPA in 1992, part of the National Estuary Program. The river supports extensive areas of bog and freshwater marsh communities, which serve as valuable fish and wildlife habitats in the region.

The entire length of the Peconic River is a productive habitat for warmwater fisheries. Some of the more abundant species which naturally reproduce here include largemouth bass, chain pickerel, bluegill, carp, brown bullhead, yellow perch, black crappie, pumpkinseed, and white perch. The New York State Conservation Department stocked walleye, bass, and yellow perch in the river (below Forge Pond, primarily) during the 1930's. Currently, natural reproduction sustains the fisheries resources. Above Connecticut Avenue, the Peconic River is one of only two localities in New York State supporting populations of banded sunfish (T), and is the most significant area for the species in New York State. The banded sunfish has habitat requirements that restrict it to sluggish, heavily vegetated, acidic waters of the coastal plain, but little is known of the species' life history and environmental tolerances. The banded sunfish is one of the truly native species of Long Island. The Peconic River is one of four documented alewife spawning habitats on Long Island, extending upstream to the dam immediately west of Peconic Avenue.

The Peconic River is an outstanding habitat for a variety of wildlife. Many species of birds inhabit the wetlands bordering the river, including Canada goose, American black duck, mallard, wood duck, American wigeon, pied-billed grebe, green-winged teal, American bittern, mute swan, and great blue heron. Other species found in the area include white-tailed deer, mink, raccoon, woodcock, spotted turtle (SC), stinkpot, and little brown bat. Tiger salamander (*Ambystoma tigrinum*, E) are found in the coastal plain pond complexes adjacent to the Peconic River. The New York Natural Heritage Program documents the presence of coastal barrens buckmoth (*Hemileuca maia*, SC) in the Peconic River area.

The coastal plain pond communities of the Peconic River headwaters also support rare insect species including lateral bluet (*Enallagma laterale*), painted bluet (*Enallagma pictum*, T), and pine barrens bluet damselflies (*Enallagma recurvatum*, T), southern sprite damselfly (*Nehalennia intergricollis*, T), violet dart (*Euxoa violaris*), and pink sallow (*Psectraglaea carnosa*). Coastal plain pond habitats sometimes dry up completely, making them uninhabitable for fish but providing favorable habitat for rare flora and fauna, including the endangered tiger salamander. Long Island is the northern limit of the tiger salamander in the eastern part of its known range, and the Long Island Pine Barrens and Peconic River area is a stronghold for this species, with over 60 known occurrences. Other amphibians using these ponds include spotted salamander, common red-backed salamander, wood frog, northern spring peeper, and eastern spadefoot toad (*Scaphiopus holbrookii*, SC). Regionally rare reptile species found within the habitat complex include spotted turtle (SC) and eastern hognose snake (SC).

Due to the abundant fisheries resources in the Peconic River, it supports a recreational freshwater fishery of regional significance. Access to the river is generally limited by the dense vegetative border and private land ownership. The New York State Department of Environmental

Conservation currently manages 3 fishing access points on the river, and acquisition of a fourth was proposed in 1984. Increasing numbers of anglers and other recreationists are exploring the river by canoe. Peconic River County Park provides access for local birdwatchers, naturalists, and school groups, to enjoy the river's fish and wildlife resources.

The rare coastal plain pond and pond shore communities occur at the headwaters of the river. Plants found in the Peconic River habitat include the following: quill-leaf arrowhead (*Sagittaria teres*, E), knotted spikerush (*Eleocharis equisetoides*, T), long-tubercled spikerush (*Eleocharis tuberculosa*, T), short-beaked bald-rush, long-beaked bald-rush, horned beaked-rush, reticulated nutrush, slender blue flag, pine barren bellwort (*Uvularia puberula* var *nitida*, E), slender crabgrass, panic grass, bog aster, rose coreopsis, northeastern smartweed, Nuttall's lobelia, Carolina redroot (*Lachnanthes caroliana*, T), comb-leaved mermaid-weed, two-flowered bladderwort, fibrous bladderwort, rush bladderwort, small floating bladderwort, globe-fruited ludwigia, golden dock (*Rumex maritimus* var *fueginus*, T), primrose violet, and pine barren gerardia. Above Connecticut Avenue a variety of bog plant species are found, including sphagnum and peat mosses, leatherleaf, sundews, highbush blueberry, sweet pepperbush, buttonbush, red maple, tupelo, and Atlantic white cedar.

IMPACT ASSESSMENT:

Any activity that would degrade water quality, increase turbidity or sedimentation, or alter flows in the Peconic River would have an impact on the fish and wildlife species using the area. Discharges or runoff of sewage effluent, pesticides, or other hazardous materials into the river would be detrimental to many of the resident aquatic species and also to the potential human uses of those resources. Total phosphorus levels in the upper Peconic are unusually high, but no specific source has been linked to this phenomenon to date. Increased development of the region would degrade water quality, increase turbidity, alter hydrology, and increase discharges of pesticides or hazardous materials into the river or ponds. Significant localized contamination of groundwater with petroleum products and organic solvents has occurred near major facilities such as Brookhaven National Laboratory. Eutrophication caused by runoff from fertilizers, septic tanks, roads, farmlands, and lawns is of considerable concern, as such over-enrichment of naturally acidic and nutrient-poor waters could lead to invasions and dominance by exotic, nutrient-loving, weedy plants and concurrent displacement of the native flora.

The lowermost reaches of the Peconic River (currently outside the habitat boundary) are commercially and residentially developed, but development continues to encroach upstream. Some areas of the adjacent Pine Barrens are threatened with subdivision and development. Increased public access to the area may be desirable, but such developments must be planned to avoid valuable natural areas that have not previously been disturbed. The Town of Southampton lists the Peconic River and adjacent wetlands as a top priority for land acquisition and planning to control growth and development.

Impediments to movement and migration of aquatic species through the river corridor should be prohibited, and plans to mitigate the impact of existing structures should be developed. In 1995 the New York State Department of Environmental Conservation lifted spawning alewife over the

first dam. Survival and growth of the young fish will be monitored to determine the feasibility of providing additional fish passage in the river. Other commercially and recreationally harvested fish and waterfowl should be monitored to ensure that optimum sustainable populations are maintained over the long term.

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.

Elimination or disturbance of adjacent wetland and forest habitats would adversely affect certain wildlife species that are relatively uncommon on Long Island, and would diminish the existing wilderness character of the Peconic River. Human disturbance of wetlands includes illegal dumping of household and commercial waste, the use of all-terrain vehicles on trails and shorelines, disruption of pond shores (including raking, mowing, trampling, or clearing of native vegetation), and destruction or removal of plants as a result of development or poor land management. Significant changes in the water quality or hydrologic regime of coastal plain ponds would result in the loss of rare species and degradation of the ecological character and value of pond and pond shore communities. Illegal restocking of these ponds with non-native species by local anglers results in displacement of native species. Permanent drawdown of the water table would result in the invasion of woody species into the pond shore zones, while prolonged flooding would inhibit the germination and growth of pondshore plants. Introduction of exotic plant species from the backyard aquarium trade (such as the already present parrot's-feather), from gardens and commercial landscaping, and other sources threaten the natural diversity of aquatic and riverine wetland plant species. 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.

KNOWLEDGEABLE CONTACTS:

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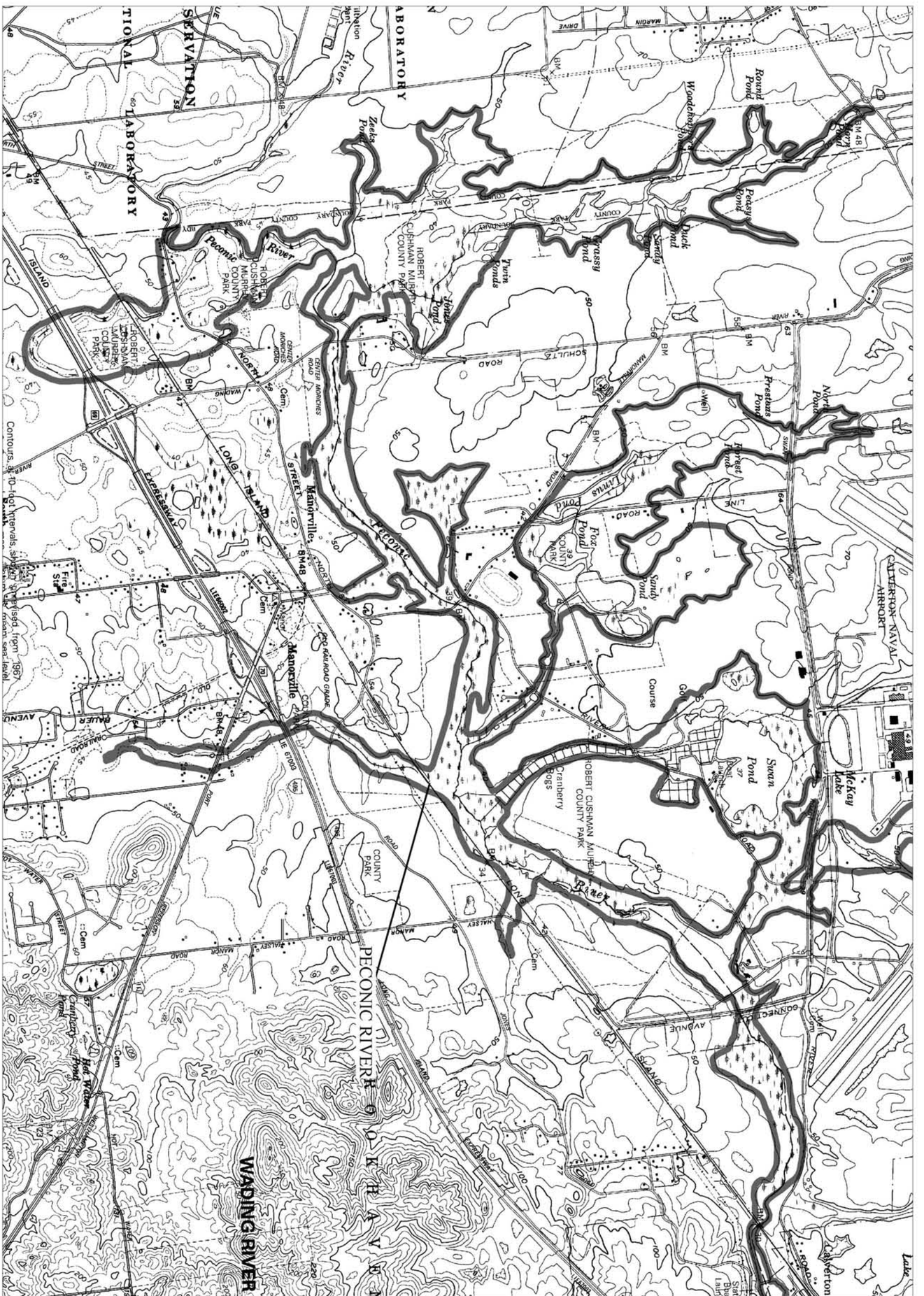


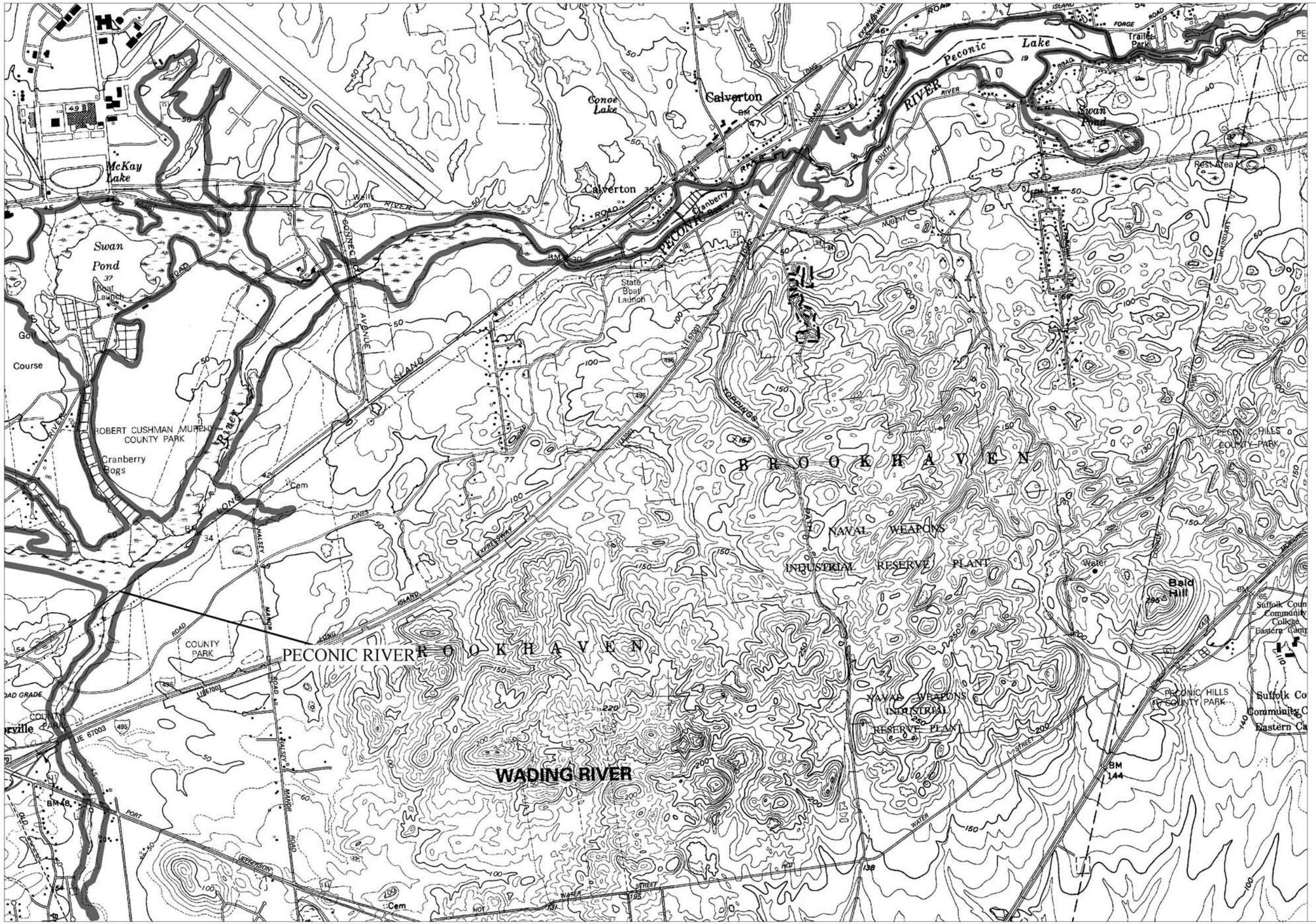
Significant Coastal Fish and Wildlife Habitats

Peconic River (In part)
Part 1 of 3

New York State
Department of State

Division of
Coastal Resources

0 2000 feet



Significant Coastal Fish and Wildlife Habitats

Peconic River (In part)

Part 2 of 3

New York State Department of State

Division of Coastal Resources

0 2000 feet

Significant Coastal Fish and Wildlife Habitats

Cranberry Bog County Park

Peconic River (In part)

Part 3 of 3

New York State Department of State

Division of Coastal Resources