Attachment B:

COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM

Name of Area:	**Swan River**
Designated:	**March 15, 1987**
Date Revised:	**December 15, 2008**
County:	**Suffolk**
Town(s):	**Brookhaven**
7½' Quadrangle(s):	**Bellport, NY; Howells Point, NY; Patchogue, NY**

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: Relatively clean, cold, fresh-water stream; rare in ecological region, but rarity diminished by small size. Geometric mean: $\sqrt{16} \times \sqrt{25} = 20$. **20**

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: No endangered, threatened or special concern species reside in the area. **0**

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 salmonid fishery 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: One of only 7 known locations on Long Island with a naturally reproducing brook trout population. Significant concentrations of sea-run brown trout of regional significance. **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**

Habitat Index: (ER + SV + HU + PL) = 33 **Significance: (HI x R) = 39.6**

NEW YORK STATE
SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT
NARRATIVE

SWAN RIVER

LOCATION AND DESCRIPTION OF HABITAT:

Swan River is located approximately one-quarter mile east of the Village of Patchogue, flowing southward into Patchogue Bay, in the Town of Brookhaven, Suffolk County (7.5 Quadrangles: Howells Point, N.Y.; Bellport, N.Y.; and Patchogue, N.Y.). The approximately 106 acre fish and wildlife habitat encompasses the entire river, including an approximately one and one-half mile tidal segment, and an approximate two and one-half mile freshwater segment, which extends from Swan Lake, above the Montauk Highway, to the headwaters of the stream. The Swan River significant habitat includes the wetlands on the eastern shoreline from First Street in the north to the Town Park in the south. Above Swan Lake, Swan River is a relatively clean, cold, free-flowing, freshwater stream, generally less than 15 feet wide, with a sandy substrate. North of Swan Lake, water discharges range from 6.4 cubic feet per second at the headwaters to 20.7 cubic feet per second. Recognized by the United States Fish and Wildlife Service as priority wetlands on Long Island under the Federal Emergency Wetlands Resources Act of 1986, this segment of the river flows through portions of undeveloped forested wetland, but has also been encroached upon by residential development. Below the Montauk Highway, the river is tidal and bordered by an undeveloped marshland with limited boat docking facility development.

FISH AND WILDLIFE VALUES:

Swan River is one of only a few free-flowing, spring-fed streams on Long Island that have remained in a relatively natural state. Above Swan Lake, the creek provides habitat conditions suitable for a naturally reproducing population of brook trout, and supports one of approximately 7 known wild populations of this species on Long Island. In addition to native fish populations in Swan River, concentrations of sea-run brown trout occur in the tidal segment below Montauk Highway, during their fall spawning period (September-November). Significant populations of American eel were also found to inhabit the waters of Swan River and Swan Lake. New York State has established a stocking program for Swan River an in 2003 and 2004 the New York State Department of Environmental Conservation stocked 200 and 240 brown trout, respectively, in the Swan River. The concentrations of salmonids in Swan River support a recreational fishery of county-level significance. No formal access is present at the site although there is access to the tidal portion of the river via boat ramp.

IMPACT ASSESSMENT:

Any activities that would degrade water quality, increase turbidity, increase sedimentation, or alter flows, temperature, or water depths would adversely affect the fisheries resources in Swan River. The wild brook trout population would be especially sensitive during spawning, which occurs between September and December, and during incubation, which extends through April. 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. Eutrophication caused

by runoff from fertilizers, septic tanks, roads, and lawns is of considerable concern, as such over-enrichment of waters may contribute to the establishment of invasive, non-native plants and concurrent displacement of the native flora.

Substantial alteration of the stream channel, such as impoundment or creation of barriers to fish passage should be prohibited. Impediments to movement and migration of aquatic species, whether physical or chemical (e.g. dams, dikes, channelization, bulkheading, sedimentation, etc.), should be prohibited. Plans to mitigate the impacts of existing hydrological modifications should be developed, including the rejoining of formerly connected tributaries, and the removal of obstructions or barriers to fish passage. Enhancement efforts should be monitored, and the associated habitat effects should be reported and evaluated (e.g. the amount of upstream passage opened through upstream passage projects and the passability of blockages for different species of anadromous fish). Activities within the stream itself should be scheduled to avoid disruption of the fall (September to December) spawning run of brown trout and native brook trout.

Clearing of natural vegetation or bulkheading along the stream would also affect the habitat. Elimination or disturbance of adjacent wetland and forested habitats would adversely affect the habitat. Such areas should be protected, and where possible restored in order to maintain and/or improve water quality. Control of invasive plant species, through a variety of means, may improve fish and wildlife species use of the area.

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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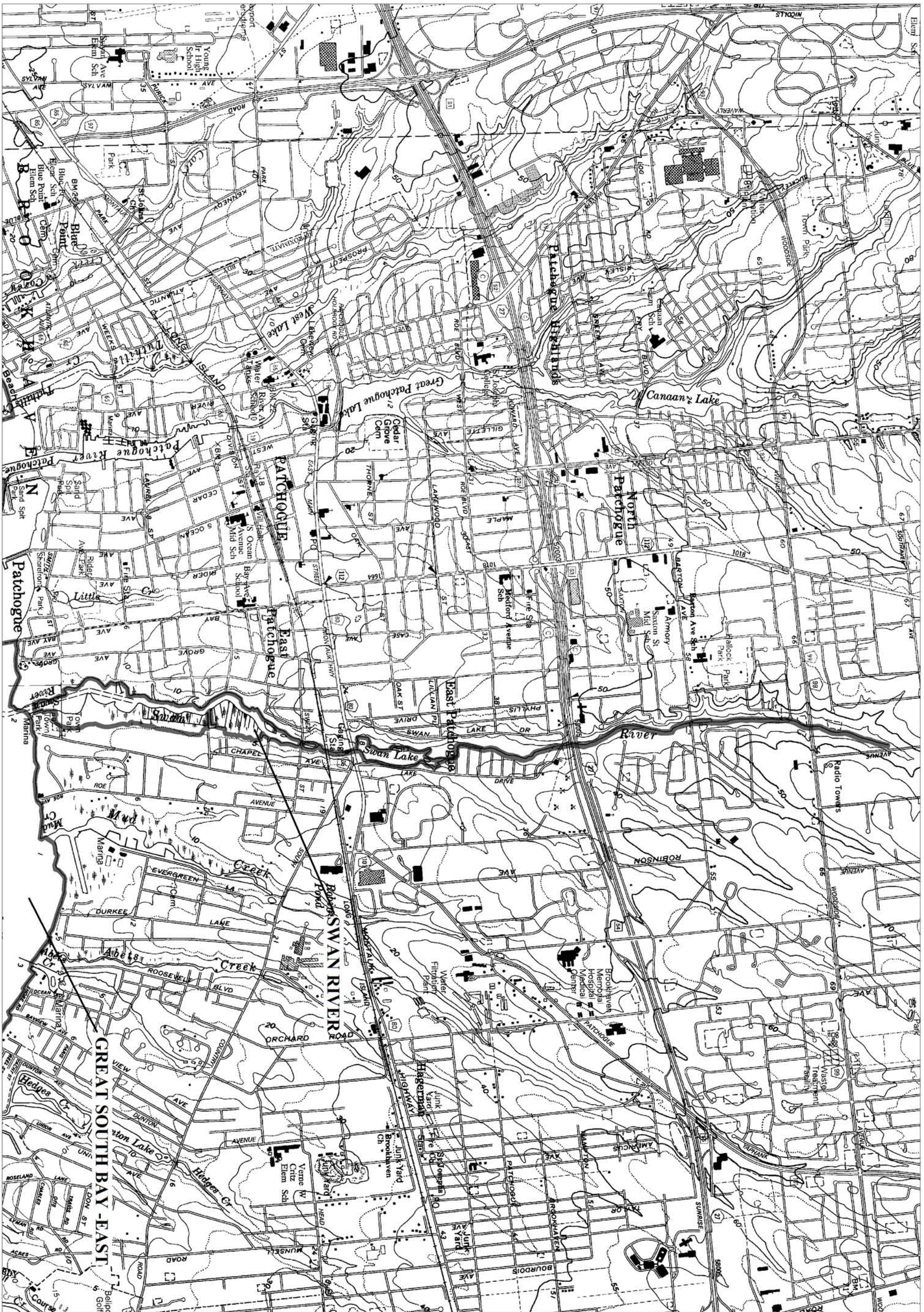

Significant Coastal Fish and Wildlife Habitats

New York State
Department of State

Division of
Coastal Resources

Swan River
Great South Bay - East (In Part)

0 2000 feet