

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Stony Island**

Designated: **August 15, 1993**

County(ies): **Jefferson**

Town(s): **Hounsfield**

7½' Quadrangle(s): **Point Peninsula, NY**

<u>Score</u>	<u>Criterion</u>
25	Ecosystem Rarity (ER) A very large, isolated, and undisturbed island and associated shoals; unusual in the Great Lakes Plain ecological region.
0	Species Vulnerability (SV) No endangered, threatened or special concern species are known to reside in the area.
25	Human Use (HU) Contributes to a recreational fishery which attracts many anglers from outside New York State. Geometric mean: $(16 \times 25)^{1/2} = 20$. Commercial fishery of regional importance. Additive division: $20 + 9/2 = 25$.
9	Population Level (PL) Spawning lake trout and smallmouth bass concentrations are unusual in the Great Lakes Plain ecological region.
1.2	Replaceability (R) Irreplaceable

SIGNIFICANCE VALUE = [(ER + SV + HU + PL) X R]

= **70**

DESIGNATED HABITAT: STONY ISLAND

HABITAT DESCRIPTION:

Stony Island is situated approximately four and one-half miles west of Henderson Harbor in eastern Lake Ontario, in the Town of Hounsfield, Jefferson County (7.5' Quadrangle: Point Peninsula, NY). This approximate 1,500 acre island possesses several terrestrial habitat types, including freshwater wetlands, an inland lake, and upland forest. In addition, the fish and wildlife habitat includes the underwater shoals surrounding the island from shoreline to a depth of approximately 20 feet below mean low water datum. The island is owned by Phillips Petroleum Company, and is used as a recreational retreat by invited guests.

FISH AND WILDLIFE VALUES:

The islands of eastern Lake Ontario, such as Stony Island, comprise an unusual ecosystem type in Great Lakes Plain ecological region of New York. Stony Island is significant for wildlife because it concentrates many species of migratory birds. This is one of the few locations in the region where black-crowned night herons have been reported nesting. In addition, the island is used as a late-summer staging area for young double-crested cormorants and ring-billed gulls which nest in the vicinity. Concentrations of various species of waterfowl use Stony Island as a migration stopover during spring and fall. American black duck, mallard, scaup, common goldeneye, oldsquaw, loons, grebes, mergansers and Canada goose are among the waterfowl species found on or around the island during these periods. Stony Island's shoals are also used by concentrations of waterfowl wintering in the area; mid-winter aerial surveys of waterfowl abundance for the period 1986-1991 indicate average concentrations of approximately 1,500 birds in the area each year (2,880 in peak year), including scaup, mergansers, common goldeneye, Canada goose, mallard, and American black duck. Stony Island is also an important resting site for raptors migrating through the area.

The shoals surrounding Stony Island are a regionally significant fish spawning area. The littoral zone around the island provides prime spawning habitat for smallmouth bass, generally between depths of 2 to 20 feet. Other warmwater fish species which use the shoal areas for spawning and nursery areas include rock bass, pumpkinseed, white perch, yellow perch, and brown bullhead. The lake on Stony Island is also considered a prime location for warmwater fish spawning. The shoals around Stony Island are a regionally significant spawning area for lake trout, which are being restored to Lake Ontario through stocking by the NYSDEC. Lake trout generally spawn in water depths of up to 20 feet.

Fish and wildlife related recreation in the Stony Island area is substantial. Residents from throughout New York State and many out of state residents fish for smallmouth bass, walleye and other warmwater species over the shoals around Stony Island. Although the area is especially well known for the smallmouth bass fishery, it is also providing a growing fishery for lake trout and other salmonids, including brown trout, rainbow trout, coho and chinook salmon, and Atlantic salmon. A commercial fishery exists around the eastern Lake Ontario islands region for yellow and white perch, bullhead, and other warmwater species found in the area. All Lake Ontario islands, including Stony Island, are significant for waterfowl hunting by local residents.

IMPACT ASSESSMENT:

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 below to assist in applying the habitat impairment test to a proposed activity.

Any activities that would degrade water quality, increase temperature or turbidity, or alter water depths around Stony Island, especially during fish spawning periods (March-July for most warmwater species, and September-November for lake trout), could adversely affect the fisheries in this area. Dredging and disposal of spoil material in the shoals surrounding the island could be very detrimental. Any activity that may disrupt the use of Stony Island as a feeding and resting area by migratory birds or use as a nesting site by colonial birds, could adversely affect the wildlife resources of this area. Increased human disturbance or loss of woody vegetation would be especially significant. Introduction of mammalian species could also affect suitability of the habitat for nesting bird species.