

COASTAL FISH & WILDLIFE HABITAT RATING FORM

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Name of Area: **Little Galloo Island**

Designated: **August 15, 1993**

County(ies): **Jefferson**

Town(s): **Hounsfield**

7½' Quadrangle(s): **Galloo Island, NY**

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<u>Score</u>	<u>Criterion</u>
<b>25</b>	Ecosystem Rarity (ER) An isolated and undeveloped island subject to minimal human disturbance, and extensive shoal area; unusual in the Great Lakes Plain ecological region.
<b>0</b>	Species Vulnerability (SV) No endangered, threatened or special concern species are known to reside in the area.
<b>18</b>	Human Use (HU) Shoals support a recreational fishery for smallmouth bass of statewide importance, and county level commercial fishery for perch and bullhead. Additive division: $16 + 4/2 = 18$ .
<b>36</b>	Population Level (PL) One of the largest ring-billed gull colonies in North America, and one of the only Caspian tern nesting locations in New York State.
<b>1.2</b>	Replaceability (R) Irreplaceable

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

= **95**

## **DESIGATED HABITAT: LITTLE GALLOO ISLAND**

### **HABITAT DESCRIPTION:**

Little Galloo Island is located in eastern Lake Ontario, between Galloo Island and Stony Island, in the Town of Hounsfield, Jefferson County (7.5' Quadrangle: Galloo Island, NY). Little Galloo Island is a tilted limestone shelf, approximately 40 acres in size, with a thin layer of soil. Most of the island is covered by herbaceous vegetation; there are relatively few trees present, and these are located primarily around the perimeter of the island. The fish and wildlife habitat includes the entire island and the surrounding underwater shoals to a depth of approximately 20 feet below mean low water (a total area of approximately 200 acres). Little Galloo Island is owned by the Phillips Petroleum Company and is subject to minimal human disturbance.

### **FISH AND WILDLIFE VALUES:**

Little Galloo Island is one of very few uninhabited islands in eastern Lake Ontario. The island, and its associated shoal areas provide undisturbed upland habitats and productive littoral zones that are uncommon throughout the Great Lakes Plain ecological region of New York.

Little Galloo Island is of major importance as a nesting area for large numbers of various colonial waterbird species. It has one of the largest nesting concentrations of nesting ring-billed gulls in North America, with an estimated 80,000 pairs reported nesting here in 1989 and 84,230 pairs in 1990. Ring-billed gulls are known to have nested on Little Galloo Island since as early as 1938, and estimates of their population have ranged up to as high as 100,000-120,000 pairs. The entire island has been virtually covered by nesting ring-bills since 1967.

Double-crested cormorants were first reported breeding at Little Galloo in 1967, and it has since become the second most numerous nesting species there, with 5,319 nests counted in 1991. Little Galloo Island is one of only two known nesting areas for double-crested cormorant in upstate New York, and may contain the largest colony on the Great Lakes. Other birds nesting on the island include herring gull (606 nests in 1990), greater black-backed gull (6 nests in 1990), black-crowned night heron (26 nests in 1989 and 12 nests in 1991), cattle egret (1 nest in 1986), and caspian tern (120 nests in 1989 and 200+ nests in 1991). The latter represents the first and only recent record of caspian tern nesting in New York State. Common tern (T) once flourished on Little Galloo Island, but were apparently displaced by ring-billed gulls in the mid-1950's.

The rocky littoral zone around Little Galloo Island provides prime spawning habitat for smallmouth bass, generally between depths of 2 to 20 feet. Lake trout, which are being restored to Lake Ontario through stocking by the NYSDEC, are also known to be spawning in the vicinity of the island. Other fish species which use the Little Galloo Island shoals for spawning and nursery areas include rock bass, pumpkinseed, yellow perch, white perch, and brown bullhead.

The eastern Lake Ontario islands area including Little Galloo Island, attracts residents from throughout New York State and beyond, because of the outstanding recreational fishing opportunities. This area is especially well known for the smallmouth bass fishery, but is also providing a growing fishery for lake trout and other salmonids. Other recreational uses include birdwatching and waterfowl hunting by local residents. Commercial fisheries for yellow perch, white perch, and bullhead are also established in the vicinity.

### **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.

Colonial bird species nesting on islands in Lake Ontario are highly vulnerable to disturbance from April through July. Significant human activity (e.g., boat-landing, fishing) on or around Little Galloo Island could adversely affect populations of some bird species, and should be minimized during this period. Loss of

vegetation on the island which may be occurring through natural processes, could eliminate the nesting concentrations of cormorants, night herons, and egrets. Annual or permanent posting of the area should be provided to help protect the nesting bird species. Introduction or attraction of mammalian predators, including pet animals, would also be detrimental to the colonial bird populations. Habitat management activities, such as manipulation of surface substrates or vegetation, control of avian predation or competition, and establishment of additional nesting colonies in the vicinity, may be necessary in the future to ensure the survival of the various bird populations at Little Galloo Island. Any activity that would substantially degrade water quality, increase temperature or turbidity, or alter water depths around the island, especially during March-July or September-November, could adversely affect spawning and reproduction by a number of important fish species in the area.