

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Lake Shore Marshes**

Designated: **October 15, 1987**

County: **Wayne**

Town(s): **Huron, Wolcott**

7½' Quadrangle(s): **Rose, NY; Sodus Point, NY; North Wolcott, NY; Wolcott, NY**

<u>Score</u>	<u>Criterion</u>
64	Ecosystem Rarity (ER) An extensive complex of undeveloped coastal wetland ecosystems; unusual in New York State.
16	Species Vulnerability (SV) Black tern (SC) nesting; least bittern (SC) and sedge wren (SC) possible, but not confirmed.
9	Human Use (HU) Waterfowl hunting opportunities attract visitors from throughout central New York.
9	Population Level (PL) Concentrations of marsh nesting birds and migrant waterfowl unusual in the Great Lakes Plain ecological region.
1.2	Replaceability (R) Irreplaceable.

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

= **118**

DESIGNATED HABITAT: LAKE SHORE MARSHES

LOCATION AND DESCRIPTION OF HABITAT:

Lake Shore Marshes is located along the southern shore of Lake Ontario, between Sodus Bay and Little Sodus Bay, in the Towns of Huron and Wolcott, Wayne County (7.5' Quadrangles: Sodus Point, N.Y.; Rose, N.Y.; North Wolcott, N.Y.; and Wolcott, N.Y.). The fish and wildlife habitat consists of ten relatively discrete units, each encompassing a sizeable coastal wetland area. From west to east, these units are: South Sodus Bay (approximately 225 acres); Hog Island (50 acres); Root Swamp (160 acres); East Bay (730 acres); Brush Marsh (80 acres); Beaver Creek (350 acres); Cottrell Marsh (75 acres); Port Bay (430 acres); Red Creek (380 acres); and Black Creek (500 acres). Most of these areas are located within the NYSDEC's Lake Shore Marshes Wildlife Management Area; only Brush Marsh and a portion of the Black Creek area are privately owned. The various units are generally dominated by emergent wetland vegetation, but relatively large areas of scrub-shrub and forested wetlands also occur. Open water in the area exists primarily in the form of various low-gradient, warmwater streams; Sodus Creek, Wolcott Creek, and Red Creek are the largest tributaries emptying into Lake Shore Marshes, with each draining approximately 20-30 square miles of agricultural and rural residential lands. These streams bisect most of the wetland units and serve as a primary hydrologic connection to Lake Ontario; however, Brush Marsh and Root Swamp are only connected to the lake via underground seepage through a barrier beach. The land area surrounding Lake Shore Marshes is rural in nature, including upland deciduous forest, abandoned fields, active agricultural lands, and low density residential development. State ownership of Lake Shore Marshes (and much of the adjacent lands) has protected the area from significant human disturbance.

FISH AND WILDLIFE VALUES:

Lake Shore Marshes encompasses some of the largest, undeveloped, coastal wetlands in the Great Lakes Plain ecological region of New York. These areas comprise an extensive natural area complex that is rare in New York State. The large size, ecological diversity, and lack of human disturbance of Lake Shore Marshes are important factors contributing to the fish and wildlife values of this area.

Lake Shore Marshes offers a unique combination of wetland and aquatic environments that provides valuable habitats for a variety of fish and wildlife species. Although there have been few documented studies of the area, Lake Shore Marshes is known to be a very productive nesting area for waterfowl and other marsh birds, including great blue heron (14 nesting pairs in Cottrell Marsh in 1985), green-backed heron, American bittern, mallard, wood duck, sora, common moorhen, black tern (SC), common snipe, marsh wren, common yellowthroat, red-winged blackbird, and swamp sparrow. Least bittern (SC) and sedge wren (SC) have also been observed in the area, but breeding has not been confirmed. Concentrations of waterfowl (especially dabbling ducks) also use the area for feeding and resting during spring and fall migrations; this is a primary management objective for State-owned portions of Lake Shore Marshes. Lake Shore Marshes supports sizeable populations of several furbearing species, including muskrat, beaver, raccoon, and mink. Other wildlife species occurring in the area include wood-cock, ring-necked pheasant, white-tailed deer, gray squirrel, snapping turtle, painted turtle, northern water snake, bullfrog, and northern leopard frog. The close proximity of the various wetland units to one another allows many species to move between areas to meet their daily and seasonal habitat requirements.

Lake Shore Marshes is a productive fish spawning and nursery area, supporting concentrations of various warmwater species, such as northern pike, brown bullhead, rock bass, bluegill, pumpkinseed, white crappie, and largemouth bass. White sucker, smallmouth bass, and various salmonids (coho and chinook salmon, and steelhead) also occur in some of these wetlands, but these species generally spawn upstream in major tributaries, such as Sodus Creek and Wolcott Creek. Lake Shore Marshes serves as a major reproductive

habitat for fish populations in several adjoining bays, and contributes significantly to the maintenance of Lake Ontario fisheries resources.

The abundance and diversity of fish and wildlife species in Lake Shore Marshes provide many potential opportunities for human use of the area. Most of the marshes are available for public use, with certain sections reserved as waterfowl refuge areas. Access for passive recreational uses is available from several locations within the Wildlife Management Area, as well as from developed boat launch facilities in Sodus Bay, East Bay, and Port Bay. Hunting, fishing, trapping, birdwatching, and informal nature study, attract a significant number of visitors to the area. Of these activities, waterfowl hunting is one of the most important, attracting many sportsmen from the Rochester and Syracuse metropolitan areas.

IMPACT ASSESSMENT:

A **habitat impairment test** must be met for 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** that must be met 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 activity that substantially degrades water quality, increases turbidity or sedimentation, reduces water levels, alters flows, or increases water level fluctuations in any part of Lake Shore Marshes would adversely affect a variety of fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) could result in adverse impacts on fish and wildlife resources of the area. Elimination of wetland habitats, or substantial human encroachment into the area, as a result of dredging, filling, construction of roads, or motorboat access development, would severely reduce its value to fish and wildlife. However, habitat management activities, including water level management or expansion of shallow open water areas, may be designed to maintain or enhance populations of certain fish or wildlife species. Any significant disturbance of Lake Shore Marshes between March and July, when most warmwater fish are spawning and incubating, would be especially detrimental. Barriers to fish migration in major stream channels, whether physical or chemical, could have significant effects on fish populations within the wetlands, and in connected waters. Existing woodlands and undeveloped areas bordering the marshes should be maintained for their value as cover, perching sites, and buffer zones. The integrity of the sand dunes sheltering many of these areas from wave action should be maintained to protect fish and wildlife habitats. Incompatible disturbance of the area, including use of motorized vehicles (including boats), camping, and swimming, should be restricted through enforcement of existing Wildlife Management Area regulations.