

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **North and South Sandy Ponds**

Designated: **October 15, 1987**

County: **Oswego; Jefferson**

Town(s): **Sandy Creek; Ellisburg**

7½' Quadrangle(s): **Pulaski, NY; Ellisburg, NY**

<u>Score</u>	<u>Criterion</u>
40	Ecosystem Rarity (ER) This is the largest barrier-bay ecosystem on Lake Ontario; the diversity of fish and wildlife is unusual in New York, but rarity reduced by human disturbance. Geometric mean: (25 x 64)
37	Species Vulnerability (SV) Common tern (T), least bittern (SC), and black tern (SC) nesting; importance to piping plover (E) not adequately documented. Additive division: 25 + 16/2 + 16/4
18	Human Use (HU) Recreational fishery and birdwatching attracts visitors from throughout New York State; a significant number of yellow perch caught are sold to local markets. Additive division: 16 + 4/2
9	Population Level (PL) This is one of the major spawning and nursery ares for many fish species on Lake Ontario; also regionally important concentration area for migrant shorebirds, passerines, and raptors.
1.2	Replaceability (R) Irreplaceable

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

= **125**

DESIGNATED HABITAT: NORTH AND SOUTH SANDY PONDS

LOCATION AND DESCRIPTION OF HABITAT:

North and South Sandy Ponds are located on the eastern shore of Lake Ontario, approximately five miles west of the Village of Sandy Creek, in the Town of Sandy Creek, Oswego County, and the Town of Ellisburg, Jefferson County (7.5' Quadrangles: Ellisburg, N.Y.; and Pulaski, N.Y.). The fish and wildlife habitat is an approximate 3000 acre embayment, separated from the lake by an extensive barrier beach formation. North Sandy Pond ("North Pond"), which comprises about three-fourths of the area, is predominantly shallow (less than 20 feet deep) open water, with dense beds of submergent aquatic vegetation. This pond is connected to Lake Ontario by a very broad, shallow outlet through the beach, and receives inflow from Skinner, Lindsey, Blind, and Little Sandy Creeks. Sizeable areas of emergent wetland vegetation have developed at the lower ends of these tributaries, and at the north and south ends of the pond in sheltered coves. South Sandy Pond ("South Pond") is a sheltered bay that receives relatively little upland runoff, and is only indirectly connected to Lake Ontario via a small channel to North Pond. South Pond is up to 30 feet deep, but nearly half of the area is comprised of emergent marsh, scrub-shrub wetland, and forested wetland. Also included in the habitat is Carl Island, a small, uninhabited, wooded island located in North Pond just south of Green Point. The land area bordering North and South Sandy Ponds is all privately owned, resulting in extensive development of residential areas, marinas, and bulkheads, and considerable disturbance of shoreline habitats. A relatively large portion of the south spit on North Sandy Pond remains in a natural condition, but development pressures have greatly increased since the 1970's. North and South Sandy Ponds receive intensive recreational use (e.g., fishing, swimming, boating) during the summer months.

FISH AND WILDLIFE VALUES:

North and South Sandy Ponds comprise one of the largest coastal bay ecosystems on Lake Ontario. The extensive dune system and sheltered littoral areas found here are rare in New York's coastal area. Although human activities in the area have resulted in considerable habitat disturbance, these ponds still serve as a major concentration area for many fish and wildlife species.

North and South Sandy Ponds have outstanding habitat values for resident and lake-based fisheries resources. The dense beds of submergent aquatic vegetation, high water quality, sandy substrates, and freshwater tributaries create highly favorable conditions for spawning and nursery use by many species. Studies of North and South Ponds in 1976 documented at least 20 species of warmwater fishes in the area, including gizzard shad, brown bullhead, white perch, yellow perch, largemouth bass, pumpkinseed, bluegill, rock bass, and northern pike. North Pond is a major concentration area for yellow perch in Lake Ontario; the population overwinters and spawns (from late April - July) in the pond, then moves west to the Nine Mile Point area, and returns in the fall. South Pond is one of the few locations in Oswego County's coastal area where walleye are known to successfully reproduce. Several other uncommon species, such as yellow bullhead and sand shiner, have been reported in the area. Concentrations of white sucker, small-mouth bass, alewife, and various salmonid species occur in North Pond prior to and after spawning runs in the major tributaries. Overall abundances of fish in North and South Sandy Ponds have been found to be among the highest of any location around eastern Lake Ontario. The very diverse and productive fisheries in this area provide excellent opportunities for recreational fishing. Access to the area is available from many locations, and there is heavy fishing pressure throughout the year. Anglers from throughout New York State are attracted to the area, especially for the yellow perch ice fishery and the spring bullhead fishery.

North and South Sandy Ponds provide important habitats for many wildlife species. Studies of the area have documented at least 50 species of breeding birds, 8 species of mammals, and 6 species of amphibians and reptiles in the wetland, beach, and fringe areas. The highest diversity of species occurs in the largest

undisturbed wetland areas, such as the north and south ends of North Pond, and South Pond. These wetlands serve as nesting and feeding areas for a variety of waterfowl and other marsh birds, including green-backed heron, American bittern, least bittern (SC), mallard, wood duck, blue-winged teal, Virginia rail, sora, common moorhen, black tern (SC), belted kingfisher, marsh wren, red-winged blackbird, and swamp sparrow. One pair of northern harriers (T) nested in South Pond marsh in 1976, but breeding has not been documented there since at least 1978 (these birds may have moved to Deer Creek Marsh). Other wildlife species found around North and South Sandy Pond include white-tailed deer, beaver, raccoon, mink, muskrat, green frog, northern leopard frog, and painted turtle. For many years, common terns (T) have nested on a low-lying island just south of Carl Island, with an estimated 35-40 pairs present in 1984 and 1985, down from 100 pairs in 1982. This is the last remaining colony in the New York waters of Lake Ontario, and population levels at this site may be declining as a result of vegetative succession, predation, or competition with ring-billed gulls. Flooding has also been responsible for poor reproductive success in some years.

The barrier beaches at North Sandy Pond are a unique and integral part of this fish and wildlife habitat. The dunes shelter the pond from prevailing winds, buffering water level fluctuations in potential nesting areas, and providing a refuge for concentrations of waterfowl during spring and fall migrations. In 1984, one pair of piping plovers (T) nested successfully on the south spit, marking the first confirmed breeding by this species in upstate New York since its extirpation in the mid-1950's. However, these birds were not present in 1985 (possibly due to human disturbance), so the importance of this site as a nesting location is uncertain. The sand beaches on either side of the outlet are heavily used as feeding and resting areas by large numbers of migrant shorebirds, and the undeveloped dunelands provide a valuable migration stopover for many species of passerine birds and raptors. The abundance and diversity of avian species occurring in this area is rarely equaled anywhere else on Lake Ontario. North and South Sandy Ponds are regarded as one of the prime birdwatching locations in the Great Lakes coastal region, attracting many viewers from around eastern Lake Ontario. Significantly greater use of this area would be expected if public access to the North Pond outlet was readily available.

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 temperature or turbidity, alters water depths, reduces inflows, or increases water fluctuations in North and South Sandy Ponds would adversely affect a wide variety of fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) could adversely impact on fish and wildlife resources of the area. Spills of oil or other hazardous substances are a significant threat to this area. Habitat disturbances would be especially detrimental during fish spawning and nursery periods (late February - July for most warmwater species) and wildlife breeding seasons (April - July for most species). Elimination of wetland habitats (including submergent aquatic beds) or further human encroachment into the area, as a result of dredging or filling, would severely reduce its value to fish and wildlife. Construction and maintenance of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, could have a significant impact on the habitat. Activities that would subdivide large, undisturbed areas (e.g., the south spit, and South Pond wetlands) into smaller fragments should be restricted. Existing areas of natural vegetation bordering the ponds should be maintained for their value as cover, perch sites, and buffer zones. Barriers to fish migrations between North and South Ponds, Lake Ontario, and all tributary streams, could have significant effects on fish populations in the area and in connected waters. Any substantial physical alteration of the outlet or adjacent beaches could adversely affect migratory bird concentrations, fisheries resources, and human uses of the area. The integrity of the sand dunes bordering North and South Sandy Ponds must be maintained, by stabilizing vegetative cover and restricting human uses, to protect the fish and wildlife habitat. Incompatible human disturbances of the barrier beaches, including use of motorized vehicles, camping, and swimming should be restricted, especially in undeveloped portions of the north and south spits. Fencing and/or posting of the area is suggested to reduce these activities and to possibly encourage return of the piping plover as a nesting species. However, public access to North and South Sandy Ponds should be maintained or enhanced to

ensure that adequate opportunities for compatible human uses of the fish and wildlife resources are available.

Common terns nesting near Carl Island are highly vulnerable to human disturbance from mid-April through July. Recreational activities (e.g., boat landing, picnicking) on or around the island should be minimized during this period. However, habitat management activities, such as removal of vegetation or control of gull predation, may be desirable or necessary in the future to ensure the survival of the common tern population. Introduction or attraction of mammalian predators to Carl Island would also be detrimental to these birds.