

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Snake Creek Marsh**

Designated: **October 15, 1987**

County: **Oswego**

Town(s): **Oswego**

7½' Quadrangle(s): **Oswego West, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) Relatively large, scrub-shrub and emergent wetland; uncommon in Oswego County.
16	Species Vulnerability (SV) Least bittern (SC) nesting; lake chubsucker (T) reported but not confirmed.
0	Human Use (HU) Used by local residents for waterfowl hunting and birdwatching; not significant at the county level.
4	Population Level (PL) Concentrations of many wetland wildlife species are uncommon in Oswego County.
1.2	Replaceability (R) Irreplaceable.

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

= **35**

DESIGNATED HABITAT: SNAKE CREEK MARSH

LOCATION AND DESCRIPTION OF HABITAT:

Snake Creek Marsh is located approximately two and one-half miles southwest of the City of Oswego, on the shoreline of Lake Ontario, in the Town of Oswego, Oswego County (7.5' Quadrangle: Oswego West, N.Y.). The fish and wildlife habitat is an approximate 120 acre wetland, separated from Lake Ontario by a narrow barrier beach, and bisected by Lake Shore Road. Below Lake Shore Road, the area is predominantly scrub-shrub and emergent wetland; above the road, it is predominantly scrub-shrub and forested wetland. Snake Creek is a small, slow-moving, intermittent stream which flows through the marsh and drains into Lake Ontario via underground seepage through the barrier beach. Snake Creek Marsh is densely vegetated, with scattered shallow, open water areas. Most of the surrounding land area is deciduous forest, on gently rolling hills. Snake Creek Marsh is privately owned, and human disturbance of the area is minimal. Some encroachment via filling has occurred at the western end of the wetland.

FISH AND WILDLIFE VALUES:

Snake Creek Marsh is one of the few relatively large and undisturbed areas of scrub-shrub and emergent wetland in Oswego County's coastal area. This diverse wetland is a productive fish and wildlife habitat, and is especially important for certain species that are less common in pure stands of emergent marsh. Studies of Snake Creek Marsh have documented the presence of at least 50 species of breeding birds, 8 species of mammals, 6 species of reptiles, 6 species of amphibians, and 12 species of fishes in the marsh and fringe areas. Confirmed nesting bird species in the marsh include green-backed heron, least bittern (SC), American bittern, wood duck, black duck, mallard, blue-winged teal, Virginia rail, sora, common moorhen, belted kingfisher, marsh wren, and swamp sparrow. Snake Creek Marsh also serves as a roosting site for black-crowned night herons, which nest on islands in eastern Lake Ontario and feed in shoreline areas. This is the only known concentration area for this species on the mainland of Oswego County. Northern pike, redbfin pickerel, and largemouth bass probably use the marsh as a spawning and nursery area; yearling or young-of-the-year of these species have been collected from the marsh. Other fish species which have been reported found in Snake Creek Marsh include bowfin, white sucker, fallfish, creek chub, golden shiner, brown bullhead, bluegill, rock bass, brook stickleback, and possibly lake chubsucker (T).

The diversity and abundance of fish and wildlife species found in Snake Creek Marsh are unusual in Oswego County. As a result, the area provides potential opportunities for a variety of human uses, including waterfowl hunting, birdwatching, informal nature study, and recreational fishing. These activities attract local residents to the area, but public use is limited by its inaccessibility and the availability of other areas in Oswego County.

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, or increases water level fluctuations in Snake Creek Marsh would adversely affect many 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. Such habitat disturbances would be most detrimental during wildlife breeding seasons (April - July for most species) and during fish spawning and nursery periods (March - July for most warmwater species). Elimination of wetland habitats or further human encroachment into the marsh, through dredging or filling, would result in a direct loss of valuable habitat area. However, habitat management activities, including expansion of productive littoral areas, may be designed to maintain or enhance populations of certain fish or wildlife species. Barriers to fish migration in Snake Creek, whether physical or chemical, would have a significant impact on fish populations in the creek and marsh. Existing areas of natural vegetation bordering Snake Creek Marsh should be maintained for their value as cover, perching sites, and buffer zones.