

COASTAL FISH & WILDLIFE HABITAT RATING FORM

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Name of Area: **Campbell Marsh**

Designated: **August 15, 1993**

County(ies): **Jefferson**

Town(s): **Hounsfield**

7½' Quadrangle(s): **Henderson Bay, NY; Sackett's Harbor, NY**

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**Score**      **Criterion**

- 9**      Ecosystem Rarity (ER)  
A relatively small, streamside wetland, containing a diversity of plant communities; unusual in Jefferson County.
- 0**      Species Vulnerability (SV)  
No endangered, threatened or special concern species are known to reside in the area.
- 11**      Human Use (HU)  
An important recreational fishing area for local residents and tourists, significant at the county level. Scientific research by USFWS and SUNY-CESF of regional significance. Additive division:  $9 + 4/2 = 11$ .
- 0**      Population Level (PL)  
No unusual concentrations of any fish or wildlife species are known to occur in the area.
- 1.2**      Replaceability (R)  
Irreplaceable.

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

= **24**

## DESIGNATED HABITAT: CAMPBELL MARSH

### HABITAT DESCRIPTION:

Campbell Marsh is located at the eastern end of Lake Ontario, in the Town of Hounsfield, Jefferson County (7.5' Quadrangles: Henderson Bay, NY; and Sackett's Harbor, NY). The fish and wildlife habitat is an approximate 75 acre streamside wetland that has developed where Bedford Creek empties into Henderson Bay. A diversity of plant communities occurs in this area, including emergent marsh, submergent aquatic beds, sedge meadow, scrub/shrub wetland, and flooded deciduous forest. Above the wetland area, Bedford Creek is a relatively small, medium gradient, warmwater stream. Much of the land area bordering Campbell Marsh is undeveloped forest, open field, and agricultural land. However, the area is bisected by NYS Route 3, which has facilitated development of cottages, campgrounds, permanent residences, and boating facilities in and around the lower portion of the wetland. Campbell Marsh is privately owned.

### FISH AND WILDLIFE VALUES:

Campbell Marsh is an important streamside wetland along the Jefferson County shoreline of Lake Ontario. Despite its small size relative to other wetlands around the eastern end of the lake, this area contains an unusual diversity of plant communities. Several intensive studies of wetland vegetation have been conducted in this area, with over 90 plant species identified. The area has been researched by USFWS and SUNY-CESF for waterlevel and wetland interactions, providing a unique set of baseline data. Campbell Marsh also provides valuable habitats for a variety of fish and wildlife species.

Extensive beds of submergent and emergent aquatic vegetation in Campbell Marsh serve as productive fish spawning and nursery areas. The area supports concentrations of many resident warmwater species, including brown bullhead, white sucker, yellow perch, largemouth bass, northern pike, rock bass, and pumpkinseed. In addition, Bedford Creek attracts a small run of steelhead (lake run rainbow trout) during spring and fall spawning periods, although reproduction in the area is unsuccessful in most instances. Accessibility and the fisheries resources in Campbell Marsh (especially panfish and steelhead) support significant recreational use by local residents as well as tourists.

Relatively little information on wildlife use of Campbell Marsh has been documented. The area probably supports a full complement of species characteristic of small wetlands around Lake Ontario, including muskrat, raccoon, painted turtle, and northern leopard frog. An active beaver colony is present just above Rte. 3 bridge. Probable or confirmed nesting birds include green-backed heron, mallard, wood duck, Virginia rail, marsh wren, yellow warbler, and swamp sparrow. Locally significant concentrations of waterfowl occur in Campbell Marsh during spring and fall migrations, providing limited waterfowl hunting opportunities for 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 activity that would substantially degrade water quality, increase turbidity or sedimentation, reduce flows, or further alter water level fluctuations in Campbell Marsh could adversely affect many fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) may result in adverse impacts on the fish and wildlife resources of the area. Elimination of wetland vegetation, including submergent beds, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Barriers to fish migration, whether physical or chemical, could have significant impacts on fish populations in this area. Enhancement of motorboat access to Lake Ontario from Campbell Marsh (especially above Route 3) could adversely affect fish and wildlife, through habitat alteration and increased human disturbance during fish spawning and nursery periods (late February - July for steelhead and most warmwater species), and wildlife breeding seasons (April - July for most species). Further human encroachment into adjacent areas could directly affect

fish and wildlife use of the area, and induce secondary development around the marsh. Existing areas of natural vegetation bordering Campbell Marsh should be maintained for their value as cover for wildlife, perching sites, and buffer.