

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Butterfly Creek Wetlands**

Designated: **October 15, 1987**

County: **Oswego**

Town(s): **New Haven**

7½' Quadrangle(s): **Texas, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) One of the largest, undisturbed, coastal wetland ecosystems in Oswego County.
16	Species Vulnerability (SV) Least bittern (SC) nesting; pugnose shiner reported (E), but not confirmed.
0	Human Use (HU) Used by local residents for waterfowl hunting; not significant at the county level.
6	Population Level (PL) Concentrations of many wetland wildlife species are among the largest in Oswego County, unusual on Lake Ontario. Geometric mean: $(4 \times 9)^{1/2}$
1.2	Replaceability (R) Irreplaceable

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

= 37

DESIGNATED HABITAT: BUTTERFLY CREEK WETLANDS

LOCATION AND DESCRIPTION OF HABITAT:

Butterfly Creek Wetlands is located approximately four miles northwest of the Village of Mexico, on the shoreline of Lake Ontario, in the Town of New Haven, Oswego County (7.5' Quadrangle: Texas, N.Y.). The fish and wildlife habitat encompasses an approximate 375 acre wetland, separated from Lake Ontario by a narrow barrier beach. The area contains a diversity of wetland plant communities, including emergent, scrub-shrub, and forested wetland types. Butterfly Creek flows through the area and serves as the primary hydrologic connection to the lake. Butterfly Creek Wetlands is densely vegetated, with scattered shallow water areas, and small wooded islands comprising a secondary dune system. Since the 1950's, the areas has been divided by two unpaved roads leading to shoreline summer camps and residences. These developments have resulted in some encroachment into the wetland. However, interior areas remain essentially undisturbed, and are bordered by mixed deciduous and coniferous woodlands.

FISH AND WILDLIFE VALUES:

Butterfly Creek Wetlands is the second largest wetland area within Oswego County's coastal zone. This area has high structural and vegetative diversity, providing valuable habitats for many fish and wildlife species. Studies of Butterfly Creek Wetlands have documented the presence of at least 80 species of breeding birds, 13 species of mammals, 5 species of reptiles, 3 species of amphibians, and 15 species of fishes in the wetland, creek and fringe areas. This area is very important to marsh-nesting birds, including pied-billed grebe, green-backed heron, least bittern (SC), American bittern, Canada goose, mallard, black duck, blue-winged teal, wood duck, Virginia rail, sora, common moorhen, common snipe, American woodcock, marsh wren, and swamp sparrow. In the mid-1970's, one pair of Cooper's hawk (SC) nested in the area; however, this species has not been reported here since at least 1980. Northern harriers (T) and great blue herons occur regularly in Butterfly Creek Wetlands, but no evidence of nesting or other significant use of the area has been documented. Concentrations of waterfowl utilize the area for feeding and resting during spring and fall migrations. Other wildlife species occurring in the area include white-tailed deer, raccoon, muskrat, snapping turtle, ringneck snake, northern water snake, bullfrog, and green frog. Bowfin, fallfish, redbfin pickerel, brown bullhead, northern pike, Johnny darter, and possibly pugnose shiner (E) are some of the fish species that have been reported found in Butterfly Creek. The creek is an important spawning area for bullheads, and may also serve as a spawning and nursery area for pickerel and pike; young-of-the-year of the latter species have been found in this wetland.

The abundance and diversity of fish and wildlife species in Butterfly Creek Wetlands are unusual in Oswego County. Relatively few comparable areas can be found in the Great Lakes coastal region, except at the eastern end of Lake Ontario. Opportunities for hunting, fishing, trapping, and informal nature study probably attract a number of local residents to this productive area. However, Butterfly Creek Wetlands is relatively inaccessible and privately owned, resulting in limited human use of these resources.

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 Butterfly Creek Wetlands, 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 adversely impact on fish and wildlife resources of the area. Elimination of wetland habitats, or further human encroachment into the area, through 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 productive littoral areas, may be designed to maintain or enhance populations of certain fish or wildlife species. Activities that would further subdivide large, undisturbed areas into smaller fragments should be restricted. Adequate drainage of the eastern portion of the wetland should be provided through

the installation and maintenance of culverts through existing road fills. Barriers to fish migration, whether physical or chemical, would have a significant effect on fish populations within the marsh, and in connected waters. Any significant disturbance of Butterfly Creek between March and July, when most warmwater fish are spawning and incubating, would be especially detrimental. Existing woodlands within and bordering Butterfly Creek Wetlands, especially on the secondary dune system, should be maintained for their value as cover, perch sites, and buffer zones.