COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Chippewa Creek Marsh**

Designated: **May 15, 1994**

County(ies): **St. Lawrence**

Town(s): **Hammond, Morristown**

7½' Quadrangle(s): **Chippewa Bay, NY; Hammond, NY**

Score	**Criterion**
25	Ecosystem Rarity (ER) One of the four largest, undeveloped, coastal streamside wetlands on the St. Lawrence River; rare in St. Lawrence Plains ecological region.
25	Species Vulnerability (SV) Northern harrier (T) nesting.
6	Human Use (HU) Waterfowl hunting and recreational sportfishing significant at the County level. Additive division: 4 + 4/2 = 6.
4	Population Level (PL) This is a productive habitat for northern pike and panfish in St. Lawrence County.
1.2	Replaceability (R) Irreplaceable

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

= **72**

DESIGNATED HABITAT: CHIPPEWA CREEK MARSH

HABITAT DESCRIPTION:

Chippewa Creek is a tributary of the mid St. Lawrence River, located in the Towns of Hammond and Morristown, St. Lawrence County (7.5' Quadrangles: Chippewa Bay, NY; and Hammond, NY). The fish and wildlife habitat extends inland approximately five miles from the north end of Chippewa Bay, encompassing an approximate 650 acre streamside wetland and some adjacent uplands. The habitat is divided into two relatively discrete areas at Oak Point Road, where the marsh is relatively narrow; above and below Oak Point Road, the marsh is significantly wider. Chippewa Creek is a sizeable warmwater stream, with a broad floodplain occupied by extensive emergent marsh communities (predominantly cattail).

The drainage area of Chippewa Creek is small, and little flow is discernible during the summer. Maximum water depths of approximately 10 feet occur in the lower creek channel. Water levels throughout the area are generally continuous with those of the St. Lawrence River. Flushing action in Chippewa Creek may be affected by the narrow channel opening under N.Y.S. Route 12. Upland areas bordering Chippewa Creek Marsh are rural in nature, including forestland, abandoned fields, active agricultural lands, and low density residential development. Most of Chippewa Creek Marsh is essentially undisturbed, with the exception of some habitat disturbance resulting from light residential development near the Oak Point Road bridge, use of motorboats on the creek, and livestock grazing. All of Chippewa Creek Marsh, including the mouth area at Chippewa Bay, is privately owned.

FISH AND WILDLIFE VALUES:

Chippewa Creek Marsh is one of four very large, undeveloped, streamside wetland ecosystems along the St. Lawrence River. This extensive marsh habitat has a high degree of interspersion of wetland vegetation, open water, and uplands, creating favorable conditions for many fish and wildlife species. Chippewa Creek Marsh is a productive nesting area for a variety of waterfowl and other marsh birds, including pied-billed grebe, American bittern, mallard, American black duck, blue-winged teal, wood duck, gadwall, northern harrier (T), Virginia rail, sora, common moorhen, belted kingfisher, marsh wren, red-winged blackbird, and swamp sparrow. Common terns (T) nesting on nearby islands and navigation cells use Chippewa Creek as a feeding area during the breeding season. Least bittern (SC) and black tern (SC) have been observed in the area, but breeding has not been confirmed. Great blue heron, green-backed heron, and osprey (T), often feed in the area during the breeding season, but the extent of use by these birds is not well documented. Chippewa Creek Marsh is considered one of about ten principal areas on the St. Lawrence River that are used by concentrations of waterfowl (dabbling ducks, primarily) for feeding and resting during spring and fall migrations. Other wildlife species inhabiting the area include white-tailed deer, mink, raccoon, beaver, muskrat, various frogs, northern water snake, snapping turtle, and painted turtle. Chippewa Creek Marsh is a probable site for Blandings turtle (T), with records at nearby sites such as Goose Bay and Crooked Creek Marsh.

Extensive beds of submergent and emergent aquatic vegetation in Chippewa Creek Marsh serve as valuable fish spawning and nursery habitats. The area is used for spawning by a wide variety of warmwater fish species. Chippewa Creek is one of the most productive fisheries habitats in St. Lawrence County, especially for northern pike, brown bullhead, largemouth bass, white sucker, and a variety of panfish, such as pumpkinseed, rock bass, and black crappie.

The abundance and diversity of fish and wildlife species in Chippewa Creek Marsh provide potential opportunities for various human uses of the area. Although the marsh and surrounding uplands are privately owned, the creek is accessible to the public from the boat launch in Chippewa Bay. There is also a private boat launch at the Oak Point Road crossing. Waterfowl hunting, fishing, and trapping attract local residents

to the area. In addition, fisheries production in Chippewa Creek Marsh contributes significantly to the year-round recreational fishing activity in Chippewa Bay, of regional significance.

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:
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> - destroy the habitat; or,
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> - 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 or increase water levels, alter flows, or increase water level fluctuations in Chippewa Creek Marsh could 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) may result in adverse impacts on fish and wildlife resources in the area. Spills of oil or other hazardous substances are a potentially serious threat to fish and wildlife in Chippewa Creek Marsh, and every effort should be made to prevent such contamination. Elimination of wetland habitats, or significant human encroachment into the area, through dredging, filling, construction of roads, waste disposal, or motorboat access development, could severely reduce its value to fish and wildlife. Channelization would reduce stream channel diversity, and result in a direct loss of valuable habitat area. However, habitat management activities may be designed to maintain or enhance populations of certain fish or wildlife species.

Any significant disturbance of Chippewa Creek Marsh would be especially detrimental during fish spawning and nursery periods (March - July for most warmwater species) and wildlife breeding seasons (April - July for most species). Barriers to fish migration in the creek, whether physical or chemical, could have significant impacts on fish populations within the marsh, and in Chippewa Bay. Existing areas of natural vegetation bordering Chippewa Creek Marsh should be maintained for their value as cover for wildlife, perching sites, and buffer zones. Efforts should be made to reduce stream disturbance by agricultural activities, especially grazing, through fencing and restoration of riparian vegetation. Development of additional public access, including motorboat access, should be confined to existing sites to minimize disturbance to sensitive fish and wildlife species that occur in the area.