

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **French Creek Marsh**

Designated: **August 15, 1993**

County(ies): **Jefferson**

Town(s): **Clayton**

7½' Quadrangle(s): **Clayton, NY; St. Lawrence, NY**

Score **Criterion**

- 16** Ecosystem Rarity (ER)
One of the four largest, undeveloped, coastal streamside wetlands on the St. Lawrence River; rare in ecological subzone.
- 46** Species Vulnerability (SV)
Northern harrier (T) and least bittern (SC) nesting. Blanding's turtles (T) reside in the area. Documented common tern (T) feeding area. Additive division: $25 + 25/2 + 25/4 + 16/8 = 46$.
- 0** Human Use (HU)
Primarily of local importance for a variety of recreational uses, including warmwater fishing, waterfowl hunting and birdwatching.
- 6** Population Level (PL)
This area is a major producer of northern pike and panfish in the St. Lawrence River ecological subzone.
Geometric mean: $(4 \times 9)^{1/2} = 6$.
- 1.2** Replaceability (R)
Irreplaceable
-

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

= **82**

DESIGNATED HABITAT: FRENCH CREEK MARSH

HABITAT DESCRIPTION:

French Creek is a tributary of the upper St. Lawrence River, located in the Town of Clayton, Jefferson County (7.5' Quadrangles: Clayton, NY; and St. Lawrence, NY). The fish and wildlife habitat extends inland approximately five miles from the Village of Clayton, encompassing an approximate 700 acre streamside wetland and adjacent uplands in the NYSDEC's French Creek Wildlife Management Area. French Creek is a sizeable warmwater stream, with a broad floodplain occupied by extensive emergent marsh communities. The drainage area of French Creek is small, and little flow is discernible during the summer. Maximum channel depths of about 10 feet occur downstream of French Creek Road and Bevins Road, but are less than 5 feet in the two major branches of the creek. Water levels throughout the area are generally continuous with those of the St. Lawrence River, but fluctuations may be affected by the narrow channel opening under N.Y.S. Route 12E. The mouth of French Creek, at French Creek Bay, is outside of the Wildlife Management Area, and has been subject to considerable residential and commercial waterfront development, including diking and dredging of wetlands. Upland areas bordering the north, west, and south sides of French Creek Marsh are largely rural in nature, including woodlots, abandoned fields, active agricultural lands, and low density residential development. Agricultural activities, including livestock grazing, extend up to the wetland at some locations, but other habitat disturbances are minimal.

FISH AND WILDLIFE VALUES:

French Creek Marsh is one of about four very large, undeveloped, streamside wetland ecosystems along the St. Lawrence River. This extensive area of undisturbed habitat has a high degree of interspersion of wetland vegetation, open water, and uplands, creating favorable conditions for many fish and wildlife species. French Creek Marsh is a very productive nesting area for waterfowl and other marsh birds, including pied-billed grebe, green heron, American bittern, least bittern (SC), Canada goose, mallard, American black duck, blue-winged teal, wood duck, northern harrier (T), Virginia rail, sora, common snipe, belted kingfisher, eastern kingbird, red-winged blackbird, yellow warbler, and swamp sparrow. French Creek Marsh has also been documented as an important feeding area for common terns (T) nesting at nearby islands and navigation cells in the River. Locally significant concentrations of waterfowl use the area for feeding and resting during spring and fall migrations, but the extent of their use is limited by the lack of large open water areas. Other wildlife species inhabiting the area include raccoon, mink, beaver, muskrat, northern leopard frog, northern water snake, snapping turtle, painted turtle, and Blanding's turtle (T). Blanding's turtles were first documented at French Creek Marsh in 1977, with later observations including a gravid female near French Creek Bay.

Extensive beds of submergent and emergent aquatic vegetation in French Creek Marsh serve as valuable fish spawning and nursery habitats. The area is used extensively for spawning by a variety of warmwater fish species. French Creek is considered one of the most productive fisheries habitats along the St. Lawrence River, especially for northern pike, brown bullhead, largemouth bass, white sucker, and a variety of panfish, such as pumpkinseed, rock bass, and black crappie. French Creek Marsh has all the characteristics of a good production area for northern pike, including flooded shallow areas, a population of fathead minnows (an important prey species), and dead and decaying plant material on the stream bottom.

The abundance and diversity of fish and wildlife species in French Creek Marsh provide opportunities for various human uses of the area. Access to the marsh for passive recreational uses is available from several points in the Wildlife Management Area, and from commercial access sites in the Village of Clayton. Hunting, fishing, trapping, and informal nature study attract a significant number of local residents to the area. Fisheries production in French Creek Marsh also supports much of the year-round recreational fishing activity in French Creek Bay.

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 water levels, alter flows, or alter water level fluctuations in French 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 of the area. Spills of oil or other hazardous substances are a potentially serious threat to fish and wildlife in French Creek Marsh, and every effort should be made to prevent such contamination. Elimination of wetland habitats, or significant human disturbance of the area, through dredging, filling, construction of roads, 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, including flood-plain spawning areas. However, habitat management activities may be designed to maintain or enhance populations of certain fish and wildlife species. Any significant disturbance of French Creek 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 French Creek Bay. Existing areas of natural vegetation bordering French Creek Marsh should be maintained for their value as cover for wildlife, perching sites, and buffer zones. Efforts should be made to reduce habitat disturbance by agricultural activities, especially grazing, through fencing and restoration of riparian vegetation. Potentially incompatible human use of the area, such as use of motorboats, waste disposal, or camping, should be restricted through enforcement of existing Wildlife Management Area regulations.