

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Coles Creek**

Designated: **May 15, 1994**

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

Town(s): **Louisville; Waddington**

7½' Quadrangle(s): **Louisville, NY-ONT; Chase Mills, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) A flooded tributary stream mouth, with a large area of productive littoral zone: uncommon in St. Lawrence County.
33	Species Vulnerability (SV) Common tern (T) feeding area; eastern bluebirds (SC) nest in the area. Additive division: $25 + 16/2 = 33$.
9	Human Use (HU) Popular recreational fishing area for a variety of warmwater species, important to residents of the Thousand Island region.
9	Population Level (PL) This area is a major producer of panfish in the St. Lawrence Plains ecological region.
1.0	Replaceability (R) Uncertain of ability to replace.

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

= **60**

DESIGNATED HABITAT: COLES CREEK

HABITAT DESCRIPTION:

Coles Creek is a tributary of the lower St. Lawrence River (Lake St. Lawrence), located in the Towns of Waddington and Louisville, St. Lawrence County (7.5' Quadrangles: Louisville, NY-ONT; and Chase Mills, NY). The fish and wildlife habitat extends inland approximately four and one-half miles, from the creek mouth to its headwaters just north of David Street in the town of Waddington. Most of the habitat area consists of the segment of stream that has been impounded by a low dam located just above N.Y.S. Route 37, forming a large shallow freshwater lake. Coles Creek contains extensive beds of submergent aquatic vegetation and a fringe of emergent marsh vegetation. Upland areas bordering Coles Creek are almost entirely undeveloped. Habitat disturbances are generally limited to the presence of road crossings, discharges of stormwater runoff, use of motorboats, and littering.

FISH AND WILDLIFE VALUES:

Coles Creek comprises one of the largest areas of sheltered shallow water habitat along the St. Lawrence County shoreline. The presence of productive littoral zones, freshwater inflows, and undeveloped adjacent lands provide favorable habitat conditions for many fish and wildlife species. The presence of a low dam on the creek may actually enhance the value of this area, by stabilizing water levels without acting as a significant barrier to fish passage.

Shoreline wetland areas around Coles Creek provide habitat for a variety of wildlife species; probable or confirmed breeding birds include pied-billed grebe, American bittern, mallard, American black duck, Canada goose, belted kingfisher, eastern bluebird (SC), red-winged blackbird, and swamp sparrow. Coles Creek also serves as a feeding and resting area for substantial numbers of waterfowl and shorebirds during migration. Common terns (T) also feed in the productive littoral zones during the breeding season. Osprey (T) are often seen in the area during the breeding season as well as during migration, but the extent of use by this species has not been documented. Other wildlife inhabiting the area include raccoon, muskrat, various frogs, northern water snake, snapping turtle, painted turtle, and possibly Blanding's turtle (T). One Blanding's turtle was found dead on Route 37 near Coles Creek in 1979, but no other observations in the area have been reported.

Extensive beds of submergent and emergent aquatic vegetation in Coles Creek serve as valuable fish spawning and nursery habitats, used by a wide variety of warmwater species. Coles Creek is one of the most productive fisheries habitats on the St. Lawrence River. The area supports significant spawning by brown bullhead, northern pike, white sucker, white perch, yellow perch, and black crappie. Spawning of many species may extend upstream beyond Townline Road. The area also has been documented as a muskellunge nursery habitat. Other fish species found in Coles Creek include muskellunge, largemouth bass, pumpkinseed, johnny darter, banded killifish, spottail shiner, and blacknose shiner. Many fish move into the area during periods of high water in spring, when the low dam is inundated by the St. Lawrence River. As a result of the abundant fisheries resources in Coles Creek, the area attracts substantial recreational fishing use. Among the most popular uses are the spring fisheries for brown bullhead and black crappie, and ice fishing for northern pike. Anglers from throughout the Thousand Islands region utilize this area year-round.

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 increase water level fluctuations in Coles Creek 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 Coles Creek, 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, waste disposal, or motorboat access development, could reduce its value to fish and wildlife. However, habitat management activities, including water level management, may be designed to maintain or enhance populations of certain fish and wildlife species. Any significant disturbances of Coles Creek would be especially detrimental during fish spawning and nursery periods (March - July for most species) and wildlife breeding seasons (April - July for most species).

Barriers to fish migration between the St. Lawrence River and Coles Creek, whether physical or chemical, could have significant effects on fish populations within the area as well as in Lake St. Lawrence. Existing areas of natural vegetation bordering Coles Creek should be maintained for their value as cover for wildlife, perching sites, and buffer zones. Efforts should be made to minimize potential upstream habitat disturbances, including agricultural activities and residential development. Development of additional public access may be desirable to increase compatible human uses of Coles Creek, but must be designed to minimize disturbance of sensitive fish and wildlife species that occur in the area.