COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Galop Island Bays**

Designated: **May 15, 1994**

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

Town(s): **Lisbon**

7½' Quadrangle(s): **Sparrowhawk Point, NY; Red Mills, NY**

Score	Criterion
16	Ecosystem Rarity (ER) A series of shallow littoral embayments with moderate amounts of submerged vegetation and substrates composed of sand, gravel, and rocks; a rare embayment complex type in the St. Lawrence Plains ecological region.
0	Species Vulnerability (SV) No endangered, threatened, or special concern species are known to reside in the area.
4	Human Use (HU) Contributes to a sport fishery of county level importance.
4	Population Level (PL) Muskellunge nursery habitat has been documented, unusual at the county level.
1.2	Replaceability (R) Irreplaceable.

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

= **29**

DESIGNATED HABITAT: GALOP ISLAND BAYS

HABITAT DESCRIPTION:

Galop Island Bays is located in the mid-St. Lawrence River, approximately three and one-half miles northeast of the City of Ogdensburg, in the Town of Lisbon, St. Lawrence County (7.5' Quadrangles: Sparrowhawk Point, NY; Red Mills, NY). The fish and wildlife habitat is an approximate 1000 acre area of shallow bay areas flanking either side of the river channel running on the south side of Galop Island. The fish and wildlife habitat encompasses the bays along the southeast shores of Galop Island; and the bays associated with the mainland shore adjacent to Galop Island. Water depths in this area range from 3 to 13 feet deep. Bottom substrates consist of rocks, sand, and silt with some submerged vegetation. Galop Island is a large, undeveloped island, with mostly open and shrubby vegetation as well as limited mature woody vegetation. The island is public land held by the New York Power Authority and is managed as an undeveloped State Park.

FISH AND WILDLIFE VALUES:

Galop Island Bays is an area containing relatively large, shallow, open water bays with substantial littoral zone. These relatively protected bays are uncommon in the mid-river reaches of the St. Lawrence River, with only four other similar areas in the county. The Galop Island Bays differ from the other bay areas in Lake St. Lawrence since they retain higher and more variable current velocities.

These bays provide important fish spawning and nursery habitat for warmwater fish. Representative species include brown bullhead, smallmouth bass, yellow perch, and a variety of forage fish species. Of special significance, however, is the use of these bays by muskellunge. Repeated sampling from 1976 through 1991 has documented either adult muskellunge in spawning condition or young-of-year muskellunge in the small bays along either shore of the southern River channel. The most recent studies by NYS DEC confirm significant nursery use of these bays with relatively high catch per unit effort values (approximately 0.45 young-of-year per seine haul). The consistent evidence of annual muskellunge use of these bays along with the number of young indicate that this nursery area supports and contributes to the area's adult muskellunge population. The adult muskellunge population is the basis of a sports fishery which attracts anglers from throughout the Thousand Islands major recreational region of New York State.
Galop Island Bays are used during each spring and fall by migrating waterfowl populations. In particular, dabbling ducks such as mallard, American black duck, and blue-winged teal feed in these productive shallows.

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, further alter river flows, increase turbidity or sedimentation, significantly reduce water levels during spawning season, or increase short term water level fluctuations at Galop Island Bays could adversely affect fish and wildlife use of this area. 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 Galop Island Bays, and every effort should be made to prevent such contamination. Significant human encroachment into the area, through dredging, filling, construction of roads, waste disposal, marina construction or expansion, or extensive shoreline development could severely reduce the area's value to fish and wildlife. Development of motorboat access to the area should be confined to existing sites to minimize potential disturbance of fish and wildlife species. Habitat disturbances would be especially detrimental during fish spawning and nursery periods (March - July for most warmwater species). Existing areas of natural vegetation bordering Galop Island Bays including mature tree stands, should be maintained for their values as cover for wildlife, bald eagle roosting and perching sites, and buffer zones.