COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Galop Island Pools**

Designated: **May 15, 1994**

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

Town(s): **Lisbon**

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

Score	Criterion
25	Ecosystem Rarity (ER) Relatively large, upwelling, open water pools present year-round; one of four similar open water areas on the St. Lawrence River; rare in ecological region.
36	Species Vulnerability (SV) Bald eagle (E) wintering area.
0	Human Use (HU) No significant fish or wildlife related human uses of the area during winter months.
9	Population Level (PL) One of four major bald eagle wintering areas in the St. Lawrence Plains ecological region. A major winter waterfowl and gull concentration area in the St. Lawrence Plains ecological region.
1.2	Replaceability (R) Irreplaceable.

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

= **84**

DESIGNATED HABITAT: GALOP ISLAND POOLS

HABITAT DESCRIPTION:

Galop Island Pools 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; Ogdensburg East,NY). The fish and wildlife habitat is an approximate 1800 acre area of river channel on both sides of Galop Island that remains partially open (i.e., ice-free) throughout the winter. The pools are quite consistent in presence and extent during most winters. The St. Lawrence River is generally around 20 to 50 feet deep and split by Galop Island at this location, resulting in strong currents and considerable turbulence. The St. Lawrence Seaway channel runs through the western portion of the habitat. Bottom substrates vary from rocky to silty, and have minimal vegetative cover. Galop Island is a large, undeveloped island, with some 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 Pools is an area containing relatively large, open water pools during the winter ice-in season. The presence of such open water areas is uncommon on the St. Lawrence, providing an unusual ecosystem type. During much of the year, fish and wildlife use of the area is not significantly different than elsewhere in the river. However, during the winter months (December - March), the pools attract major concentrations of migratory birds. Of particular significance is the presence of wintering bald eagles (E) in the area. This is one of the principal areas on the St. Lawrence River (in New York) where eagles are frequently noted in winter. Apparently, fish concentrations are available near the river surface, and because this area rarely freezes, it provides a dependable prey base for these birds. Bald eagles (E) have been reported to use the area for several years.

Galop Island has been documented as a roosting site for the eagles, although not to the extent that American Island to the southwest has been documented. Other roosting sites may be located in Canadian waters, but the extent of this use is unknown. Roosting habitat typically includes large mature trees which are not particularly abundant in the area. Although roosting occurs over a broad area, mature trees should be protected for roosting values and woodland management policies which promote growth of mature tree stands should be encouraged.

Galop Island Pools also harbors substantial concentrations of waterbirds, waterfowl, and gulls during most winters. Mid-winter aerial surveys of waterfowl abundance for the period 1986-1991 indicate average concentrations of approximately 1290 birds in the area between Ogdensburg and Wilson Hill each year (2,013 in peak year), dominated by mergansers, common goldeneye, and Canada geese, with lesser numbers of mallard and American black duck. Galop Island Pools is a primary concentration area for these wintering waterfowl populations, which are among the largest on the St. Lawrence River. There are no significant human uses associated with the wildlife resources of this area.

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, alter river flows or ice formation, or increase human disturbance during winter months at Galop Island Pools could adversely affect fish and wildlife use of this area. Winter navigation use of the St. Lawrence Seaway could be an especially serious threat to the area, as a result of flow diversion, shipping traffic in the vicinity, and increased risk of oil spills or other hazardous substances. Major physical alteration to the river channel, through dredging (excluding the Seaway channel) or installation of diversion structures (including water supply intakes), could enhance ice formation around Galop Island and impact critical wildlife feeding areas. Removal of large mature trees would further reduce available roosting habitat which is already limited near the river. Introduction of toxic chemicals from upstream sources may also affect bird populations using these pools. Thermal discharges,

depending on time of year, may have variable effects on use of the area by aquatic species and migratory birds. Human disturbances around Galop Island Pools should be minimized from December through March.