

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Wellesley Island Pools**

Designated: **Draft Only 1993**

County(ies): **Jefferson**

Town(s): **Orleans; Alexandria**

7½' Quadrangle(s): **Thousand Island Park, NY; Alexanrdia Bay, NY**

<u>Score</u>	<u>Criterion</u>
25	Ecosystem Rarity (ER) Relatively large, 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.
9	Population Level (PL) The only major bald eagle wintering area in the Great Lake Plains ecological region.
1.2	Replaceability (R) Irreplaceable.

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

= **84**

DESIGNATED HABITAT: WELLESLEY ISLAND POOLS

HABITAT DESCRIPTION:

Wellesley Island Pools is located in the upper-St. Lawrence River narrows between the mainland and Wellesley Island, approximately two and one-half miles southwest of the Village of Alexandria Bay, in the Towns of Orleans and Alexandria, Jefferson County (7.5' Quadrangles: Thousand Island Park, NY; Alexandria Bay, NY). The fish and wildlife habitat is an approximate 1000 acre area of the main river channel 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 more than 20 feet deep and narrow at this location, resulting in strong currents and considerable turbulence. Bottom substrates are rocky, and have minimal vegetative cover. Wellesley Island, located just north of the habitat and situated in the center of the Thousand Islands region, is a large island, with some mature woody vegetation.

FISH AND WILDLIFE VALUES:

Wellesley 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. 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 have been reported in the area for several years.

Wellesley Island provides some roosting sites for the eagles, however, specific roosting locations or trees are not well documented. 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.

Wellesley Island Pools also harbors substantial concentrations of waterbirds, waterfowl, and gulls during most winters. Waterfowl species include mergansers and common goldeneye with lesser numbers of mallard and American black duck. There are no known 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 Wellesley 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. Hydroelectric water level management for formation of stable pack ice may benefit this area by enhancing open water. Alteration of water level management should consider impacts on open water formation. Major physical alteration to the river channel could enhance ice formation 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 Wellesley Island Pools should be minimized from December through March.