

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Irondequoit Bay and Creek**

Designated: **October 15, 1987**

County: **Monroe**

Town(s): **Irondequoit, Webster, Penfield, Perinton, Rochester**

7½' Quadrangle(s): **Rochester East, NY; Webster, NY; Fairport, NY**

<u>Score</u>	<u>Criterion</u>
25	Ecosystem Rarity (ER) One of the major coastal bay and tributary systems on the Great Lakes coastal region.
24	Species Vulnerability (SV) Least bittern (SC) and sedge wren (SC) nesting. Additive division: 16 + 16/2
9	Human Use (HU) A major recreational fishing area on Lake Ontario, attracting anglers from throughout western and central New York.
9	Population Level (PL) Concentrations of many warmwater fish species and salmonids are unusual in the Great Lakes Plain ecological region.
1.2	Replaceability (R) Irreplaceable

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

= **80**

DESIGNATED HABITAT: IRONDEQUOIT BAY AND CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Irondequoit Bay and Creek are located approximately four miles east of downtown Rochester, N.Y. The bay and creek encompass approximately 2,000 acres located in the City of Rochester and the Towns of Irondequoit, Webster, Perinton, and Penfield, Monroe County (7.5' Quadrangles: Rochester East, N.Y.; Webster, N.Y.; and Fairport, N.Y.). The fish and wildlife habitat includes the entire bay area, a large emergent wetland area at the south end of the bay, and Irondequoit Creek, upstream approximately seven miles from the bay to the confluence with Thomas Creek, just south of the Penn Central Railroad tracks. Irondequoit Bay is separated from Lake Ontario by a sandy barrier beach formation, and is bordered by relatively steep wooded slopes and bluffs. However, much of the western shoreline has been developed for residential and commercial uses. Irondequoit Creek is a very large, medium gradient, coolwater stream, which drains approximately 170 square miles of predominantly suburban and rural residential lands.

FISH AND WILDLIFE VALUES:

Irondequoit Bay and Creek comprise one of the few major coastal bay and tributary systems in the Great Lakes Plain ecological region of New York. The wetland area at the south end of the bay is one of the largest coastal marshes on western Lake Ontario. Irondequoit Bay supports a diverse and productive warmwater fishery, including such species as smallmouth bass, largemouth bass, northern pike, brown bullhead, white perch, white bass, longnose gar, and lake herring. Extensive beds of submergent and emergent wetland vegetation, found in most coves and tributary mouths, are important spawning and nursery areas for many of these species. Irondequoit Bay and Creek also have significant concentrations of steelhead (lake-run rainbow trout), coho salmon, and brown trout. These salmonids migrate through the bay and enter the creek to spawn (unsuccessfully in most instances) between late August and December. Steelhead also migrate into Irondequoit Creek between late February and April. Seasonal runs of salmonids occur as far inland as the confluence with Trout Creek, near the hamlet of Mendon, but actual population levels in the upper reaches (i.e., above Thomas Creek) are not well documented. Salmonid concentrations in Irondequoit Bay and Creek are the result of an ongoing effort by the NYSDEC to restore the Great Lakes salmonid fishery through stocking. In 1984, approximately 24,000 steelhead were released in Irondequoit Creek (as far inland as Trout Creek), and approximately 25,000 brown trout were released in the bay. Irondequoit Creek is also one of only three Lake Ontario tributaries where the NYSDEC is conducting an experimental landlocked (Atlantic) salmon stocking program to restore this fishery in the Great Lakes. Approximately 18,000 yearling Atlantic salmon were released in the creek in 1984. In the spring, salmonids are generally found out along the Lake Ontario shoreline and provide troll fishing opportunities for many anglers. During the winter months, Irondequoit Bay is a popular ice fishing area. As a result of the abundant fisheries resources in the area, anglers from throughout western and central New York are attracted to Irondequoit Bay.

The entire Irondequoit Bay complex is used as a resting and feeding area by waterfowl during spring and fall migrations. Species that regularly occur here during these periods include common goldeneye, mergansers, mallard, blue-winged teal, wood duck, canvasback, redhead, scaup, black duck, and Canada goose. This resource provides waterfowl hunting opportunities in the fall to sportsmen in the local area. Most of this hunting activity occurs along the eastern shore of the bay, in the Town of Webster. Depending on the extent of ice cover each year, some waterfowl may remain in the bay in winter; mid-winter aerial surveys of waterfowl abundance for the ten year period 1976-1985 indicate average concentrations of over 100 birds in the area each year (370 in peak year), dominated by mergansers, scaup, common goldeneye, and mallard. Wetland areas located around the shoreline, and especially at the south end of the Irondequoit Bay, are also productive habitats for a variety of marsh nesting birds. Probable or confirmed breeding bird species in these areas include green-backed heron, least bittern (SC), mallard, blue-winged teal, wood duck, Virginia rail, sora, common moorhen, belted kingfisher, marsh wren, sedge wren (SC), red-winged blackbird, and swamp sparrow.

IMPACT ASSESSMENT:

A **habitat impairment test** must be met for 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** that must be met 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 degrades water quality, increases temperature or turbidity, alters water depths, or reduces flows in Irondequoit Bay or Creek would adversely affect the fish and wildlife resources of this area. Discharges of sewage or stormwater runoff containing sediments, nutrients, or chemical pollutants could adversely impact on fish and wildlife resources. Warmwater species would be most sensitive during March through July, when spawning and incubation take place. Salmonids would be most sensitive during their respective spawning periods, and in the spring after hatchery-raised fish are released in the creek. Barriers to fish migration, whether physical or chemical, would have a significant effect on salmonid populations in Irondequoit Bay and Creek. Activities affecting Irondequoit Creek as far inland as Trout Creek should be evaluated for potential impacts. The fisheries resources in Irondequoit Bay could support increased recreational fishing pressure, resulting in a fishery of statewide or greater significance. Expansion of the channel connecting Irondequoit Bay with Lake Ontario may significantly increase access for human uses of fish and wildlife in this area. However, improved motorboat access may also stimulate further development of marinas and housing around the bay. Such development could have significant impacts on fish and wildlife, through disturbance or elimination of productive wetland areas and littoral zones, and through pollution of the bay from upland activities. Existing areas of natural vegetation bordering Irondequoit Bay and Creek should be maintained to provide bank cover, perching sites, soil stabilization, and buffer zones.