COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Fourmile Creek Bay**

Designated: **October 15, 1987**

County: **Niagara**

Town(s): **Porter**

7½' Quadrangle(s): **Sixmile Creek, NY; Fort Niagara, NY-ONT**

Score	**Criterion**
9	Ecosystem Rarity (ER)
	Relatively small, undisturbed, emergent marsh and deep aquatic beds, unusual in Niagara County. Tributary stream is typical of the local area.
0	Species Vulnerability (SV)
	No endangered, threatened or special concern species reside in the area.
4	Human Use (HU)
	Recreational fishing use by local residents and State Park visitors, significant at the county level.
4	Population Level (PL)
	One of about 4 Niagara County tributaries having significant concentrations of salmonids; also an important spawning and nursery area for resident and lake-based warmwater fish populations.
1.2	Replaceability (R)
	Irreplaceable

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

$= $ **20**

DESIGNATED HABITAT: FOURMILE CREEK BAY

LOCATION AND DESCRIPTION OF HABITAT:

Fourmile Creek Bay is located four miles east of the mouth of the Niagara River, on the Lake Ontario shoreline, in the Town of Porter, Niagara County (7.5' Quadrangles: Fort Niagara, Ont.-N.Y.; and Sixmile Creek, N.Y.). The fish and wildlife habitat is an approximate 20 acre wetland estuary located north of the Robert Moses Parkway, in Fourmile Creek State Park. The habitat encompasses all of the area below mean high water, including deep aquatic beds and emergent marsh. The mouth of Fourmile Creek is often closed off by a large sand and gravel bar in summer. Above the Parkway, the creek is a relatively small, medium gradient, warmwater stream, with a silt and gravel substrate. The land area surrounding Fourmile Creek Bay is generally undeveloped, dominated by a broad band of mature deciduous forest.

FISH AND WILDLIFE VALUES:

Fourmile Creek Bay is one of the few sizeable areas of undisturbed coastal wetland remaining in Niagara County. Despite its small size relative to wetlands around eastern Lake Ontario, this area provides valuable habitat for a variety of fish and wildlife species. Probable or confirmed breeding bird species include green-backed heron, mallard, wood duck, belted kingfisher, and a variety of passerine birds. In addition, this area serves as a feeding area for herons and waterfowl during spring and fall migrations. Other wildlife species inhabiting the bay include muskrat, raccoon, and painted turtles. Fourmile Creek Bay is a productive warmwater fisheries habitat, which is relatively uncommon in this section of Lake Ontario. The area supports sizeable resident populations of brown bullhead, rock bass, largemouth bass, northern pike, and other panfish. Fourmile Creek is also one of about 4 tributary streams in Niagara County which have significant runs of steelhead (rainbow trout) in the spring (late February-April), and runs of steelhead, brown trout, and salmon in the fall (September-November). These salmonid populations are the result of an ongoing effort by the NYSDEC to establish a major salmonid fishery in the Great Lakes through stocking. In 1982 and 1984, respectively, approximately 6,000 and 16,000 steelhead were released in Fourmile Creek Bay. The relatively small, but diverse fisheries of this area provide valuable opportunities for recreational fishing by residents of northern Niagara County and visitors to Fourmile Creek State Park. Access to the area for bankfishing is readily available from within the park.

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 substantially degrades water quality, increases turbidity or sedimentation, reduces flows, or increases water level fluctuations in Fourmile Creek Bay would adversely affect many fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides), could adversely impact on the fish and wildlife resources of the area. Elimination of wetland vegetation, including submergent beds, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Barriers to fish migration, whether physical or chemical, could have a significant impact on fish populations in this area. Development of motorboat access to Lake Ontario from the bay could adversely affect fish and wildlife in a variety of ways, including increased human disturbance of the habitat during fish spawning and nursery periods (late February-July for steelhead and most warmwater species, and September-November for most salmonids) and wildlife breeding seasons (April-July for most species). Existing woodlands bordering Fourmile Creek Bay should be maintained for their value as cover, perching sites, and buffer zones.