

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Eighteen Mile Creek - Lake Ontario**

Designated: **October 15, 1987**

County: **Niagara**

Town(s): **Newfane**

7½' Quadrangle(s): **Newfane, NY**

<u>Score</u>	<u>Criterion</u>
16	Ecosystem Rarity (ER) One of about 10 major New York tributaries to Lake Ontario, and relatively undisturbed; rare in ecological subzone.
0	Species Vulnerability (SV) No endangered, threatened or special concern species reside in the area.
9	Human Use (HU) This is one of the most popular recreational fishing sites on Lake Ontario, of regional significance.
6	Population Level (PL) One of the major salmonid spawning streams on Lake Ontario (ecological subzone). Geometric mean: $(4 \times 9)^{1/2}$
1.2	Replaceability (R) Irreplaceable

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

= **37**

DESIGNATED HABITAT: EIGHTEEN MILE CREEK - LAKE ONTARIO

LOCATION AND DESCRIPTION OF HABITAT:

Eighteen Mile Creek empties into Lake Ontario at the hamlet of Olcott, in the Town of Newfane, Niagara County (7.5' Quadrangle: Newfane, N.Y.). The fish and wildlife habitat extends approximately one and one-half miles from the N.Y.S. Route 18 bridge to the Burt Dam, and includes the entire stream channel and Associated wetlands and islands. Eighteen Mile Creek is a relatively large, meandering, warmwater stream, with predominantly silt and gravel substrates. The creek drains approximately 90 square miles of relatively flat agricultural and rural residential lands. Below the Burt Dam, Eighteen Mile Creek flows through a steep sided, undeveloped wooded gorge, where habitat disturbances are minimal. In contrast, the mouth of this Lake Ontario tributary has been extensively developed as a small boat harbor, including marinas, boat launches, and protective breakwalls extending out into the lake. Most of the land area bordering Eighteen Mile Creek is privately owned.

FISH AND WILDLIFE VALUES:

Eighteen Mile Creek is the largest stream in Niagara County (aside from the lower Niagara River), and is one of about ten major tributaries in the Great Lakes Plain ecological region. Undisturbed tributary streams that provide habitat for major spawning runs by salmonids and other lake-based fish populations are especially important in this region. The extensive beds of emergent and submergent aquatic vegetation in this area account for an estimated 65 acres, comprising one of the largest coastal wetlands in the western portion of Lake Ontario.

Eighteen Mile Creek is particularly significant because large concentrations of coho and chinook salmon and brown trout migrate from Lake Ontario into the creek each fall, from late August through December (September - November, primarily), when salmonids ascend the streams to spawn (although unsuccessfully in most instances). In addition, steelhead (lake-run rainbow trout) migrate into Eighteen Mile Creek during the fall and between late February and April. These fish populations are the result of an ongoing effort by the NYSDEC to establish a major salmonid fishery in the Great Lakes through stocking. In both 1983 and 1984, approximately 200,000 chinook salmon and over 35,000 coho salmon were released in the creek. Eighteen Mile Creek was among the top ten Lake Ontario tributaries for numbers of salmonid stocks in 1984. Eighteen Mile Creek also contains a diverse warmwater fishery. The area supports substantial natural reproduction by smallmouth bass, northern pike, rock bass, black crappie, brown bullhead, and largemouth bass.

The wetlands and undisturbed woodlands bordering Eighteen Mile Creek provide valuable habitats for wildlife that are uncommon in Niagara County's coastal area. A variety of bird species inhabit the area, including great blue heron, green-backed heron, mallard, wood duck, belted kingfisher, marsh wren, common yellowthroat, red-winged blackbird, and swamp sparrow. Other wildlife species occurring along the creek include resident furbearers, such as muskrat, mink, and raccoon.

The fish and wildlife resources associated with Eighteen Mile Creek attract a significant amount of recreational use, although access to the area is limited by the steep banks and private land ownership. This is one of the most popular recreational fishing streams on western Lake Ontario, due primarily to the large salmonid runs in the area. Fishing pressure is concentrated in the upper one-fourth miles of the area (between Fisherman's Park access sites and Burt Dam) and in the vicinity of Olcott Harbor. The intervening segment of the creek is often fished by small boat or canoe, especially for the abundant warmwater species in the area. Eighteen Mile Creek attracts many fishermen from as far away as Buffalo and Rochester. Local residents also utilize this area to a limited extent for waterfowl hunting and trapping.

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 temperature or turbidity, reduces flows, or alters water depths in Eighteen Mile Creek would adversely affect the fish and wildlife resources of this area. These impacts would be especially detrimental during fish spawning and nursery periods (late February-July for most warmwater species and steelhead, and September-November for most salmonids), and wildlife breeding seasons (April-July for most species). Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers) could adversely impact on fish or wildlife species. Of particular concern are the potential effects of upstream disturbances, including water withdrawals, stream bed disturbances, and effluent discharges. Hydroelectric facilities on the creek should only be permitted with run-of-river operations. Barriers to fish migration, whether physical or chemical, could have a significant impact on fish populations in the creek. Disturbances of wetland vegetation, including submergent beds, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Enhancement of motorboat access to the area above Route 18 would significantly increase human disturbance of the habitat, reducing its potential value to many fish and wildlife species. Existing woodlands bordering Eighteen Mile Creek should be maintained to provide bank cover, perching sites, soil stabilization, and buffer areas.