

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Keg Creek**

Designated: **October 15, 1987**

County: **Niagara**

Town(s): **Newfane**

7½' Quadrangle(s): **Newfane, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) Relatively small, undisturbed tributary stream and associated wetlands, unusual in Niagara County.
0	Species Vulnerability (SV) No endangered, threatened or special concern species reside in the area.
4	Human Use (HU) One of the 4 most popular salmonid fishing streams in Niagara County.
4	Population Level (PL) One of about 4 Niagara County tributaries having significant concentrations of salmonids (steelhead especially) during spring and fall spawning runs.
1.2	Replaceability (R) Irreplaceable

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

= **20**

DESIGNATED HABITAT: KEG CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Keg Creek is located approximately three and one-half miles east of the hamlet of Olcott, in the town of Newfane, Niagara County (7.5' Quadrangle: Newfane, N.Y.). The fish and wildlife habitat is an approximate half-mile segment of the creek (up to N.Y.S. Route 18) and associated wetlands, totaling approximately 16 acres. This segment of Keg Creek is an undisturbed, low gradient, weedy channel, 10-20 feet wide. The stream is bordered by a broad, lush, band of wetland vegetation, dominated by cattails, burreed, yellow iris, sedges, dogwoods, and grasses. The mouth of Keg Creek is occasionally closed off by a sand and gravel bar in summer. The surrounding area is rural farmland. Above Route 18, Keg Creek is a small, medium gradient, warmwater stream, with a silt and gravel substrate.

FISH AND WILDLIFE VALUES:

Keg Creek is one of the few sizeable areas of undisturbed coastal riparian wetland remaining in Niagara County. There are no human developments on this segment of the stream, and despite its small size relative to wetlands around eastern Lake Ontario, this area provides valuable habitat for a variety of fish and wildlife species. The lack of human developments, its direct connection with the lake, and the diversity of natural vegetation present, contribute to its unusual quality. Possible or confirmed breeding bird species include green-backed heron, mallard, blue-winged teal, wood duck, common moorhen, spotted sandpiper, belted kingfisher, veery, and red-winged blackbird. The area serves as a limited feeding area for herons, waterfowl, and shorebirds during spring and fall migrations. Other wildlife species inhabiting the creek probably include muskrat, raccoon, northern water snake, green frog, and northern leopard frog. Keg Creek is a productive warmwater fisheries habitat, supporting resident populations of brown bullhead, rock bass, largemouth bass, northern pike, and other panfish. However, this creek is best known for its salmonid fishery, which ranks as one of the top 4 steelhead (rainbow trout) streams on the Niagara County shoreline. Significant runs of steelhead occur 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 10,000 rainbow trout were released in Keg Creek. The salmonid fishery in this creek provides valuable opportunities for recreational fishing, attracting residents from throughout Niagara County. Fishing access to the area is readily available from Route 18, by permission of private landowners.

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 Keg Creek would adversely affect many fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers) could adversely impact the fish and wildlife resources of the area. Disturbance of wetland areas, through dredging or filling, would result in a direct loss of valuable habitat area. Development of motorboat access to Lake Ontario from Keg Creek could adversely affect fish and wildlife in a variety of ways, including increased human disturbance of the habitat during fish spawning and nursery periods (February-June for steelhead and most warmwater species, and September-November for most salmonids) and wildlife breeding seasons (April-July for most species). Barriers to fish migration, whether physical or chemical, would have a significant impact on fish populations in the area. Existing natural vegetation bordering Keg Creek should be maintained for its value as cover for wildlife and as a buffer zone.