

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Little Salmon River**

Designated: **October 15, 1987**

County: **Oswego**

Town(s): **Mexico**

7½' Quadrangle(s): **Texas, NY; Pulaski, NY; New Haven, NY; Mexico, NY**

<u>Score</u>	<u>Criterion</u>
12	Ecosystem Rarity (ER) One of about 10 major Lake Ontario tributaries and associated wetlands, but rarity reduced by human disturbance. Geometric mean: $(9 \times 16)^{1/2}$
0	Species Vulnerability (SV) No endangered, threatened or special concern species reside in the area.
4	Human Use (HU) A major access point to Lake Ontario; however, human use of the river is generally limited to recreational fishing by Oswego County residents.
6	Population Level (PL) One of the most productive warmwater fish spawning areas around Lake Ontario (ecological subzone). Geometric mean: $(4 \times 9)^{1/2}$
1.2	Replaceability (R) Irreplaceable

SIGNIFICANCE VALUE = $[(ER + SV + HU + PL) \times R]$

= **26**

DESIGNATED HABITAT: LITTLE SALMON RIVER

LOCATION AND DESCRIPTION OF HABITAT:

The Little Salmon River is located in the Town of Mexico, Oswego County, emptying into Lake Ontario at Mexico Point (7.5' Quadrangles: Texas, N.Y.; Pulaski, N.Y.; New Haven, N.Y.; and Mexico, N.Y.). The fish and wildlife habitat extends upstream approximately six miles to the first dam in the Village of Mexico. Below N.Y.S. Route 104B, The Little Salmon River has a relatively wide (50-150'), deep, meandering channel, bordered by emergent wetland vegetation and wooded banks in undisturbed areas. Beds of submergent aquatic vegetation occur throughout this area. However, since the 1970's, portions of the lower river and adjacent area have been developed for residences, camps, marinas, and motorboat access facilities, resulting in considerable habitat disturbance. Above Route 104B, The Little Salmon River is a wide, shallow, medium gradient, warmwater stream, with a gravel and rubble substrate. The river drains approximately 85 square miles of residential and agricultural areas, and is bordered by woody riparian vegetation along much of its length. Stone jetties have been constructed at the mouth of the Little Salmon River to stabilize the outlet and create a sheltered harbor of refuge.

FISH AND WILDLIFE VALUES:

The Little Salmon River is one of about 10 major tributaries of Lake Ontario. It is the second largest tributary in Oswego County, but has been disturbed to some extent by land and water developments. Despite the significant human disturbance which has occurred on the Little Salmon River in recent years, this area still provides valuable habitats for a variety of fish and wildlife species. The Little Salmon River is a very productive fish spawning and nursery area, supporting large concentrations of resident warmwater species, including brown bullhead, white sucker, rock bass, largemouth bass, and northern pike. Studies of the river in 1976 documented the presence of at least 22 fish species, and relative abundances were the highest of all streams sampled in Oswego County. Concentrations of spawning smallmouth bass and alewife occur as far upstream as the first dam in Mexico. Significant concentrations of salmonids, such as chinook and coho salmon, brown trout, and steelhead (lake-run rainbow trout), also enter the river during seasonal spawning runs (September - November, primarily), although reproduction is unsuccessful in most instances. 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. Overall, the Little Salmon River is one of the major salmonid concentration points in eastern Lake Ontario. The fisheries resources in this area support significant recreational use by residents of central New York, but also attract some anglers from throughout New York State; this use has expanded in recent years as a result of increased access to the area. However, motorboat access on the river is being developed primarily to accommodate demand for sportfishing in Lake Ontario proper.

Wildlife use of the Little Salmon River is generally limited to those species which typically occur in relatively small freshwater wetland areas and are somewhat tolerant of human activities in the area. Probable or confirmed breeding bird species include green-backed heron, mallard, wood duck, belted kingfisher, marsh wren, red-winged blackbird, and swamp sparrow. Other resident wildlife species include muskrat, raccoon, green frog, bullfrog, and painted turtle. There are no significant human uses associated with the wildlife resources of the Little Salmon River.

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 the Little Salmon River, would adversely affect a variety of fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) could adversely impact on fish and wildlife resources of the area. Elimination of wetland habitats (including submergent aquatic beds), or further human encroachment into the area, through dredging, filling, or motorboat access development, would severely reduce its value to fish and wildlife. Barriers to fish migration, whether physical or chemical, would have significant effects on fish populations within the river, and in adjacent Lake Ontario waters. Any disturbance

of the Little Salmon River between late February and July, when most warmwater fish are spawning, or between September and November, when most salmonids occur in the area, would be especially detrimental. Existing areas of natural vegetation bordering the river should be maintained for their value as cover, perching sites, and buffer zones.