

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Salmon Creek**

Designated: **October 15, 1987**

County: **Wayne**

Town(s): **Sodus**

7½' Quadrangle(s): **Salmon Creek, NY; Sodus, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) One of the largest and least disturbed tributaries of Lake Ontario in Wayne County.
0	Species Vulnerability (SV) No endangered, threatened or special concern species reside in the area.
9	Human Use (HU) One of the most popular salmonid fishing ares on Lake Ontario's south shore (Finger Lakes region).
4	Population Level (PL) Concentrations of spawning salmonids are unusual in Wayne County.
1.2	Replaceability (R) Irreplaceable.

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

= **26**

DESIGNATED HABITAT: SALMON CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Salmon Creek empties into Lake Ontario approximately one mile west of the Village of Sodus Point, in the Town of Sodus, Wayne County (7.5' Quadrangles: Salmon Creek, N.Y.; and Sodus, N.Y.). The fish and wildlife habitat is an approximate six mile segment of the stream, extending from the mouth to a dam near the hamlet of Sodus Center; the latter acts as the first impassable barrier to fish moving upstream from the lake. Salmon Creek is a shallow, medium gradient, coolwater stream, with perennial flow and a gravel and rubble substrate. Near its mouth, the creek (locally referred to as Maxwell Creek), forms an approximate 25 acre

embayment known as Maxwell Bay. The bay contains extensive beds of submergent and emergent wetland vegetation, and is separated from Lake Ontario by a wooded barrier beach that averages about 100 feet in width. The outlet of Salmon Creek is relatively small and shallow. Salmon Creek drains approximately 26 square miles of rural farmland, and is bordered by woody riparian vegetation along much of its length. Habitat disturbances in the area are generally limited to road crossings, litter, and discharges of runoff from active agricultural lands. Most of the lands bordering Salmon Creek are privately owned.

FISH AND WILDLIFE VALUES:

Salmon Creek is one of the major tributaries of Lake Ontario in Wayne County. Although stream and wetland ecosystems of comparable size occur elsewhere in the county, Salmon Creek is especially significant because it has been left in a relatively natural state. Consequently, this area provides valuable habitats for a variety of fish and wildlife species.

Salmon Creek is an important salmonid spawning stream, attracting large concentrations of lake-run fish. Significant numbers of chinook and coho salmon, steelhead (rainbow trout), and brown trout enter the creek during seasonal spawning runs (late February - April and September - November for steelhead; fall run only for other salmonids), although spawning is unsuccessful in most instances. These salmonid populations are largely the result of an ongoing effort by the NYSDEC to establish a major salmonid fishery in the Great Lakes through stocking. Sizeable resident populations of smallmouth bass and white sucker are also present in Salmon Creek. Maxwell Bay provides spawning and nursery habitats for a variety of warmwater fish species, such as largemouth bass, brown bullhead, northern pike, and rock bass. The fisheries resources in Salmon Creek support substantial recreational use; it is one of the most popular salmonid fishing streams on Lake Ontario between Rochester and Oswego. Public access to Maxwell Bay and the lower Salmon Creek area has been developed by the NYSDEC through a cooperative landowner agreement and fee title purchase of lands near the creek mouth. Wildlife use of the Salmon Creek area is concentrated around Maxwell Bay. This wetland area supports a variety of species typically associated with Great Lakes coastal marshes. Probable or confirmed breeding bird species in the area include green-backed heron, mallard, wood duck, common moorhen, belted kingfisher, marsh wren, and red-winged blackbird. Locally significant concentrations of waterfowl occur in the area during spring and fall migrations. Other wildlife species using the area include great blue heron, beaver, raccoon, and painted turtle. There are no significant human uses associated with the wildlife resources of Salmon Creek.

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 Salmon Creek, would adversely affect a variety of fish and wildlife species using the area. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) could result in adverse impacts on fish and wildlife resources. Elimination of wetland habitats (including submergent aquatic beds), through dredging, filling, or development of motorboat access to Lake Ontario, would severely reduce its value to fish and wildlife. Barriers to fish migration, whether physical or chemical, could have a significant effect on fish

populations within the creek, and in adjacent Lake Ontario waters. Any disturbance of Salmon Creek between March and July, when most warmwater fish are spawning and incubating, or during fall salmonid runs, would be especially detrimental. Removal of riparian vegetation could also adversely affect habitat quality in Salmon Creek; existing woodlands bordering the stream should be maintained to provide bank cover, perching sites, and buffer zones.