

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Cattaraugus Creek**

Designated: **October 15, 1987**

County: **Chatauqua, Erie, Cattaraugus**

Town(s): **Hanover, Perrysburg, Persia, Otto, Ashford, Collins, Concord**

7½' Quadrangle(s): **Silver Creek, NY; Farnham, NY; North Collins, NY; Gowanda, NY; Collins Center, NY; Ashford Hollow, NY**

Score Criterion

- 25** Ecosystem Rarity (ER)
This is the largest New York State tributary to Lake Erie; relatively undisturbed streams of this size that provide habitat for lake-based fisheries are rare in the Great Lakes Plain ecological region.
- 0** Species Vulnerability (SV)
Eastern sand darter (E) reported near the mouth of the creek, but not found in a 1986 survey.
- 9** Human Use (HU)
One of the most popular recreational fishing areas in western New York.
- 16** Population Level (PL)
This is the top salmonid spawning stream among Lake Erie tributaries; concentrations are unusual in New York State.
- 1.2** Replaceability (R)
Irreplaceable.
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SIGNIFICANCE VALUE = [(ER + SV + HU + PL) X R]

= **60.0**

DESIGNATED HABITAT: CATTARAUGUS CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Cattaraugus Creek empties into Lake Erie at the hamlet of Sunset Bay, on the boundary between Erie and Chautauqua Counties. The fish and wildlife habitat extends approximately forty-two miles from Lake Erie to the Springville Dam, through the Town of Hanover in Chautauqua County, the Towns of Perrysburg, Persia, Otto, East Otto, and Ashford in Cattaraugus County, the Town of Collins, Concord, and the Cattaraugus Indian Reservation in Erie County (7.5 Quadrangles: Silver Creek, NY; Farnham, NY; North Collins, NY; Gowanda, NY; Collins Center, NY; and Ashford Hollow, NY). An approximately two (2) mile segment of the creek passes partially within the Cattaraugus Indian Reservation of the Seneca Nation and a 16 mile segment passes wholly within the Reservation.

Only a portion of Cattaraugus Creek is within the federally-approved coastal area boundary: this portion extends from a point approximately 700 feet above Route 20 and downriver to Lake Erie. The remainder of the habitat (from a point approximately 700 feet above Route 20 to the Springville Dam) falls outside the coastal area boundary, but is identified here as a geographic area where federal licenses or permits are reasonably expected to have impacts on coastal resources, particularly lake-based fish populations that use the entire forty-two miles of unobstructed creek. Those federal actions which are likely to affect coastal resources are Section 10 permits under the Rivers and Harbors Act of 1899, and Section 404 Permits under the Clean Water Act. These actions are subject to consistency review under the State's Coastal Program (15 CFR 930.53(b)).

Cattaraugus Creek is a very large (average width is 50-100 feet), meandering, warmwater stream, with a predominantly silt and gravel substrate. The creek drains approximately 550 square miles of agricultural land and forested hills, and has an average annual discharge of over 900 cubic feet per second. Cattaraugus Creek is very prone to flooding, and the stream banks and bottom tend to get scoured often. The land area bordering the creek includes open fields, farm land, and some woodlands. In addition to the stream channel, the habitat includes an approximate 1,100 acre area of Lake Erie at the mouth, which is generally referred to as Sunset Bay and Hanford Bay. This is a productive littoral zone (generally less than 25 feet deep), with a sandy substrate near the mouth of Cattaraugus Creek, giving way to rock and gravel substrates in outlying areas. A major breakwater and entrance channel project was completed here in 1983 to provide a sheltered harbor of refuge for small boats.

FISH AND WILDLIFE VALUES:

Cattaraugus Creek is the largest tributary of Lake Erie in New York State, and there are very few comparable streams in the Great Lakes Plain ecological region. Relatively undisturbed tributary streams that provide habitat for major spawning runs by salmonids and other lake-based fish populations are especially important in this region. Cattaraugus Creek is particularly significant because large concentrations of coho and chinook salmon and brown trout migrate from Lake Erie 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 Cattaraugus Creek during the fall and between late February and April. Runs of trout and salmon occur as far inland as the Springville Dam. 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 1984, approximately 150,000 coho salmon, 350,000 chinook salmon, and 40,000 steelhead were released in Cattaraugus Creek, more salmonids than were stocked in any other location on Lake Erie. Cattaraugus Creek also supports some natural reproduction of rainbow trout, sea lamprey, carp, and smallmouth bass. Successful spawning by many warmwater fish species in the creek is limited by heavy runoff. Nonetheless, lake-based populations of smallmouth bass,

brown bullhead, yellow perch, walleye, freshwater drum, sunfish, and rockbass often utilize the lower section of the creek. Sunset Bay is a major walleye spawning site in the New York waters of Lake Erie, attracting congregations of these fish into the area. The eastern sand darter (E) has been reported in Sunset Bay but was not found in a 1986 fish survey.

Cattaraugus Creek provides a major salmonid fishery to anglers in the Lake Erie coastal region. In 1982, the concentrations of salmonids in the creek attracted an estimated 13,000 angling trips for recreational fishing during September and October. The creek also supports a steelhead fishery in the spring, and an important warmwater fishery for local anglers available by canoe, from many shoreline locations, and from the western breakwater at the mouth of the 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 temperatures or turbidity, reduces flows, or alters water depths in Cattaraugus Creek would adversely affect a variety of fish and wildlife species. These impacts would be most detrimental during spawning periods and in the spring after salmonids are stocked in the creek. 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 of particular concern are the potential effects of upstream disturbances, including water withdrawals, impoundments, stream bed disturbances, and effluent discharges. Development of hydroelectric facilities on the creek should only be permitted with run-of-river operations. Barriers to fish migration in the creek, whether physical or chemical, would have significant effects on fish populations in the creek, as well as in Lake Erie. Installation of additional breakwalls or jetties will result in the loss of walleye spawning habitat in rocky shoal areas, in favor of sheltered, vegetated waters used by other warmwater fish species. Existing woodlands bordering Cattaraugus Creek and its tributaries should be maintained to provide bank cover, soil stabilization, and buffer areas. Development of additional public access to the creek may be desirable to ensure that adequate opportunities for compatible human uses of the fisheries resources are available.