

## COASTAL FISH & WILDLIFE HABITAT RATING FORM

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Name of Area: **Sandy Creek**

Designated: **October 15, 1987**

County: **Monroe; Orleans**

Town(s): **Hamlin; Kendall, Murray**

7½' Quadrangle(s): **Hamlin, NY; Kendall, NY**

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<u>Score</u>	<u>Criterion</u>
<b>12</b>	Ecosystem Rarity (ER) One of about 10 major New York tributaries to Lake Ontario; rare in the ecological subzone, but rarity is reduced by human disturbance. Geometric mean: $(9 \times 16)^{1/2}$
<b>16</b>	Species Vulnerability (SV) Least bittern (SC) nesting.
<b>9</b>	Human Use (HU) Recreational fishing attracts visitors throughout the Genesee Valley region.
<b>6</b>	Population Level (PL) Concentrations of salmonids and smallmouth bass are unusual in the Lake Ontario ecological subzone. Geometric mean: $(4 \times 9)^{1/2}$
<b>1.2</b>	Replaceability (R) Irreplaceable

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

= **52**

## **DESIGNATED HABITAT: SANDY CREEK**

### **LOCATION AND DESCRIPTION OF HABITAT:**

Sandy Creek is located along the south shore of Lake Ontario, approximately twenty-two miles west of the City of Rochester. The creek flows through the Town of Hamlin, Monroe County, and the Towns of Kendall and Murray, Orleans County (7.5' Quadrangles: Hamlin, N.Y.; and Kendall, N.Y.). The fish and wildlife habitat includes the creek channel and associated wetlands and islands, extending approximately fourteen miles from the mouth of Sandy Creek (at Sandy Harbor Beach), to the confluence of the West and East Branches of Sandy Creek, just south of N.Y.S. Route 104. Sandy Creek is a relatively large, medium gradient, warmwater stream, with a predominantly sand and gravel substrate. The creek drains approximately 90 square miles of relatively flat agricultural and rural residential lands, and is bordered along most of its length by woody riparian vegetation. However, the lower three miles of the creek, including a flood pond wetland near the mouth, have been degraded by livestock grazing, shoreline property development, and use of the motorboats in the area.

### **FISH AND WILDLIFE VALUES:**

Sandy Creek is one of about ten major New York tributaries to Lake Ontario. Despite a variety of habitat disturbances, Sandy Creek has significant spawning runs (unsuccessful in most instances) of coho and chinook salmon in the fall (late August through December). Coho salmon and steelhead (lake-run rainbow trout) are stocked in Sandy Creek by the NYSDEC, with approximately 50,000 and 13,000, respectively, released here in 1984. Spawning runs occur as far inland as Albion on the West Branch, and Holley on the East Branch, but actual population levels in these reaches are not well documented. Brown trout occur only in the lower reaches of Sandy Creek during the fall spawning period. From the County Route 19 bridge, in the hamlet of North Hamlin, downstream to the mouth of Sandy Creek, there is also a productive warmwater fishery. Warmwater species present include northern pike, smallmouth bass, and brown bullhead. Smallmouth bass spawning activity throughout Sandy Creek produces a large portion of the smallmouth bass population in this section of Lake Ontario. Bass migrate to the lake from as far away as the upper reaches of the West and East Branches of Sandy Creek. The streamside wetlands and islands in Sandy Creek provide limited habitat for wildlife species, but few studies of the area have been made. Least bittern (SC) was confirmed breeding at Sandy Harbor in the early 1980's.

The fisheries resources in Sandy Creek provide substantial recreational opportunities for residents of Rochester and the surrounding Genesee Valley region. Because of the accessibility of this stream, it has received heavy fishing pressure, estimated at 22,000 person-days of use in 1977. Sandy Creek may have additional recreational potential as the salmonid fishery in Lake Ontario expands.

### **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 degrades water quality, increases temperature or turbidity, alters water depths, or reduces flows, would adversely affect the fisheries resources in Sandy Creek. 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). Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides) could adversely impact on fish or wildlife species in the area. Efforts should be made to reduce stream disturbance by agricultural activities, especially grazing, through fencing and restoration of natural riparian vegetation. Stream channel alterations, including dredging, filling, or channelization, could reduce the habitat quality in Sandy Creek. Barriers to fish migration, whether physical or chemical, would also have significant impacts on bass and salmonid populations in the creek. Wildlife species occurring in the lower end of Sandy Creek would be adversely affected by further human disturbance or elimination of wetland vegetation. Activities affecting Sandy Creek as far inland as Albion and Holley should be evaluated for potential impacts on the fisheries resources of this area.