

APPENDIX A
SIGNIFICANT COASTAL FISH & WILDLIFE HABITATS

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: Oak Orchard Creek

Designated: October 15, 1987

County: Orleans

Town(s): Carlton

7½' Quadrangle(s): Kent, NY

Score Criterion

- 25 Ecosystem Rarity (ER)
One of about 5 major tributaries of Lake Ontario, in a relatively undisturbed condition; rare in the Great Lakes Plain ecological region.
- 0 Species Vulnerability (SV)
No endangered, threatened or special concern species are known to reside in the area.
- 16 Human Use (HU)
One of the most popular recreational fishing sites on Lake Ontario, attracting anglers from throughout New York State.
- 9 Population Level (PL)
Concentrations of spawning salmonids are among the largest occurring in New York's Great Lakes tributaries; unusual in the ecological region.
- 1.2 Replaceability (R)
Irreplaceable
-

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

= 60

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS PROGRAM
A PART OF THE NEW YORK COASTAL MANAGEMENT PROGRAM

BACKGROUND

New York State's Coastal Management Program (CMP) includes a total of 44 policies which are applicable to development and use proposals within or affecting the State's coastal area. Any activity that is subject to review under Federal or State laws, or under applicable local laws contained in an approved local waterfront revitalization program will be judged for its consistency with these policies.

Once a determination is made that the proposed action is subject to consistency review, a specific policy aimed at the protection of fish and wildlife resources of statewide significance applies. The specific policy statement is as follows: "Significant coastal fish and wildlife habitats will be protected, preserved, and, where practical, restored so as to maintain their viability as habitats." The New York State Department of Environmental Conservation (DEC) evaluates the significance of coastal fish and wildlife habitats, and following a recommendation from the DEC, the Department of State designates and maps specific areas. Although designated habitat areas are delineated on the coastal area map, the applicability of this policy does not depend on the specific location of the habitat, but on the determination that the proposed action is subject to consistency review.

Significant coastal fish and wildlife habitats are evaluated, designated and mapped under the authority of the Coastal Management Program's enabling legislation, the Waterfront Revitalization and Coastal Resources Act (Executive Law of New York, Article 42). These designations are subsequently incorporated in the Coastal Management Program under authority provided by the Federal Coastal Zone Management Act.

This narrative, along with its accompanying map, constitutes a record of the basis for this significant coastal fish and wildlife habitat's designation and provides specific information regarding the fish and wildlife resources that depend on this area. General information is also provided to assist in evaluating impacts of proposed activities on parameters which are essential to the habitat's values. This information is to be used in conjunction with the habitat impairment test found in the impact assessment section to determine whether the proposed activities are consistent with the significant coastal habitats policy.

DESIGNATED HABITAT: OAK ORCHARD CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Oak Orchard Creek is located along the south shore of Lake Ontario, approximately thirty miles west of the City of Rochester, in the Town of Carlton, Orleans County (7.5' Quadrangle: Kent, N.Y.). The fish and wildlife habitat extends approximately six miles from the mouth at Point Breeze to the Waterport Dam, and includes the entire stream channel and associated islands and wetlands. The habitat also includes an approximate two mile segment of Marsh Creek, which flows into Oak Orchard Creek about one mile south of Point Breeze. Oak Orchard Creek is a very large, low to medium gradient, warmwater stream, with a predominantly rock and gravel substrate. The creek drains approximately 270 square miles of relatively flat agricultural land, rural residential land, and extensive inland wetlands. Below Waterport Dam, which serves an active hydroelectric power plant, Oak Orchard Creek flows through a steep sided, undeveloped, wooded gorge, where habitat disturbances are minimal. However, below the confluence with Marsh Creek (also an undisturbed stream segment), there has been considerable shoreline development, including marinas, boat launches, seasonal and permanent residences, bulkheading, and installation of breakwalls out into the lake. Sizeable areas of emergent wetland vegetation and submergent aquatic beds occur in undisturbed shoreline areas along this lower section of the creek. Most of the land area bordering Oak Orchard Creek is privately owned, but major public access facilities have been developed at the creek mouth.

FISH AND WILDLIFE VALUES:

Oak Orchard Creek is the largest stream in Orleans County, and is one of about ten major tributaries in the Great Lakes Plain ecological region of New York. Undisturbed tributary streams that provide habitat for major spawning runs by salmonids and other lake-based fish populations are especially important in this region. Beds of emergent and submergent aquatic vegetation in the creek contribute to the maintenance of fish populations and serve as valuable habitats for wildlife.

Oak Orchard Creek is particularly significant because large concentrations of coho and chinook salmon and brown trout migrate from Lake Ontario into the creek each fall, from late August through December (September - November, primarily), when salmonids ascend tributary streams to spawn (although unsuccessfully in most instances). In addition, steelhead (lake-run rainbow trout) migrate into Oak Orchard Creek during the fall and between late February and April. 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 300,000 chinook salmon, 14,000 steelhead, and nearly 40,000 coho salmon were released in the creek. Oak Orchard Creek was among the top ten Lake Ontario tributaries for numbers of salmonids stocked in 1984. Oak Orchard Creek also contains a diverse warmwater fishery. The area supports substantial natural reproduction by smallmouth bass, northern pike, rock bass, black crappie, brown bullhead, and largemouth bass. Oak Orchard Creek also provides a limited smelt fishery in the spring.

The wetlands and undisturbed woodlands bordering Oak Orchard Creek provide

valuable habitats for wildlife that are uncommon in Orleans County's coastal area. A variety of bird species inhabit the area, including great blue heron, greenbacked heron, mallard, wood duck, belted kingfisher, marsh wren, common yellowthroat, red-winged blackbird, and swamp sparrow. During spring and fall migrations, Oak Orchard Creek and Marsh Creek serve as resting and feeding areas for locally significant concentrations of waterfowl. Other wildlife species occurring along the creek include resident furbearers, such as muskrat, mink, and raccoon.

The fish and wildlife resources associated with Oak Orchard Creek attract a significant amount of recreational use, although access to the area is limited by the steep banks and private land ownership. This is one of the most popular recreational fishing streams on Lake Ontario, due primarily to the large salmonid runs in the area. Fishing pressure is concentrated below the confluence of Oak Orchard and Marsh Creeks, and in the area immediately below Waterport Dam. The intervening segment of the creek is often fished by small boat or canoe, especially for the abundant warmwater species in the area. Oak Orchard Creek attracts anglers from throughout New York State and beyond. Local residents also utilize this area to a limited extent for waterfowl hunting and trapping.

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.

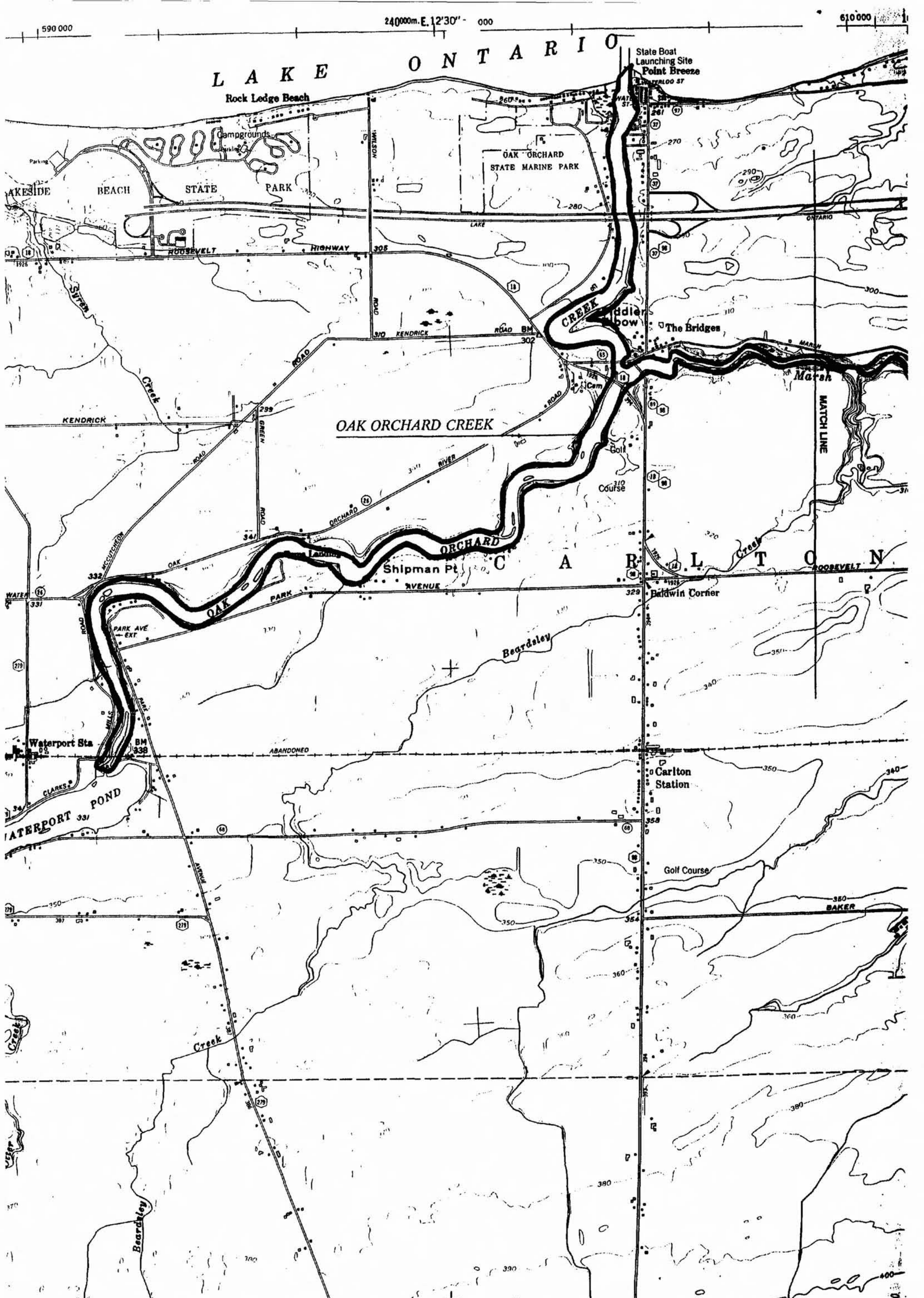
Any activity that substantially degrades water quality, increases temperature or turbidity, reduces flows, or alters water depths in Oak Orchard Creek would adversely affect the fish and wildlife resources of this area. These impacts would be especially detrimental during fish spawning and nursery periods (late February - July for most warmwater species and steelhead, and September - November for most salmonids), and wildlife breeding seasons (April - July for most species). Discharges of sewage or stormwater runoff containing sediments or chemical pollutants could adversely impact on fish or wildlife species. Of particular concern are the potential effects of upstream disturbances, including water withdrawals, stream bed disturbances, and effluent discharges. Hydro-electric facilities on the creek should only be permitted with run-of-river operations. Barriers to fish migration, whether physical or chemical, would have significant impacts on fish populations in the creek. Permanent disturbance of wetland vegetation, including submergent beds, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Enhancement of motorboat access to the area above the confluence of the two creeks could significantly increase human disturbance of the habitat, reducing its potential value to various fish and wildlife species. Existing areas of natural vegetation bordering Oak Orchard Creek should be maintained to provide bank cover, perching sites, soil stabilization, and buffer zones.

KNOWLEDGEABLE CONTACTS:

Tom Hart or Greg Capobianco
Division of Coastal Resources & Waterfront Revitalization
NYS Department of State
162 Washington Avenue
Albany, NY 12231
Phone: (518) 474-6000

Carl Widmer, Fisheries Manager
or Larry Myers, Wildlife Manager
or Matt Sanderson, Environmental Protection Biologist
NYSDEC - Region 8
6274 E. Avon-Lima Road
Avon, N.Y. 14414
Phone: (716) 226-2466

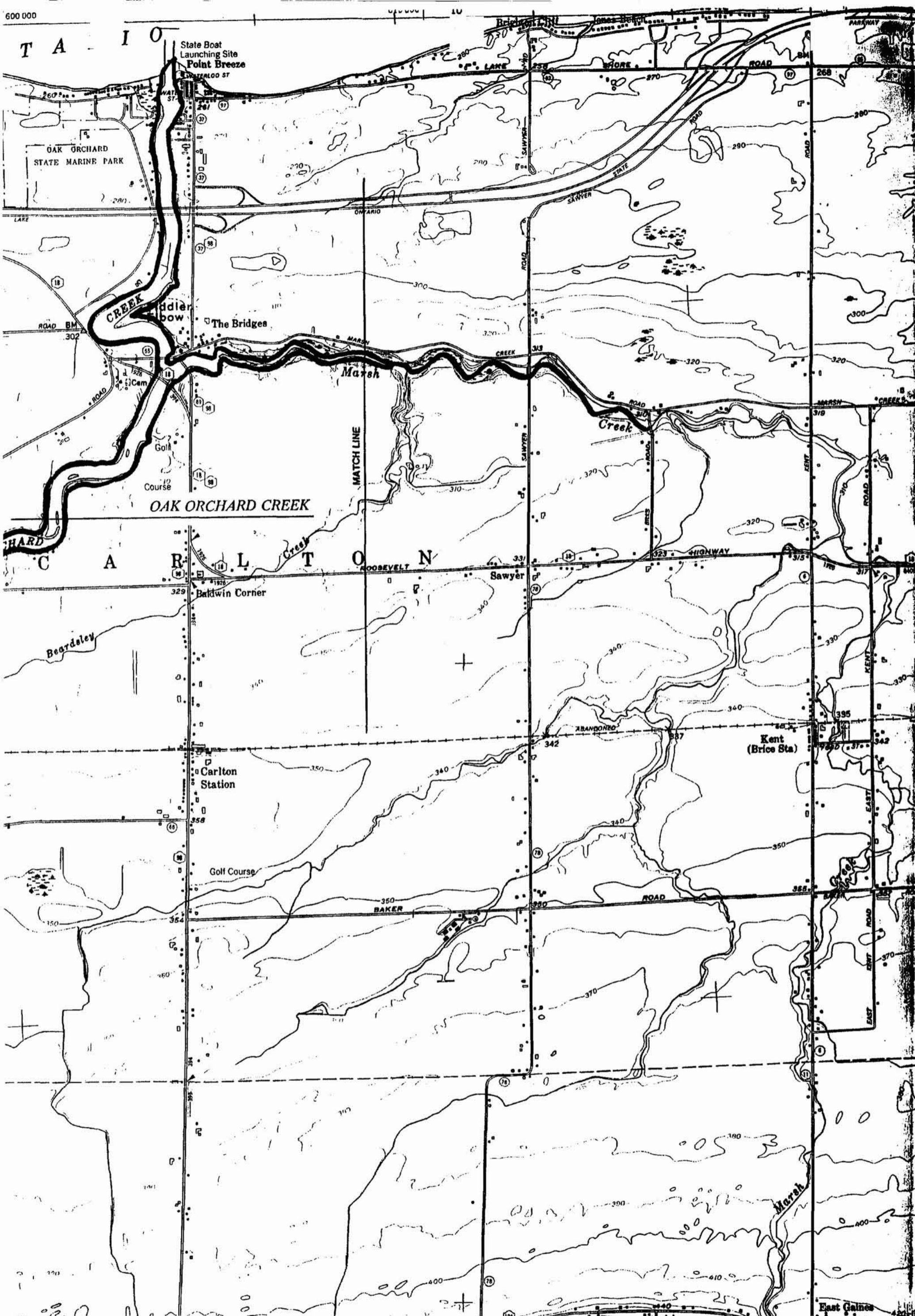
NYSDEC - Information Services
700 Troy-Schenectady Road
Latham, NY 12110
Phone: (518) 783-3932



SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Oak Orchard Creek (in part)





SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS
Oak Orchard Creek (in part)



COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: Johnson Creek

Designated: October 15, 1987

County: Orleans

Town(s): Carlton, Yates

7½' Quadrangle(s): Ashwood, NY; Lyndonville, NY

Score Criterion

- 16 Ecosystem Rarity (ER)
One of about 10 major New York tributaries to Lake Ontario; rare in ecological subzone.
- 0 Species Vulnerability (SV)
No endangered, threatened or special concern species reside in the area.
- 4 Human Use (HU)
One of the most popular recreational fishing sites in Orleans county.
- 4 Population Level (PL)
One of only two significant salmonid spawning streams in Orleans County.
- 1.2 Replaceability (R)
Irreplaceable

SIGNIFICANCE VALUE = [(ER + SV + HU + PL) X R]
= 29

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A PART OF THE NEW YORK COASTAL MANAGEMENT PROGRAM

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DESIGNATED HABITAT: JOHNSON CREEK

LOCATION AND DESCRIPTION OF HABITAT:

Johnson Creek is located along the south shore of Lake Ontario, in the Towns of Carlton and Yates, Orleans County (7.5' Quadrangles: Ashwood, N.Y., and Lyndonville, N.Y.). The fish and wildlife habitat extends approximately seven miles from the hamlet of Lakeside on Lake Ontario to a low dam (the first impassable barrier) at the Village of Lyndonville. Johnson Creek is a relatively large, medium gradient, warmwater stream, with a gravelly substrate. The creek drains over 100 square miles of relatively flat agricultural and rural residential lands, and is bordered along most of its length by woody riparian vegetation. Most of the land area bordering Johnson Creek is privately owned, except in the last mile of stream, which flows through undeveloped Lakeside Beach State Park. Habitat disturbances in the area are generally limited to discharges of agricultural runoff, road crossings, and cottage development near the mouth of the creek.

FISH AND WILDLIFE VALUES:

Johnson Creek is the second largest stream in Orleans County, and is one of about ten major New York tributaries to Lake Ontario. The creek is primarily a warm water fisheries habitat, with largemouth and smallmouth bass, northern pike, walleye, and white sucker being some of the species present. In the fall (late August through December), however, concentrations of coho and chinook salmon enter the stream to spawn (although unsuccessfully in most instances). Although these species are not stocked in Johnson Creek, they are stocked by the NYSDEC in other tributaries of Lake Ontario, and many move into Johnson Creek during the fall spawning run. Other salmonids present in the creek during this period include brown trout and steelhead (lake-run rainbow trout). Anglers from throughout Orleans County, and as far away as Buffalo, fish Johnson Creek. The fall salmonid runs attract most of this recreational use. Johnson Creek may have even greater recreational potential as the salmonid fishery in Lake Ontario expands.

IMPACT ASSESSMENT:

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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 Johnson 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) would adversely impact on fish or wildlife species in the area. Of particular concern are the potential effects of upstream disturbances, including water withdrawals, stream channel alterations, and effluent discharges. In the past, an upstream tributary (Jeddo

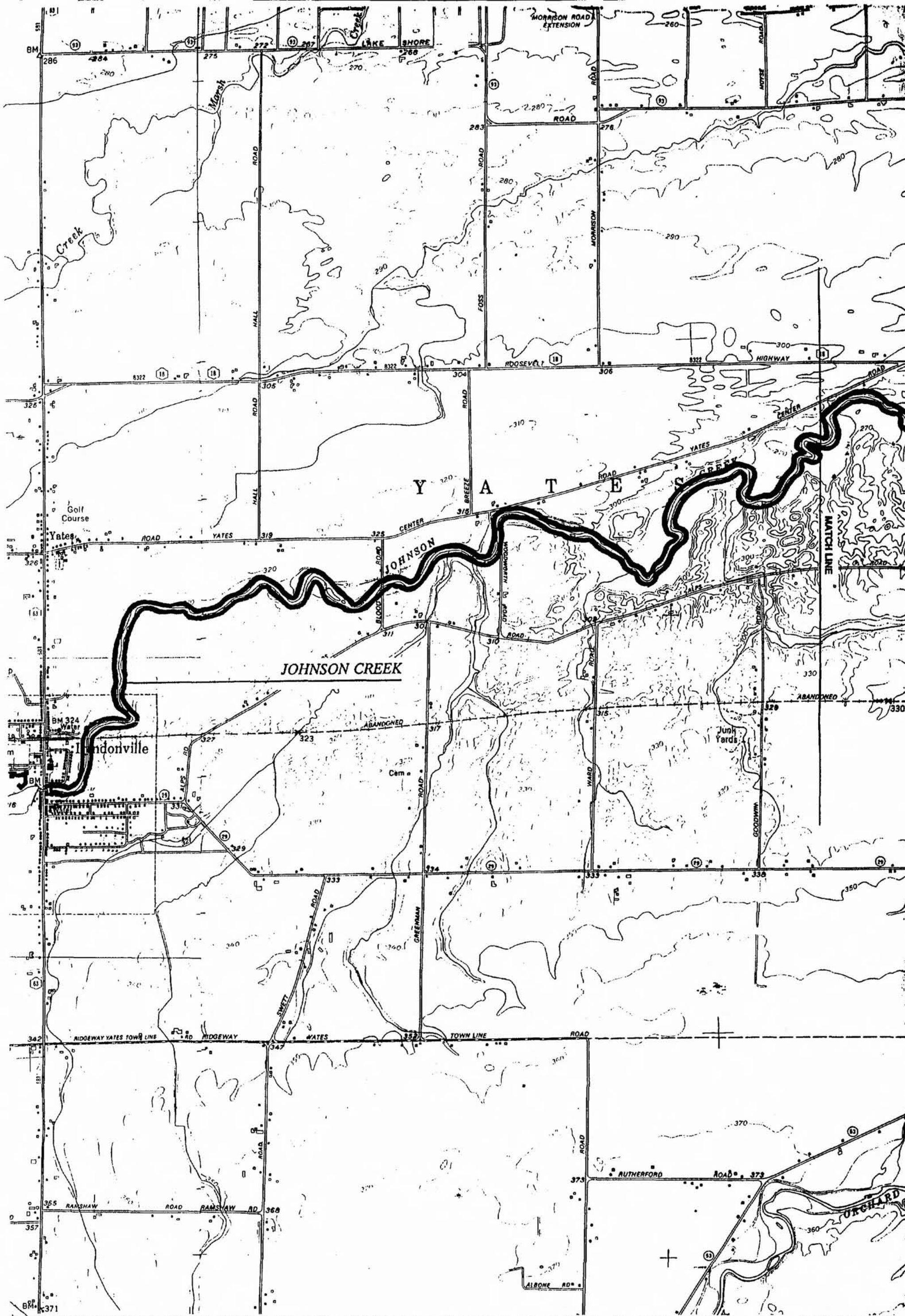
Creek) has been polluted with pesticide residues, resulting in significant chemical pollution of Johnson Creek, and causing major fish kills. Discharges of toxic chemicals into the creek must be prevented in the future to avoid long term adverse impacts on fisheries resources. Barriers to fish migration, whether physical or chemical, would also have significant effects on fish populations and their recreational use. Clearing of natural vegetation along Johnson Creek, and other activities that may increase bank erosion or eliminate productive channel areas, would reduce habitat quality in Johnson Creek.

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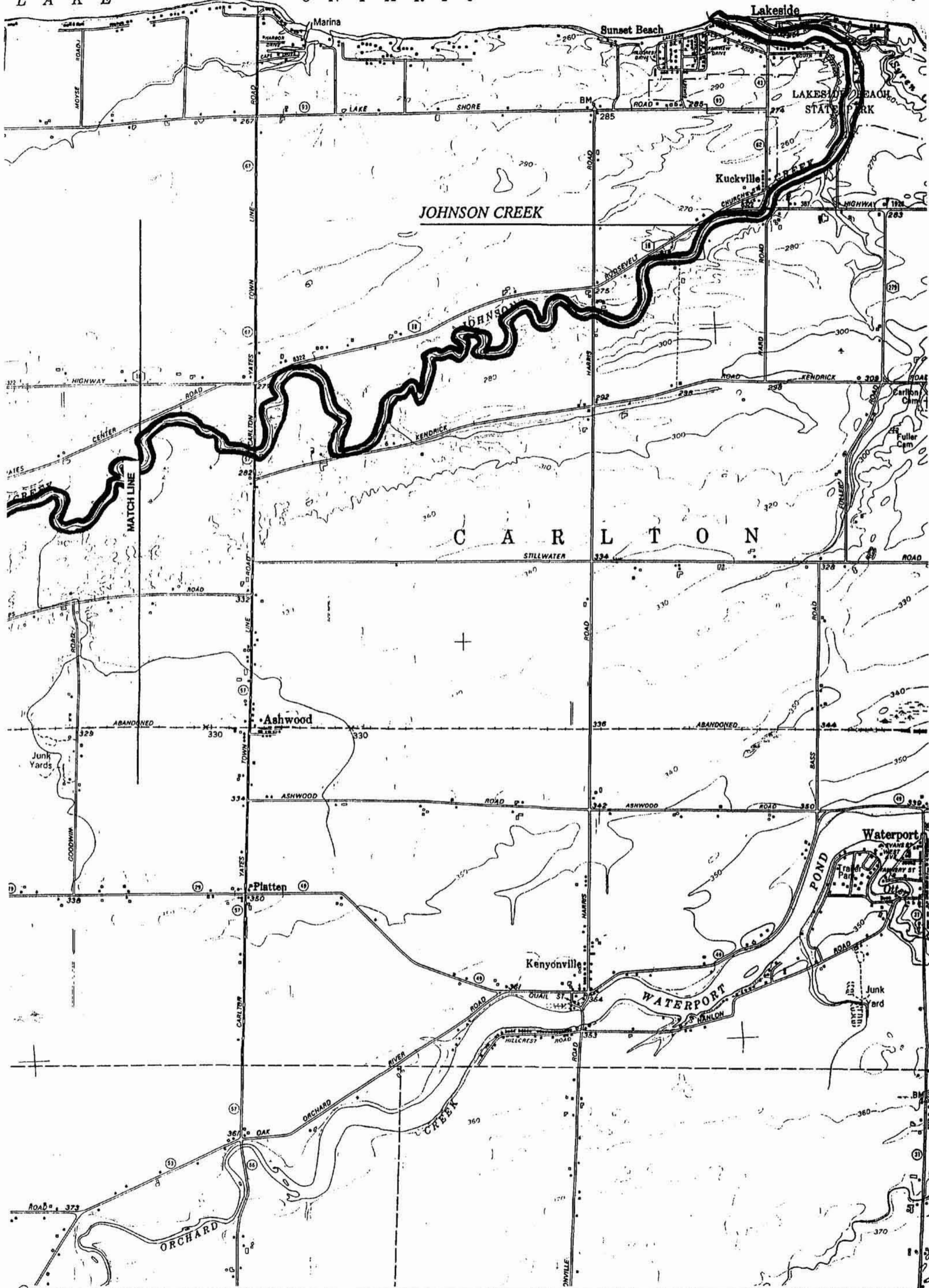
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SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS
 Johnson Creek (In part)



L A K E O N T A R I O



SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Johnson Creek (In part)



COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: Sandy Creek

Designated: October 15, 1987

County: Monroe; Orleans

Town(s): Hamlin; Kendall, Murray

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

Score Criterion

- 12 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: $(9 \times 16)^{\frac{1}{2}}$
- 16 Species Vulnerability (SV)
Least bittern (SC) nesting.
- 9 Human Use (HU)
Recreational fishing attracts visitors throughout the Genesee Valley region.
- 6 Population Level (PL)
Concentrations of salmonids and smallmouth bass are unusual in the Lake Ontario ecological subzone. Geometric mean: $(4 \times 9)^{\frac{1}{2}}$
- 1.2 Replaceability (R)
Irreplaceable
-

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

= 52

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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:

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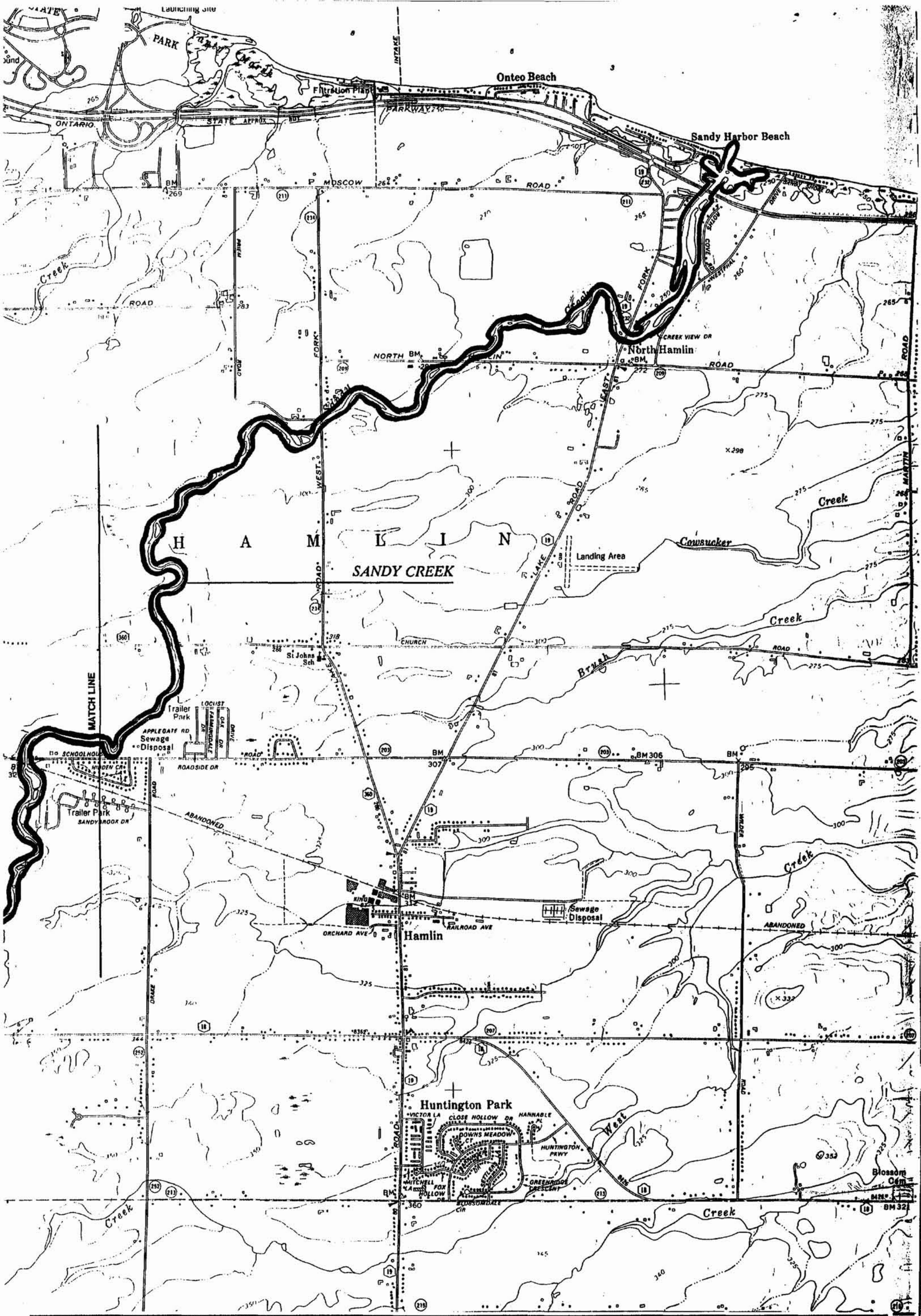
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KNOWLEDGEABLE CONTACTS:

Tom Hart or Greg Capobianco
Division of Coastal Resources & Waterfront Revitalization
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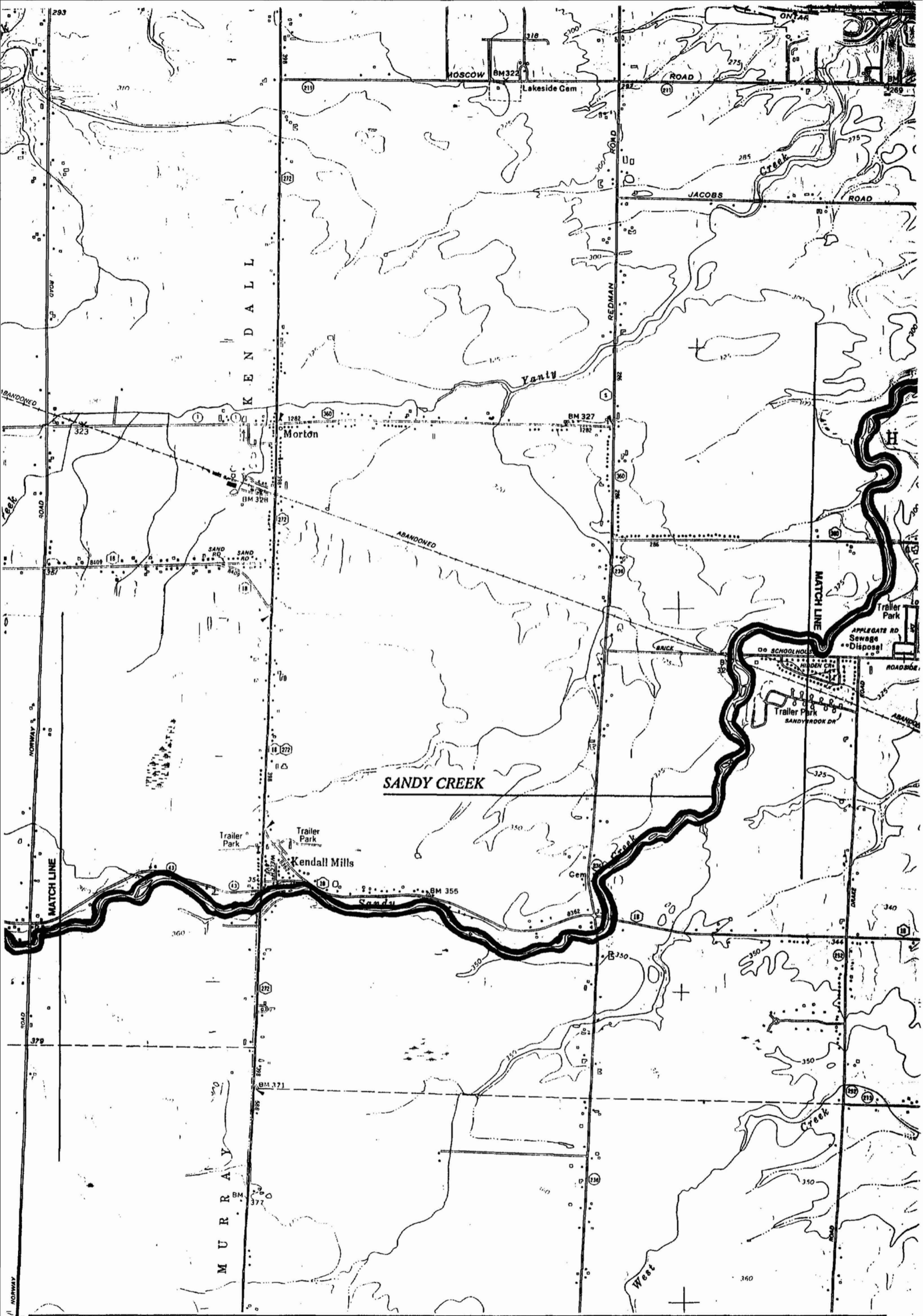
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SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Sandy Creek (In part)

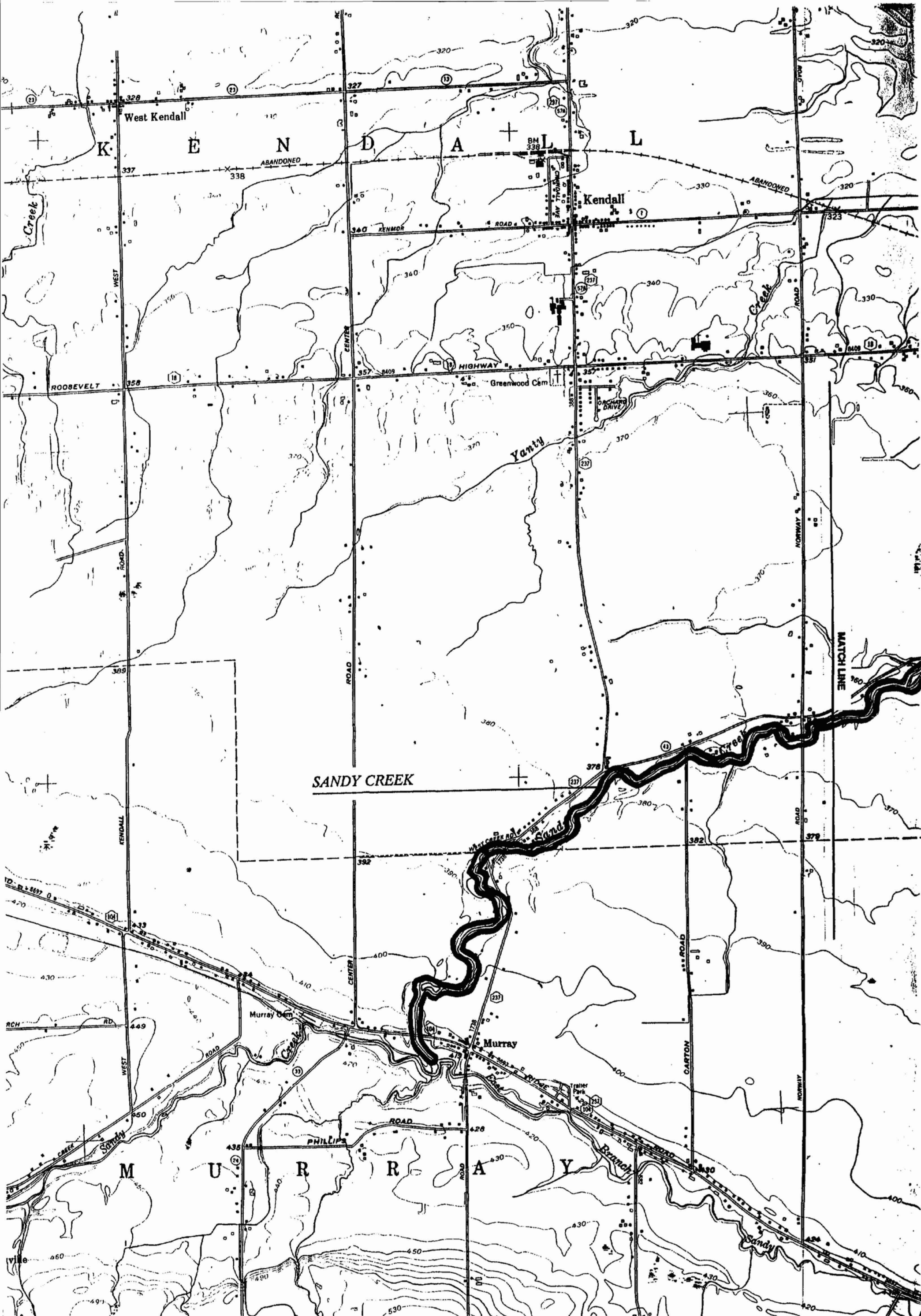




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SANDY CREEK

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