

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Grindstone Creek and Marsh**

Designated: **October 15, 1987**

County: **Oswego**

Town(s): **Richland**

7½' Quadrangle(s): **Pulaski, NY**

<u>Score</u>	<u>Criterion</u>
9	Ecosystem Rarity (ER) Relatively large, undeveloped, flood pond wetland and tributary ecosystem; unusual in Oswego 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 recreational fishing areas on the eastern end of Lake Ontario, of regional significance.
0	Population Level (PL) No unusual concentrations of any fish or wildlife species occur in the area.
1.2	Replaceability (R) Irreplaceable

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

= **22**

DESIGNATED HABITAT: GRINDSTONE CREEK AND MARSH

LOCATION AND DESCRIPTION OF HABITAT:

Grindstone Creek and Marsh is located approximately four miles west of the Village of Pulaski, on the Lake Ontario shoreline, in the Town of Richland, Oswego County (7.5' Quadrangle: Pulaski, N.Y.). The fish and wildlife habitat is an approximate one and one-half mile section of the creek (up to N.Y.S. Route 3) and associated wetlands, comprising approximately 160 acres. This portion of Grindstone Creek has a relatively wide, deep, meandering channel, bordered by emergent wetland vegetation and wooded banks. The marsh is separated from the lake by a narrow barrier beach, and the outlet is very shallow. The northern half of this area, and the adjacent uplands, are located in Selkirk Shores State Park. The park has facilities for camping, picnicking, and shorefishing, but much of the area is undisturbed deciduous forest. To the south of Grindstone Creek and Marsh, the adjacent land area is generally rural; however, in recent years, a number of seasonal camps and permanent residences have been developed a short distance from the marsh. Above Route 3, Grindstone Creek is a relatively large, medium gradient, warmwater stream, with a predominantly gravel substrate.

FISH AND WILDLIFE VALUES:

Grindstone Creek and Marsh is one of the few relatively large, undisturbed, flood pond wetland and tributary ecosystems in Oswego County's coastal area. This area has excellent interspersions of vegetative cover types and open water (especially during periods of high water), providing favorable habitat conditions for a variety of fish and wildlife species. Although no unusual concentrations of fish or wildlife have been documented in Grindstone Creek and Marsh, it is generally a productive area for many species.

Wildlife use of Grindstone Creek and Marsh includes a full complement of species characteristic of coastal wetlands around Lake Ontario. Probable or confirmed breeding bird species include pied-billed grebe, green-backed heron, mallard, black duck, blue-winged teal, wood duck, Virginia rail, sora, common moorhen, belted kingfisher, marsh wren, red-winged blackbird, and swamp sparrow. Fur-bearers such as muskrat, mink, and raccoon, are also abundant in the area. Herpetofauna found in Grindstone Creek and Marsh include snapping turtle, painted turtle, northern water snake, gray treefrog, bullfrog, green frog, and northern leopard frog. This area provides opportunities for local residents and State Park visitors to enjoy waterfowl hunting, trapping, birdwatching, and informal nature study.

Grindstone Creek and Marsh also serves as a productive fish spawning and nursery area, supporting concentrations of various warmwater species, such as smelt, alewife, northern pike, brown bullhead, yellow perch, rock bass, and largemouth bass. Studies of Grindstone Creek in 1976 documented at least 19 fish species in the area. Concentrations of white sucker and smallmouth bass also occur in the marsh, but these species generally spawn upstream from the marsh in faster moving waters. Locally significant concentrations of salmonids, such as brown trout, steelhead (lake-run rainbow trout), and coho and chinook salmon occur in the creek during spawning periods, but reproduction in the area is unsuccessful in most instances. Spawning runs occur as far upstream as the first impassable barrier (a dam at the hamlet of Fernwood), but population levels in the upper reaches are not well documented. 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 fisheries resources in this area support significant recreational use by many Oswego County anglers and many non-resident visitors to Selkirk Shores State Park. Most fishing pressure is concentrated at the mouth of Grindstone Creek, where pedestrian access is readily available.

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 Grindstone Creek and Marsh would adversely affect many fish and wildlife species. Discharges of sewage or stormwater runoff containing sediments or chemical pollutants (including fertilizers, herbicides, or insecticides), could adversely impact on the fish and wildlife resources of the area. Elimination of wetland vegetation, including submergent beds, through dredging, filling, or bulkheading, would result in a direct loss of valuable habitat area. Barriers to fish migration, whether physical or chemical, would have significant impacts on fish populations in this area. Development of motorboat access to Lake Ontario from Grindstone Creek could adversely affect fish and wildlife, through habitat alterations and increased human disturbance during fish spawning and nursery periods (late February - July for steelhead and most warmwater species, and September - November for most salmonids) and wildlife breeding seasons (April - July for most species). Further human encroachment into adjacent areas, especially on the barrier beach, could directly affect fish and wildlife populations, and induce secondary development around the marsh. Existing areas of natural vegetation bordering Grindstone Creek and Marsh should be maintained for their value as cover for wildlife, perching sites, and buffer zones.