

COASTAL FISH & WILDLIFE HABITAT RATING FORM

Name of Area: **Goethals Bridge Pond**

Designated: **September 15, 1992**

County: **Richmond**

Town(s): **New York City (Staten Island)**

7½' Quadrangle(s): **Elizabeth, NJ-NY**

<u>Score</u>	<u>Criterion</u>
16	Ecosystem Rarity (ER) A relatively large, shallow, freshwater pond and wetland ecosystem, unusual in New York City (ecological subzone).
16	Species Vulnerability (SV) Least bittern (SC) nesting and feeding.
4	Human Use (HU) One of the most popular bird-watching sites on Staten Island.
9	Population Level (PL) An important feeding area for 3 major heronries in the region, and one of the few known breeding areas in New York City for several waterfowl species.
1.0	Replaceability (R) Uncertain of ability to replace the habitat or the population level.

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

= **45**

DESIGNATED HABITAT: GOETHALS BRIDGE POND

HABITAT DESCRIPTION:

Goethals Bridge Pond is located just northeast of the toll gate to Goethals Bridge in northwestern Staten Island, Richmond County (7.5' Quadrangle: Elizabeth, NJ-NY). The fish and wildlife habitat is an approximate 50 acre area, centered on a relatively large, shallow (generally less than 3 feet deep), freshwater (or slightly brackish) pond, with a well-developed fringe of emergent wetland vegetation (predominantly common reed). The habitat also includes a contiguous area of forested wetland. Goethals Bridge Pond is drained by a tributary of Old Place Creek, which empties into the Arthur Kill. It appears that the pond was formerly a brackish tidal marsh, but road and railroad crossings downstream have restricted drainage out of the area, creating this shallow freshwater pond. Adjacent land uses include the Staten Island Rapid Transit railroad to the north and west, an abandoned commercial building to the east, a trailer park to the south, and vacant woodlands.

FISH AND WILDLIFE VALUES:

Goethals Bridge Pond is one of the few relatively large, undisturbed, shallow, freshwater wetland areas on Staten Island. Although the original habitat may have been substantially altered by past human disturbance, the pond is an unusually valuable habitat for wildlife in the New York City metropolitan area. Goethals Bridge Pond is especially significant as a nesting habitat for migratory birds; probable or confirmed breeding species in the area include pied-billed grebe, least bittern (SC), Canada goose, mallard, American black duck, gadwall, green-winged teal, blue-winged teal, Virginia rail, common moorhen, American coot, killdeer, spotted sandpiper, marsh wren, and swamp sparrow. Goethals Bridge Pond is the only known breeding area in Richmond County for pied-billed grebe and American coot, as well as one of the few localities for breeding of these species in the New York City-Long Island region. The extensive shallow water area is equally important as a feeding area for migratory birds. Goethals Bridge Pond is used by many of the herons, egrets, and ibises nesting on Pralls Island and Shooters Island, located approximately two miles southwest and two miles northeast, respectively, from the area. During spring and fall migrations (March-May, and August-November, generally), the pond is heavily used as a nesting and foraging area by a variety of shorebirds, gulls, terns, and passerines. Migrant species commonly seen in the area include black-bellied plover, red knot, pectoral sandpiper, semipalmated sandpiper, sanderling, common tern (T), and least tern (E). Northern harriers (T) are commonly seen hunting around the pond during the winter months. The extent to which other fish and wildlife species use the area has not been documented.

The concentrations of migratory birds that utilize Goethals Bridge Pond are unusual in the New York City metropolitan area. Consequently, this habitat has significantly potential value as an urban wildlife management area, providing opportunities for a variety of wildlife related recreation, educational, and scientific activities. However, due to the present lack of public access to the area, there are no significant human uses of Goethals Bridge Pond.

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 would substantially degrade water quality or alter hydrologic patterns in Goethals Bridge Pond would affect fish and wildlife populations in the area. Any substantial disturbance of existing plant

communities (e.g., through dredging, filling, or clearing) within or immediately adjacent to Goethals Bridge Pond would also affect wildlife populations using the area. Wildlife species would be especially sensitive to temporary habitat disturbances during the breeding season, which generally extends from mid-March through August. However, habitat management activities, including water level management, may be designed to maintain or enhance the value of this area to wildlife. Surrounding land use may be the most important factor potentially affecting the fish and wildlife resources of Goethals Bridge Pond. Encroachment of human disturbance, including industrial, commercial, or residential development, could result in a direct loss of habitat for migratory birds. Any adjacent development should provide measures to minimize habitat disturbance by pedestrians and pet animals, including maintenance of a natural vegetation buffer zone. Discharges of sewage, stormwater runoff, or industrial effluents, containing chemical pollutants (including oils, herbicides, and insecticides) should be prevented from entering the area. Development of controlled public access to Goethals Bridge Pond may be desirable to provide for compatible human uses of the wildlife resources.