

COASTAL FISH & WILDLIFE HABITAT RATING FORM

---

Name of Area: **Shooters Island**

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>
<b>25</b>	Ecosystem Rarity (ER) Relatively undisturbed wooded island, unusual in the New York City metropolitan area (Manhattan Hills ecological region).
<b>0</b>	Species Vulnerability (SV) No endangered, threatened, or special concern species are known to reside in the area.
<b>0</b>	Human Use (HU) Potential educational and recreational uses (e.g., birdwatching) are significant to residents of New York City, but current human use is not significant.
<b>9</b>	Population Level (PL) One of only 5 large heronries active in the Manhattan Hills ecological region.
<b>1.2</b>	Replaceability (R) Irreplaceable.

---

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

= **41**

## **DESIGNATED HABITAT: SHOOTERS ISLAND**

### **HABITAT DESCRIPTION:**

Shooters Island is located north of Staten Island, at the confluence of the Arthur Kill and the Kill Van Kull, in Richmond County (7.5' Quadrangle: Elizabeth, NJ-NY). Approximately 50 acres of this island is within New York State and owned by the City of New York. The fish and wildlife habitat is an uninhabited island, surrounded by the remains of a World War I era ship building industry and other debris. The island is partially wooded with such species as birch, black locust, tree-of-heaven, and honeysuckle. Small patches of salt marsh containing cordgrass and common reed are scattered around the shoreline. Drift material and debris surrounding the island's perimeter is dense enough to form tidal pools which are used as feeding areas for piscivorous birds nesting on the island. The only access to the island is by boat.

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

Shooters Island provides an undisturbed upland environment for wildlife that is rare in coastal portions of the New York City metropolitan area. It is one of the largest, uninhabited islands occurring in the Manhattan Hills ecological region. The primary significance of this habitat is its use for nesting by relatively large numbers of colonial waterbirds (herons, especially), one of only about 5 such concentration areas in the region. This nesting area probably accounts for many of the egrets and night herons seen on Staten Island, and on the opposite shore of New Jersey. The Shooters Island heronry was discovered in 1974, and in 1989 was estimated to have approximately 209 pairs of these birds nesting in the area, including 13 pairs of cattle egrets, 64 pairs of snowy egrets, and 81 pairs of black-crowned night herons (population sizes vary from year to year). Other species reported breeding on the island in some years include great egret, glossy ibis, yellow-crowned night heron, green-backed heron, little blue heron, and double-crested cormorant. The long term use of this and other New York City area sites suggests that there is a relative shortage of suitable nesting areas for colonial waterbirds in this region. These birds nest in tall (up to 40 feet) trees, and most nests are placed at least 5 feet above ground. In addition to the heron populations, Shooters Island also has nesting colonies of herring gull and greater black-backed gull. Other probable or confirmed breeding bird species in the area include: yellow-billed cuckoo, brown thrasher, common yellowthroat, and song sparrow. In addition, some species of waterfowl also nest on Shooter's Island including American black duck, mallard, and gadwall.

Potential recreational opportunities at Shooters Island are outstanding, and include birdwatching and informal nature study. Because of its uniqueness and location within New York City, Shooters Island also has enormous potential for well-managed educational applications. Birds nesting on the island may be viewed from various locations throughout the area. At the present time, however, there are no significant fish or wildlife related human uses of Shooters Island.

### **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.

It is essential that any potential impacts on Shooters Island be evaluated with respect to the area management program developed jointly by the New York City Audubon Society, New York City, and NYSDEC. Any activity that would disturb the Shooters Island heronry during the nesting period (mid-March - August), including significant pedestrian traffic or recreational vehicle use (e.g., boat landings), could adversely affect these bird populations. Freedom from human disturbance while early spring roosts are established and

maintained may also be critical to colony use in the ensuing breeding season. Controlled human access for compatible educational, scientific, or management purposes is appropriate provided that appropriate guidelines for protection of the habitat are established. Removal of the island's upland forest habitat would have a significant impact on heron populations in the New York City area. Disturbance or elimination of preferred wetland feeding areas (including but not limited to Goethals Bridge Pond and Sawmill Creek) may also affect birds nesting at Shooters Island. Removal of drift material and sources of drift material from Shooter's Island will require careful planning and mitigation of habitat loss. Habitat values associated with the drift material and derelict structures around Shooter's Island will have to be evaluated for their importance as feeding, roosting, and potential nesting grounds for herons. Removal of this material and associated habitat values must be mitigated by providing comparable habitat values. Although an evaluation of existing habitat values should define what mitigation is required, mitigation might include upland woods management, creation of tidal pools, and creation of sheltered areas. Introduction or attraction of mammalian predators, including pet animals, into nesting areas could also be detrimental to the colonial bird populations.