

Fish Habitat Structures in Presque Isle Bay

FACT SHEET

Pennsylvania Sea Grant, as part of the National Sea Grant Program, promotes efforts to improve the environmental and economic health of Pennsylvania's coastlines.

Focusing on the Lake Erie and Delaware River watersheds, Pennsylvania Sea Grant works to increase public awareness of coastal environmental and economic issues through extension, communication, applied research, and education activities.

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Background Information

In 1995, the Pennsylvania Fish and Boat Commission (PF&BC), Pennsylvania Department of Conservation of Natural Resources (DCNR), Pennsylvania Department of Environmental Protection (DEP), and the S.O.N.S. (Save Our Native Species) of Lake Erie began the first of a five-year project to enhance the fish habitat in Presque Isle Bay. The plan addresses the habitat needs of Presque Isle Bay in an effort to improve fish species habitat diversity and angler use.

The PF&BC's Habitat Management Section oversees fish habitat projects for the state of Pennsylvania. This Pennsylvania program was implemented in an effort to restore fish habitats that had been lost to stream channelization and flood control construction projects. The program was initially developed for stream improvement but has expanded to include structures for improving lake fisheries. The habitat program works on a cooperative basis with a local sponsor. PF&BC provides direction and planning of the project and contributes funding for materials on a 50/50 matching basis with the sponsoring organization.

Artificial Habitat Structures

Artificial habitat structures provide protection for fish and have been shown to enhance spawning and nesting success. In addition, habitat structures can provide ambush cover for adult game fish, which increases the catch rate of anglers fishing over these structures. Three types of habitat structures were constructed in Presque Isle Bay to improve the fish populations and enhance fishing success. Descriptions of each habitat improvement device are listed on the next two pages. Three types of artificial habitat structures developed by PF&BC are Porcupine Brush Cribs, Shallow Water Spawning Structures and Stake Tree Structures. These artificial habitat structures have been placed in Presque Isle Bay in several locations.

PA Porcupine Brush Cribs (right) are coarse brush structures that provide spawning and nursery habitats for fish, as well as concentrating various fish species for improved angler use. They are constructed from rough hemlock or poplar lumber, concrete blocks and nails. The interior of the structure provides cover for young and small fish while the four gable ends attract larger gamefish such as largemouth bass, muskellunge, and panfish. The Cribs are designed to be placed in rows of 5 to 20 structures, 4 to 8 feet apart at a depth of 10 feet. These structures were placed in Marina Lake and the Big Bend area (Map 1).



PA Shallow Water Spawning Structures (left) are spawning, nursery, and nesting structures designed primarily for black bass. They are constructed from hemlock or poplar lumber, concrete blocks, and common nails. These structures offer shallow water cover for adult bass after spawning and also provide hiding cover for juvenile bass. The

spawning structures are arranged in alternating rows at depths varying from 3 feet to 7 feet, approximately 25 feet apart from one another. These structures have been placed in Presque Isle Bay at varying locations including Marina Lake (Map 1).



PA Stake Tree Structures (right) are fish attractors designed to improve angler success. Largemouth bass, sunfish, and crappies are particularly attracted to stake tree structures. They are constructed of hemlock or poplar “limbs” held in place by concrete poured into a five-gallon bucket. The stake tree structures are arranged in “forests” with approximately 10 to 30 stake trees to a forest and are located on steep gradient shorelines varying in depth from 10 feet to 20 feet below the surface of the water. Several of these “forests” are located in Presque Isle Bay, including Misery Bay and Big Bend area (Map 1).



Summary

The cooperative efforts of Presque Isle State Park, Pennsylvania Fish and Boat Commission, DCNR, DEP and S.O.N.S. have made the fish habitat structures project a success. Fish are utilizing the various habitats enabling anglers to have greater success in fishing the areas near the habitat structures.

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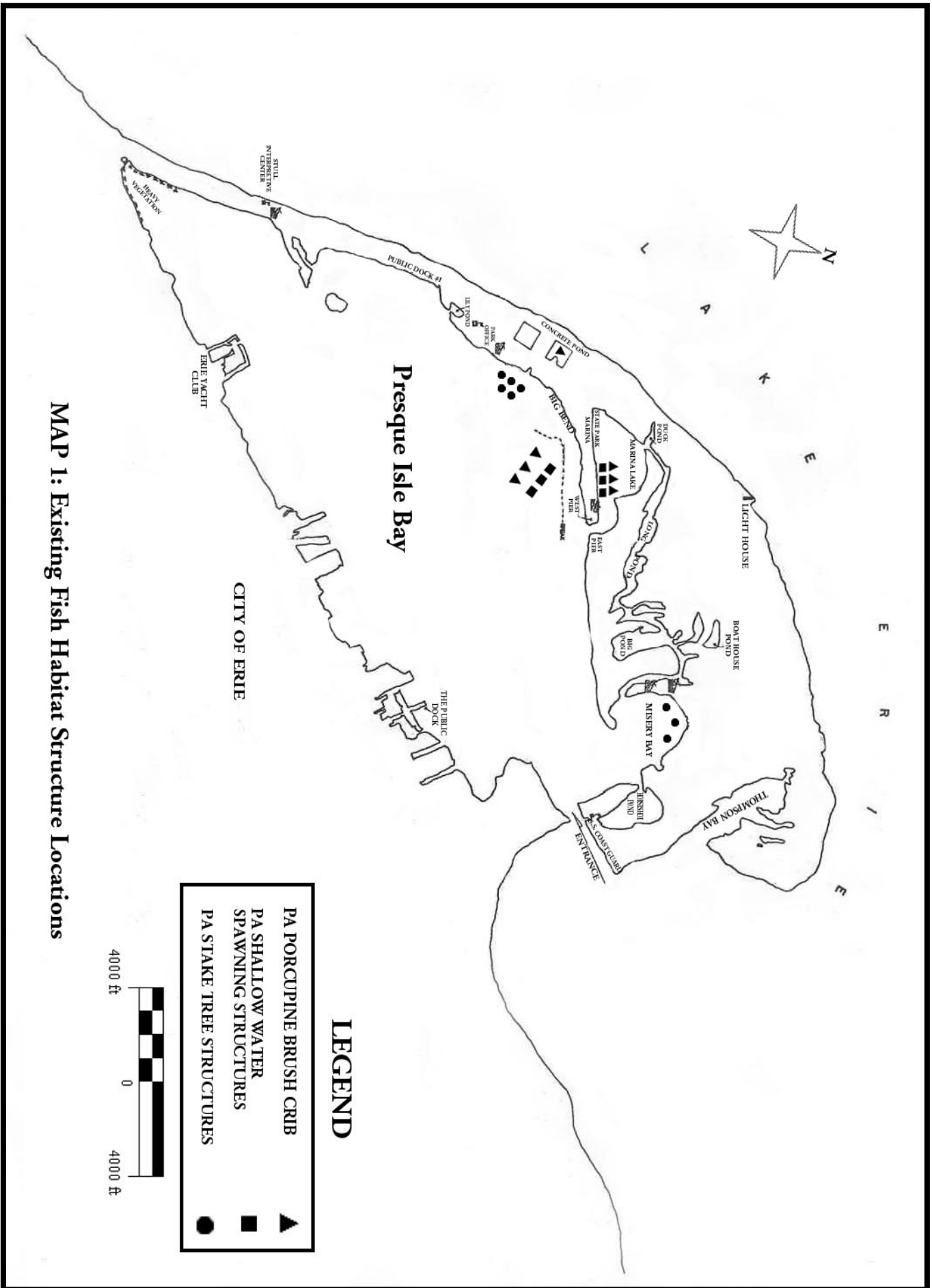
References

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MAP 1: Existing Fish Habitat Structure Locations