

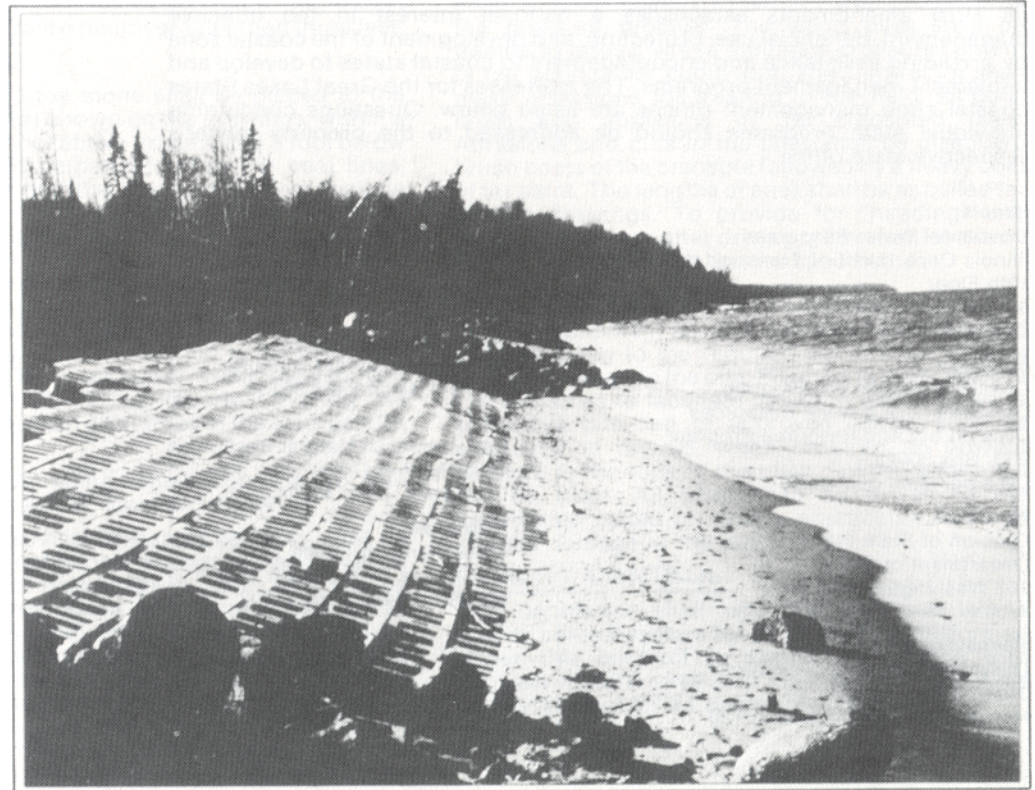
DEMONSTRATION PROJECTS

The Corps of Engineers and several Great Lakes states have been involved in a number of demonstration and research projects to develop low-cost practical means of shore protection. Demonstration sites are discussed

below, with accompanying photographs, and the locations are shown on the Great Lakes map on page 6. Contact the agency listed for specific information.

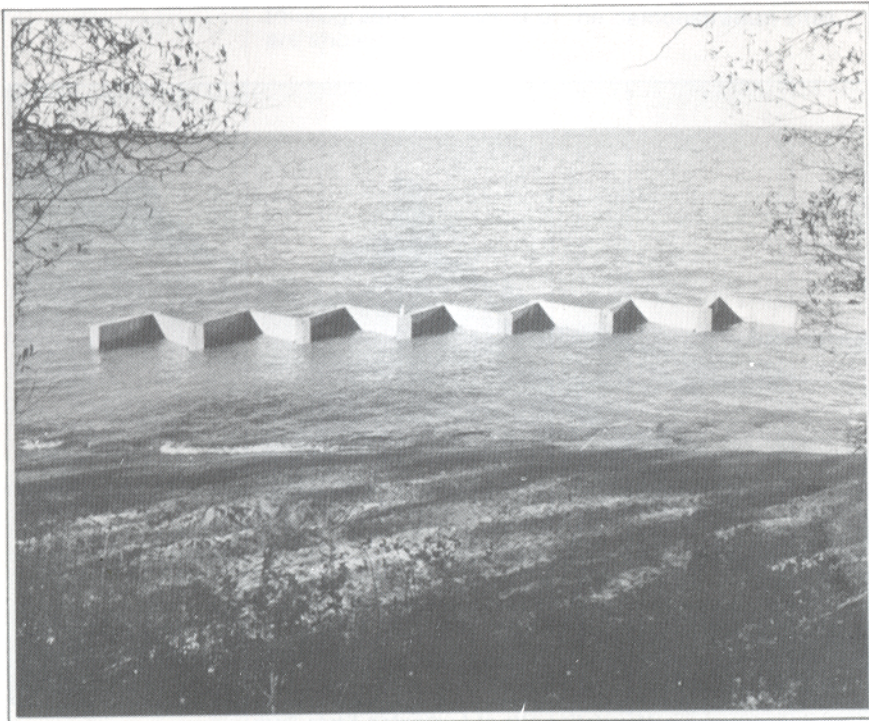
In response to increased concern for the loss of public and private lands caused by shoreline erosion and the resulting environmental and economic damage, Congress authorized Section 54 of the Water Resources Development Act of 1974, Public Law 93-251. This Section, also known as the Shoreline Erosion Control Demonstration Act of 1974, provides that a 5-year program be developed to demonstrate low-cost means to prevent and control shoreline erosion. Two sites were selected on the Great Lakes, one at Port Wing, Wisconsin, in the St. Paul District; and the second at Geneva State Park, Ohio, in the Buffalo District. The projects are scheduled for construction during the fall of 1978. Following that time, the projects will be available for the public to observe their effectiveness. The Port Wing project is shown in the illustration on the right and the Geneva State Park project is shown on the following page.

The types of structures proposed for Port Wing are steel H-piles with railroad ties placed and secured between the piles; a revetment of scrap tires filled with sand, backfilled with granular material; and three different sizes and types of concrete blocks laid on granular material. At each end of the protection and between each demonstration structure, rip-rap sections will be used to prevent possible failure of the structures due to flanking and to prevent failure of one structure from influencing the adjacent structure. Vegetation will be used on the graded slope above the structural measures to stabilize the slope and prevent soil erosion.



Demonstration project at Port Wing.

Three types of offshore breakwaters of various construction are proposed for the Geneva State Park site. The types of structures are gabions and two types of pre-fabricated concrete units. Also, vegetation will be incorporated into the project to assist in stabilizing a portion of the sand trapped by the structures.



Demonstration project at Geneva State Park

Three experimental offshore stone breakwaters with beach fill placed behind the structures were constructed between May and July 1978 by the Buffalo District on Beach 10, Presque Isle, PA; Lake Erie. The breakwaters were constructed to obtain information and data which can be used in determining whether breakwaters would be the best permanent shore protection method for the eroding areas of Presque Isle.



Breakwaters at Beach 10, Presque Isle.

DEMONSTRATION PROJECTS (CONTINUED)

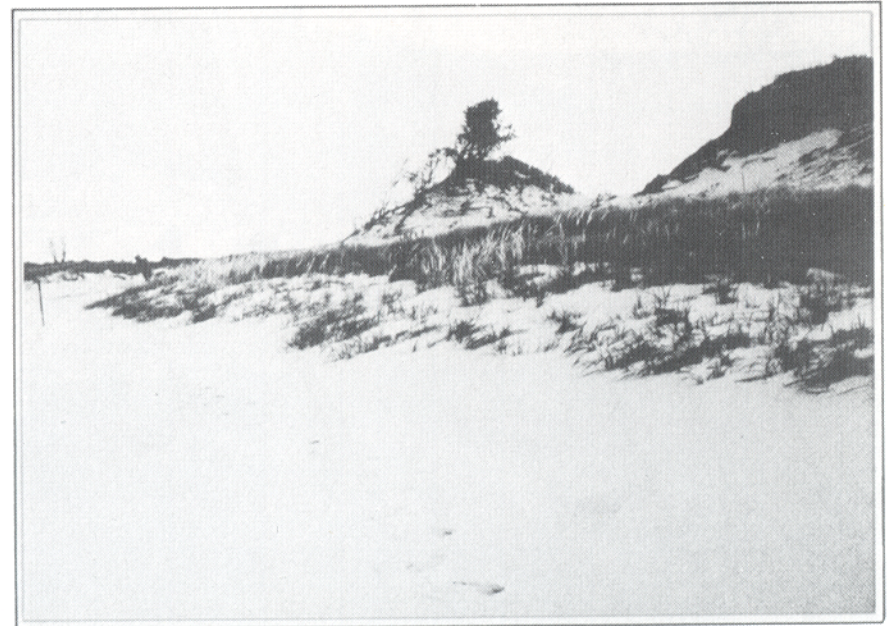
Public Law 520, 71st Congress and Public Law 166, 79th Congress, authorized the United States in cooperation with the states, to study and report on means for the stabilization of beaches at shoreline areas. To demonstrate the effectiveness of using beach grasses to build and stabilize dunes on the shores of the Great Lakes to protect against erosion, a demonstration site was selected on the Pennsylvania and Michigan shorelines. The two sites are described in the following paragraphs.

A vegetative dune-building demonstration project was planted in May 1977 west of Beach 10, Presque Isle, PA using American Beach grass and prairie sand reed. The project was planted by the U.S. Army, Corps of Engineers, Coastal Engineering Research Center, Ft. Belvoir, Va.; in cooperation with the North Central Division and the State of Pennsylvania.

A vegetative demonstration project similar to the one at Presque Isle was planted in 1977 at Ludington State Park, MI by the Corps of Engineers in cooperation with the State of Michigan.



Vegetation site at Presque Isle



Vegetation site at Ludington State Park

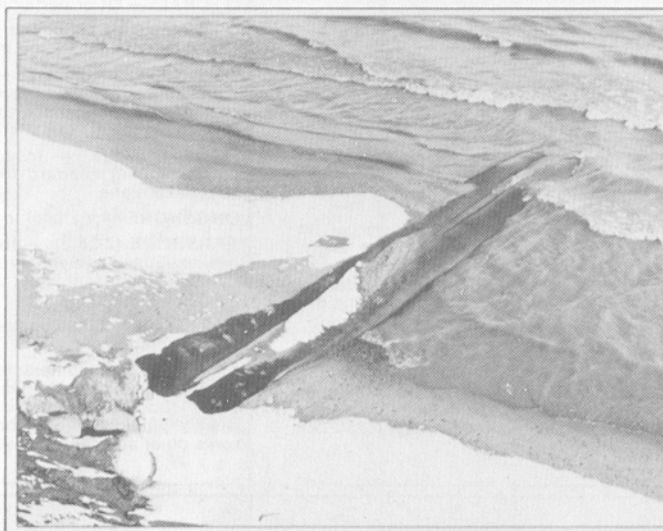
The Michigan Department of Natural Resources, Bureau of Water Management, implemented under the authority of Act 14 of the State Public Acts of 1973, a Demonstration Erosion Control Program in 1974 to demonstrate both innovative and conventional means of shore protection. All of the devices installed were intended to be low cost, and the costs varied from about \$50 to \$100 per foot. Reports have been prepared to describe the program and to report on the results achieved during the first three years of the study. The most recent report is entitled "The Michigan Demonstration Erosion Control Program in 1976." Photographs of several of the demonstration sites are shown here.



Gabion groin, 3 miles south of Port Sanilac, MI.



Rock revetment at Tawas Pt. MI.



Sand-filled nylon tube groin 3 miles south of Port Sanilac, MI.