



US Army Corps
of Engineers®

Engineer Research and
Development Center

National Shoreline Erosion Control Development and Demonstration (Section 227) Program

Description of Research

The National Shoreline Erosion Control Development and Demonstration Program, commonly referred to as Section 227 (of the U.S. Water Resources and Development Act of 1996), is an applied research effort by the U.S. Army Corps of Engineers administered by the U.S. Army Engineer Research and Development Center (ERDC). Its emphasis is on evaluation of innovative or nontraditional approaches to minimize coastal erosion and to improve shoreline sediment retention. The legislation requires a minimum of two project sites on the Atlantic coast, two on the Pacific coast, two on the Great Lakes, and one on the Gulf of Mexico. Demonstration project locations must be experiencing a manageable rate of erosion, have sufficient length to evaluate project functional performance, and have suitable baseline control data or pre-project monitoring data. Section 227 is a coordinated effort among Federal and non-Federal agencies, academia, and private industry. ERDC's partners include the Institute for Water Resources, USACE Districts (New England, Philadelphia, Baltimore, Norfolk, Jacksonville, Mobile, Galveston, Honolulu, Los Angeles, San Francisco, Portland, Detroit, and Buffalo), New Hampshire Pease Development Authority, New Jersey Department of Environmental Protection, Dade County Florida, Texas General Land Office, State of Hawaii, Beach Erosion Authority for Clean Oceans and Nourishment, Oregon Department of Geology & Mineral Industries, Western Michigan University, and the Ohio Department of Natural Resources. Additional information can be found at <http://chl.erd.c.usace.army.mil/section227>



Prefabricated concrete Beachsaver Reef™ is placed at Cape May Point, NJ

Expected Products

A variety of shore protection devices and methods are being constructed, maintained, and evaluated at demonstration sites located along the U.S. coastline. There are currently 12 demonstration sites, all with diverse shoreline morphologies, in various stages of planning, construction, or monitoring. The shore protection technologies evaluated must all have scientific and engineering basis for projected performance and must minimize environmental and aesthetic impacts. Both patented devices and nonproprietary methods are being used. Technologies selected for demonstration include thermo-plastic sheet pile, timber and geotextile dune face fortification, narrow-crested concrete sills, headland breakwaters and groins, wide-crested submerged concrete and geotextile container reefs, permeable groins, low volume beach nourishment, branch-box breakwaters, and bluff dewatering. Projects are evaluated for functional performance, environmental impact, and life-cycle cost in the context of long-term sustainability.

Potential Users

Federal and non-Federal coastal engineering and management communities.

Projected Benefits

Modern coastal engineering and coastal management practice requires demonstration and testing of today's innovative approaches and materials to continue advancement of the field of shoreline erosion control. The program is a unique opportunity for the Corps to meet this requirement through field demonstration and evaluation. Specific goals of the program are to facilitate the development of innovative or nontraditional coastal erosion abatement technologies, perform prototype-scale evaluations of the functional performance of innovative technologies, and provide a mechanism for technical transfer to the coastal engineering and management communities.

ERDC Program Manager(s)

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Participating ERDC Laboratories

Coastal and Hydraulics Laboratory (CHL); Cold Regions Research and Engineering Laboratory (CRREL); Environmental Laboratory (EL); Geotechnical and Structures Laboratory (GSL); Information Technology Laboratory (ITL).