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Cat Island Chain Restoration



from **Engineering With Nature: An Atlas, Volume 1.**

by **US Army Engineer Research and Development Center**



Green Bay, Wisconsin, United States

This project will reconstruct the Cat Island chain, which was lost to high water and intense storms in the 1970s. In 2013, a two-and-a-half-mile-long wave barrier along the remnant Cat Island shoals was constructed in partnership with the Brown County Port Authority. Over the course of 20 years, the U.S. Army Corps of Engineers (USACE) will utilize clean dredged material from the navigation channel to shape three islands with naturally developing contours and habitat to foster a variety of beach and wetland types, both on and off the islands. Engineering this project in concert with nature and adaptive management practices will lead to important lower bay habitat recovery and will benefit sport and commercial fisheries, colonial nesting water birds, shorebirds, waterfowl, marsh nesting birds, amphibians, turtles, invertebrates, and fur-bearing mammals. The Detroit District (LRE) and its employees were recognized by the 2014 Chief of Engineers Awards of Excellence Program's Environmental Merit Award for this project.

Article cover: Aerial view of Cat Island chain. (Photo by Steve Seilo, Photodynamix)

Producing Efficiencies

In-water placement of dredged material at a location near the navigation channel to restore habitat while utilizing adaptive and cooperative management has resulted in a 50 to 60 percent reduction in maintenance dredging costs. Since initiation of Cat Island activities and as a result of this reduction in dredging costs, over a million cubic yards of maintenance dredging has been completed.



Snowy owls perched on the rubble.
(Photo by Tom Prestby, University of Wisconsin–Green Bay)

Using Natural Processes

At Cat Island, dredged material is generally placed in strategic locations and distributed via wave and wind action, creating a naturally developed and diverse habitat. Utilizing natural processes has decreased cost of operations and maintenance and has already begun to show signs of successful habitat creation with multiple mating pairs of the endangered piping plover.



Adult and juvenile Caspian terns foraging at Cat Island.
(Photo by Tom Prestby, University of Wisconsin–Green Bay)

Broadening Benefits

Utilizing Engineering With Nature practices at Cat Island has led to the creation of a multi-purpose, beneficial-use facility for dredged material, increased coordination with other agencies, diversified habitat to provide sanctuary for endangered species, and provided opportunity for scholarship and education to university and local students and organizations. The project also led to greater operational efficiencies, resulting in economic benefits to USACE, the federal government, and U.S. taxpayers.



A group of American white pelicans feeding.
(Photo by Tom Prestby, University of Wisconsin–Green Bay)

Promoting Collaboration

The project is managed as a partnership between the USACE LRE; Port of Green Bay, Brown County; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; Wisconsin Departments of Transportation and Natural Resources; Lower Fox River/Green Bay Natural Resources Trustee Council; University of Wisconsin Sea Grant Institute; and University of Wisconsin–Green Bay.



Male piping plover nestling a chick on Cat Island.
(Photo by Tom Prestby, University of Wisconsin–Green Bay)



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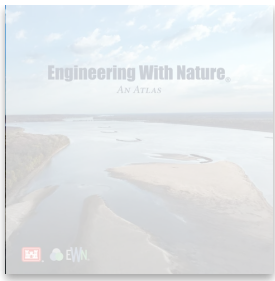


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