

**PEORIA RIVERFRONT ECOSYSTEM
EAST PEORIA, ILLINOIS, U.S.A.**

Seawalls and Shoreline Structures

Problem

The project area was located in the Illinois Waterway, within the Illinois River. The primary project objective was to restore deep water fisheries habitat in the Lower Peoria Lake. However, with the adjacent navigation channel nearby, the project area also provided a beneficial use dredge disposal material for potential future channel maintenance work. The island disposal area also created a secondary vegetative habitat.

Solution

The solution was to construct a 21 acre island using Maccaferri's MacTube® geotextile containers for stabilization of the island perimeter to create a beneficial use for the dredge disposal area. The 4800 foot island perimeter was designed using three rows of tubes on the bottom and topped with a fourth row, each filled to a six foot fill height.

The general contractor, Midwest Foundation Corporation, utilized a mechanical dredge system with a clamshell to excavate the material along the riverbed, which was then placed into a screened hopper to filter the material. From the hopper, water was added to the material to create the slurry for tube filling. The deep water habitat holes were excavated first, providing volume for tube filling. Once the perimeter was formed, creating a dredge disposal area, the contractor back-filled the island with the channel maintenance dredge material.

A secondary benefit to this project was the vegetation which began to establish immediately after installation of the tubes. This vegetation has since provided upland habitat for bird nesting, snakes, and other native wildlife.

Client: U.S. ARMY CORPS OF ENGINEERS(Rockisland district)

Designer / Consultant: U.S. ARMY CORPS OF ENGINEERS(Rockisland distr

Contractor: Midwest Foundation Corp.

Products used (Qty.)

- MacTube Coastal

24800F
PERIMETER

Date of construction: 03/2009 - 04/2013



Backfilling the island after the perimeter was established



Dewatered dredge spoil material



Island with vegetation



Aerial View from Google



AERIAL VIEW