

PROJECT: Oxbow Restoration

PURPOSE/GOAL: Decrease saltwater intrusion; improve water quality in stagnant areas; reduce organic deposition in isolated oxbows.

PROJECT LOCATION: Multiple locations; Northwest Fork, between JD Park Boat Ramp and Public Recreational Area

PROJECT STATUS: Completed, 1997

DESCRIPTION:



At four sites within Jonathan Dickinson State Park, boat traffic had resulted in the destruction of mangrove shorelines and the breaching of narrow divisions between adjacent channels. These breaches effectively straightened the channel by shortcutting historical meanders, thereby allowing more direct tidal

influence upon upstream reaches. Closure of the gaps was intended to (1) improve water quality in stagnant areas; (2) reduce organic deposition in isolated oxbows; and (3) increase retention time of freshwater runoff in the Northwest Fork and decrease saltwater intrusion. Two of the four gaps were closed during 1996, with the remaining two gaps closed in February, 1997.

The gaps were plugged with a barrier of core stone placed upon a geotextile layer. This core was faced with a layer of larger armoring rock. The top of the plug was then planted with mangroves, thus providing an hydraulic barrier which was biologically and aesthetically compatible with the surrounding state park.

Project performance has been evaluated through the use of salinity probes placed in the river upstream and downstream from the gap closures. Additionally, water quality testing will continue to be undertaken in the oxbows to evaluate the effects of improved flushing resulting from gap closures.