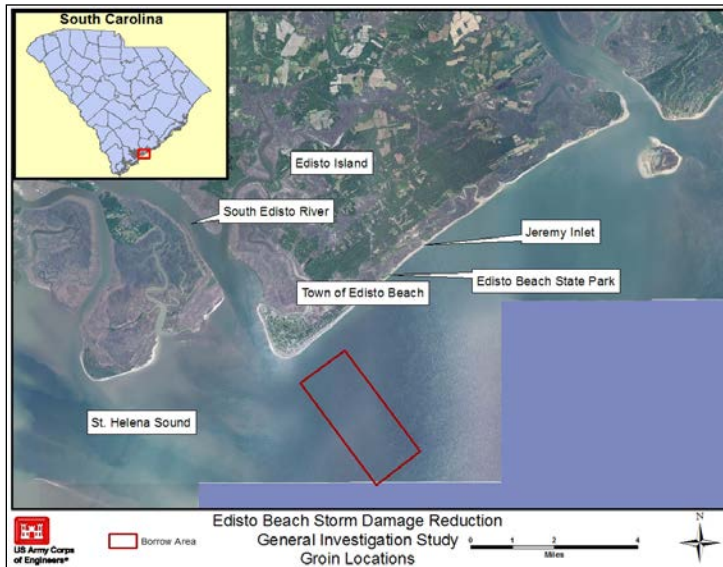


Edisto Beach Coastal Storm Damage Reduction Project

Colleton County, South Carolina

20 March 2014



ABSTRACT: Edisto Island is a barrier island located at the mouth of the Edisto River in Colleton County, South Carolina, about 45 miles southwest of Charleston and about 20 miles east-northeast of Beaufort, South Carolina. The study area encompasses approximately 6 miles of sand shoreline extending from Jeremy Inlet to the South Edisto River. The recommended plan addresses about 4.5 miles of that shoreline. The northern portion of the study area within the Edisto Beach State Park was not included in the recommended plan because it lacks the structures and infrastructure needed to generate enough benefits to justify the cost of protecting that portion of beach.



The non-Federal sponsor for the project is the Town of Edisto Beach. Historically, coastal storms have eroded the coastline of Edisto Beach, resulting in recession of the natural protective beach berm and dune system and damage to infrastructure and environmental resources. The feasibility study assessed the need for hurricane and coastal storm damage reduction, as well as opportunities to protect and maintain existing habitat that would be lost without action.

The recommended plan proposes to reduce coastal storm damages by lengthening 23 of the existing 34 groins by between 20 and 100 feet (total of 1,130 feet of groin lengthening) and constructing varying sizes of berms and vegetated dunes along about 4.5 miles of shoreline. The recommended plan's shore-based features consists of the initial construction of berms to an elevation of 7 feet and ranging from 50 feet wide to 75 feet wide fronting vegetated dunes ranging from 14 feet to 15 feet in elevation and 15 feet wide at their crowns. The predicted average renourishment interval is 16 years. The project includes initial construction which combines beach fill and groin lengthening, and three predicted renourishments over 50 years. Initial construction of the recommended plan will require the placement of 924,000 cubic yards of material and a total of 1,428,000 cubic yards for the three renourishments which average 476,000 cubic yards of material each. Material for the berm and dune construction and renourishment will be dredged from a borrow site located approximately 1.5 miles offshore of the project area. Since the recommended plan would not have any significant adverse effects, no mitigation measures (beyond management practices and avoidance) or compensation measures would be required. The recommended plan is the National Economic Development (NED) Plan.

Based on October 2014 price levels and a 3.5% interest rate, the estimated total first cost of the recommended plan is about \$53,871,000, which includes the project first cost of initial construction of \$21,129,000 and a total of three periodic renourishments at a total cost of \$32,742,000. All project costs are allocated to the authorized purpose of hurricane and storm damage reduction.

Applying cost-sharing in accordance with Section 103 of the Water Resources Development Act of 1986, as amended, the Federal share of the first cost of initial construction would be about \$13,733,000 (65 percent) and the non-Federal share would be about \$7,395,000 (35 percent). Of that amount, the cost of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas (LERRD) is estimated at \$989,000, all of which is eligible for LERRD credit as part of the non-Federal sponsor's 35% cost share.

The Federal share of the total cost for the three periodic renourishments would be about \$16,371,000 (50 percent) and the non-Federal share would be about \$16,371,000 (50 percent). The Town of Edisto Beach would be responsible for the operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) of the project after construction, a cost currently estimated at about \$83,000 per year.

Based on the current 3.5 percent discount rate and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be \$1,501,000, including monitoring and OMRR&R. The recommended plan would reduce average annual coastal storm damages by about 59 percent and would leave average annual damages estimated at about \$2,000,000. The equivalent average annual benefits, which include recreation benefits, are estimated to be \$3,467,200 with net average annual benefits of \$1,966,200. The benefit to cost ratio is approximately 2.3 to 1.

Report Documentation: Pertinent documentation on the project, the results of the CWRB and subsequent Washington-Level Review Actions are linked below:

- CWRB Agenda
- [Project Map/Placemat](#)
- [Project Summary](#)
- [CWRB Briefing Slides](#)
- [CWRB Lessons Learned](#)
- CWRB Meeting Record
- State & Agency Review Comments Letters
- Documentation of Review Findings
- Signed Chief of Engineers Report
- Advanced Copy to Congressional Committees
- ASA (CW) Memo to OMB
- OMB Response
- ASA (CW) Transmittal to Congress
- Authorization

Additional Information: [South Atlantic Division](#)

[Charleston District](#)