

Hereford Inlet to Cape May Inlet New Jersey Shore Protection Project Cape May County, NJ

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ABSTRACT: The project proposes to reduce coastal storm damages along 4.5 miles of barrier island shoreline on “Five-Mile Island”, between Hereford Inlet to Cape May Inlet in Cape May County along the Atlantic Ocean coast in southern New Jersey. The project would also manage sand erosion at the northern end of the island and sand accretion at the southern end. The non-Federal sponsor is New Jersey Department of Environmental Protection. The project is eligible for construction authorization under PL 113-2 (which provided disaster relief after the storm Sandy), if funds appropriated under the act are available.

Since the 1920s, the shoreline has steadily accreted in Wildwood, Wildwood Crest and Lower Township at the southern end of the island. The shoreline in North Wildwood at the northern end is characterized as being unstable, showing periods of erosion and accretion. This unstable behavior is typical of northern ends of barrier islands in New Jersey that are adjacent to uncontrolled inlets. Change is drastic in these areas because the shoreline moves frequently as spits and shoals associated with the inlet accrete and erode.

The recommended plan for coastal storm damage reduction on Five Mile Island includes construction of a +16 feet NAVD88 dune with a 25-foot-wide crest and a slope of 5:1 along a 25,000-foot-long stretch of shoreline using 1.5 million cubic yards of compatible sediment, with renourishment on the average of every 4 years over a 50-year period of Federal participation, for a total of twelve additional nourishments. The design berm construction is at an elevation of +6.5 feet NAVD88 with foreshore slope of 30:1. Material for the beach fill will be sourced from on-shore borrow locations identified in Wildwood Crest, Wildwood and Lower Township at the accreting south end of the island. Annual monitoring of the project will be required throughout the 50-year period of Federal participation. The recommended plan is not expected to have any significant adverse effects, therefore, no mitigation measures (beyond management practices and avoidance) or compensation measures would be required.

The recommended plan for the project is the national economic development (NED) plan for coastal storm damage reduction. This plan will provide coastal storm damage reduction throughout the project extent and would maintain the existing recreational beach. Use of the onshore borrow sites will also address the impacts of excessive beach width at the south end of the island which clogs storm water outfalls and decreases recreation experiences. In addition to reducing erosion, flood and wave damages, the project will create incidental benefits that reduce health and safety issues, increase beach recreation, and increase the Wildwood Crest fishing & pier activity.



Based on March 2014 price levels, the estimated initial construction cost of the plan is \$21,605,000, for which the Federal share is approximately \$14,043,000 (65 percent) and the non-Federal share is approximately \$7,562,000 (35 percent). Total periodic nourishment costs are estimated to be \$82,428,000 (March 2014 price level) over the 50-year period following initiation of construction, for which the Federal share is approximately \$41,214,000 (50 percent) and the non-Federal share is approximately \$41,214,000 (50 percent). Operation, maintenance, repair, replacement, and rehabilitation costs over the lifetime of the project are estimated to be minimal and within the scope of existing activities performed by both cities (estimated cost of \$150,000).

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 \$2,688,000. The equivalent average annual benefits, which include recreation benefits, are estimated to be \$6,253,000 with net average annual benefits of \$3,565,000. Including all estimated recreational benefits, the benefit-cost ratio is approximately 2.3 to 1 and 1.9 to 1 when computed with the federal discount rate of 7%.

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
- Signed Finding of No Significant Impact
- Authorization

Additional Information: [North Atlantic Division](#) [Philadelphia District](#)