
Recommendations

These recommendations are a framework for a management strategy for North Carolina's 326 miles of oceanfront shoreline and 19 active tidal inlet complexes. A BIMP must be adaptive and continually updated with new information and innovations to meet evolving coastal challenges. A comprehensive understanding of the causes and effects of shoreline change, sound planning and engineering, balancing environmental and economic needs, dependable financial resources, and clear implementation strategies are necessary for effective shoreline management policies.

The recommendations in the BIMP highlight four primary components discussed throughout the document, and are deemed essential for a sustainable long-term plan for management of the state's ocean and inlet shorelines.

Regionalization of the Coast

Dividing the coast into 4 regions and 5 subregions

- The state should consider using a regional approach for managing beach fill and inlet dredging projects. The BIMP divides the coast into four main beach and inlet management regions and five subregions to facilitate the development of management strategies and prioritization of projects. A regional management approach addresses the entire coastal environment, accounting for natural coastal processes and the effect of human activities, while balancing environmental and economic needs specific to each region.
- Planning projects regionally allows for an “efficiency of scale,” which can reduce the costs associated with individual projects. For projects in the same region, there is the potential to save time and reduce costs if the environmental, geotechnical, and monitoring studies for similar projects are combined. In addition to reducing costs, a regional approach avoids individual local governments competing for the same resource, and allows for better management of cumulative and secondary impacts, facilitating greater environmental protection.
- Implementation of a regional approach could be facilitated through the use of regional authorities modeled on the beach commissions currently in place in Brunswick, New Hanover, Pender, Dare and Carteret Counties. These entities could serve as integrated, decision-making bodies with authority to coordinate beach and inlet management strategies within each region, and could simplify project coordination between the state and local levels. The regional authority would also have the flexibility to coordinate raising local funds in the manner most appropriate to the region. The regional authority could maintain local control through four essential characteristics:

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- Serve as an integrated, regional decision-making body with authority to coordinate beach and inlet projects within the region,
 - Possess the financial and legal authority to partner with the state,
 - Have available a local funding stream sufficient to match the dedicated state funds, either directly or in association with municipalities within the region, and
 - The regional authority could provide a lead professional coordinator who lives and works in the region, through whom local project planning and management expertise can be fostered and developed. This coordinator could also serve as a regional liaison to the state and the other regional authorities, so that the expertise and experience can be shared among the regions thereby ensuring continuity of BIMP implementation across the coast.

Long-Term Funding

Creation of a long-term, stable and predictable financial foundation

- The state should establish a dedicated Beach and Inlet Management Fund administered by the Department of Environment and Natural Resources to provide the state share of beach and inlet projects and program support. This amount could vary based on the annual funding needs put forth by the regional authorities and the state for BIMP implementation.
- A beach and inlet management fund could have two broad funding categories, reflecting two distinct uses: project cost sharing funds (state share) and program support funds (joint or regional investigations). Based on the information available, the annual revenue needed to support eligible projects is dependent on at least three major policy decisions. First, the state must define what specific projects would be eligible for funding. As an example, the Coastal Resources Commission has recommended that the fund could be used to support beach nourishment; relocation of structures encroaching on the beach; inlet channel realignment; dredging of navigation channels, inlets and waterways; and public beach, inlet, and waterway access. Second, the state share for projects supported by the fund must be established. Finally, under the current cost-sharing models with the federal government for both beach fill and inlet dredging, the total state funding required for these projects per decade is projected to be \$77.4 million (\$7.7 million per year). This projection is based on a projection of \$44 million for beach nourishment and \$33.4 million for dredging.

Given the current economic conditions, it may be necessary to phase in the program over a number of years. Establishment of such a fund would reduce financial uncertainties at the local level that often contribute to project delays,

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- cost increases, and the disruption of local planning efforts. A program of reliable and predictable state funding would better position coastal communities in allocating new or existing sales or property tax revenues to coastal projects, knowing the state was committed to a share of the project. Reducing project uncertainties could also allow the dredging industry to anticipate upcoming work, increasing competition and potentially reducing project costs.
- Establishment of a dedicated fund could be implemented through a set of guiding principles such as:
 - Shared Benefits, Shared Responsibility - Where both public and private entities that benefit from the affected resource contribute to its restoration and maintenance.
 - Beaches and Inlets Should Earn their Keep - State revenues pledged to the dedicated fund should be derived from the economic activity in the eight oceanfront counties where tourism and economic activity can be directly attributed to the beaches and inlets. In effect, these coastal resources should earn their keep.
 - Shoreline Management, Not Crisis Response - In the past, the political will to act in response to shoreline erosion or inlet problems was reached only in the immediate aftermath of storm damage or some similar crisis. Active management based on planning and a secure financial foundation would be more effective than management by crisis.
 - Federal Funds First - North Carolina should continue to aggressively seek federal shore protection projects and other federal financial support to meet its beach and inlet project needs as well as support for federal navigation projects.
 - Stability and Predictability Balanced with Local Control and Flexibility - A stable source of funding for coastal communities could help to facilitate long-term planning and establish a predictable local match. Establishing project priorities should be vested at the local level, and coastal communities should have the flexibility to provide the required match in a manner best suited to local needs and priorities.

Strategy Development

Projects, Partnerships and Innovation

- The state should develop a funding strategy that takes into consideration a myriad of options to ensure a balanced approach to current and future changes along the coast: beach nourishment, increased beach access, removal of structures encroaching onto public beach areas, inlet channel realignment, dredging navigation channels at inlet crossings, incentives for projects that exceed minimum public access requirements and the use of land use plans, and acquisitions or conservation easements to restrict or prevent development in high-risk areas.
- It is important that the potential costs of the strategies for a statewide BIMP ensure that the level of funding and strategies can be justified. The state should initiate an economic cost/benefit analysis to determine the potential costs of a “status quo” project-by-project alternative or for selecting another management alternative.
- All beach quality sediment that is dredged from navigation channels should be returned to the beach system. Other non-beach compatible sediments should be used to create habitat if possible.
- Local project sponsors should design and monitor their projects so that the criterion for complete federal reimbursement is maximized. In this way, sediment lost during a federally-declared disaster event could be replaced at no cost to the local sponsor.
- The state should continue integrating the USACE regional sediment management (RSM) strategies into the BIMP to ensure long-term federal assistance and to maximize available expertise in project planning and implementation. The state and USACE have already recognized the importance of a cooperative relationship for successful implementation of the NC BIMP and RSM.
- The state should promote and support development of innovative dredging technologies for the shallow-draft inlets, as opposed to using side-cast dredges, which do not place the dredged material back onto the beach shoreline. With greater financial predictability from the state, innovative dredge designs and disposal techniques may be embraced by private industry since a lot of the uncertainty would be reduced at all phases of implementation.

Data Collection and Monitoring

- The state should continue to further identify data gaps and partner with various state and federal agencies, local governments and academia to assess data needs and acquire coastal datasets relevant to Beach and Inlet Management regions.
- All data collected through the BIMP should be made available to local governments in planning for beach and inlet projects and integration of this information into their local CAMA Land-Use plans. This data could also be the foundation of centralized datasets for each of the BIMP regions. Such datasets would be a necessary step in reducing local government costs in the development of Programmatic Regional Environmental Impact statements (EIS) and would ensure this information is readily available for planning and emergency needs.
- The state should standardize data collection formats among the regional authorities to improve data sharing across BIMP regional boundaries.
- The state, along with the regional entities, should guide and/or prioritize future data collection and monitoring needs, and ensure that these costs are shared across as many regions as possible.
- Establish a framework for multiple permanent monitoring stations within the N.C. coastal zone, such as a system of estuarine, ocean and river stations, to measure absolute changes in sea-level rise, characterize the dynamics of storm surges and tides, and monitor water quality. Explore the current National Estuarine Research Reserve sites as “sentinel sites” for location of some of this equipment where possible.