NC BEACH AND INLET MANAGEMENT PLAN: AN EVALUATION OF A DEDICATED BEACH NOURISHMENT FUND

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BACKGROUND

The North Carolina General Assembly started the process for the original NC Beach and Inlet Management Plan (BIMP) in 2000 (HB 1840 Section 13.9c), with completion of the document occurring in 2009. The General Assembly passed legislation to update the BIMP in 2015 (HB 97) to review new coastal and socio-economic data driven by policy changes created since the original document. The NC Department of Environmental Quality (NCDEQ) served as the managing agency for both the original and updated BIMP studies.

PURPOSE

To project future funding needs for maintaining North Carolina's coastal systems, the BIMP update focuses on beach nourishment and channel maintenance quantities and costs for projects occurring since 2008. North Carolina's beaches and tidal inlets provide an overwhelming contribution in preserving the State's cultural heritage while also providing a significant economic benefit. NC recognized that to better maintain and enhance these valuable coastal communities, a management strategy was necessary that would evolve with future changes to the State's beaches and tidal inlets. The BIMP update highlights the importance of coastal infrastructure, beaches and navigable channels, along with the need to increase the State's involvement to preserve them.

METHODOLOGY

The BIMP update required additional data acquisition from 2009 to 2015 which was combined with the original dataset to update the volumetric and cost projections necessary to sustain the current and future managed shorelines across the NC coast. Project data was gathered from universities, the United States Army Corps of Engineers, and local towns/municipalities. The updated beach nourishment and navigation dredging datasets were used to determine revised sediment volume and cost required for each region and statewide. This analysis utilized the regions identified in the original BIMP which are presented in Figure 1.

The beach nourishment dataset was analyzed on a regional and statewide basis comparing volume placed, distance placed, and cost (State and local contributions) data from 1955 to 2015. The navigation dredging dataset was divided into deep (>16 ft) and shallow draft dredging (<16 ft) to accommodate the two classes of dredging carried out in North Carolina. Both shallow draft and deep draft dredging were analyzed on a regional and statewide basis comparing volume and cost (State and local contributions) data from 1975 to 2015 The combined cost data compiled in the BIMP update were converted to 2015 dollars to compare the relative costs over time. A 4-year moving average was applied to the data to identify trends within the last decade (2005 - 2015) as well as the most recent time period (2010 – 2015). The cost trends were used to project the funding needs for the State.

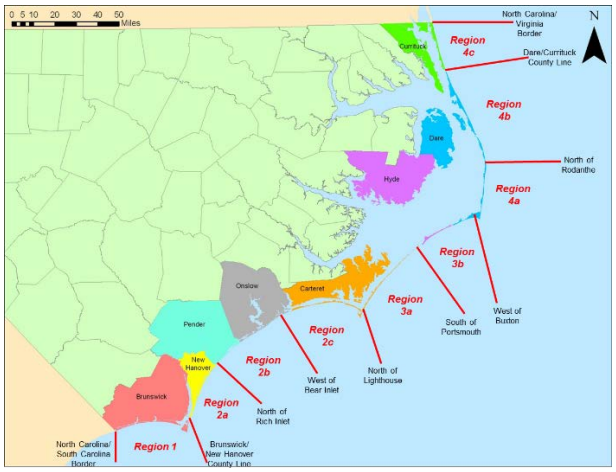

Figure 1 – BIMP Regional Divisions

The socio-economic impact study of the State's beaches and inlets were conducted to highlight the importance of these vital resources and the need for the State to increase their participation in preserving them. The economic value of the State's coastal resources are dependent on maintaining the beaches and inlets. The direct expenditures of coastal activities provided the basis to determine the return on investment in comparison to the cost of maintaining beaches and inlets.

Funding options were identified to create a dedicated beach preservation fund for future beach initiatives. Similarly, the funding needs for appropriations to the State's deep draft navigation fund were also identified.

CONCLUSION

The socio-economic impact to the State resulted in direct expenditures generated by the beaches and inlets of $2.5 billion. When multiplier effects are added, these numbers rise to $6.1 billion supporting almost 65,000 jobs.

Statewide dredging activities average between $25 -35 million annually, while nourishment projects average $50 million annually. These results justify a dedicated funding source of $25 million annually for beach nourishment and restoration. There are three preferred options to generate revenue for the beach preservation fund including; single and combined source, new taxes, or the reallocation of existing State sales tax within the eight coastal counties. Each recommendation provides a viable revenue source for the beach preservation fund. The study also

recommends a recurring general fund appropriation of $17.5 million annually for deep draft navigation. The recommendation includes a stipulation requiring beneficial reuse of all compatible material on adjacent beaches. The North Carolina General Assembly is now tasked with deciding how to move forward with the recommendations and providing guidelines for managing and distributing the funds to project sponsors.

REFERENCES

Moffatt & Nichol (2016): Beach and Inlet Management Plan Report, Raleigh, NC.