

North Carolina Beach and Inlet Management Plan (BIMP) 101

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Agenda

- › Purpose & Need
- › 2009 BIMP
 - › Data Collection
 - › Results & Outcomes
- › 2016 Update
 - › What was Updated & Why
 - › Results & Outcomes

Wilmington & Beaches CVB Photo

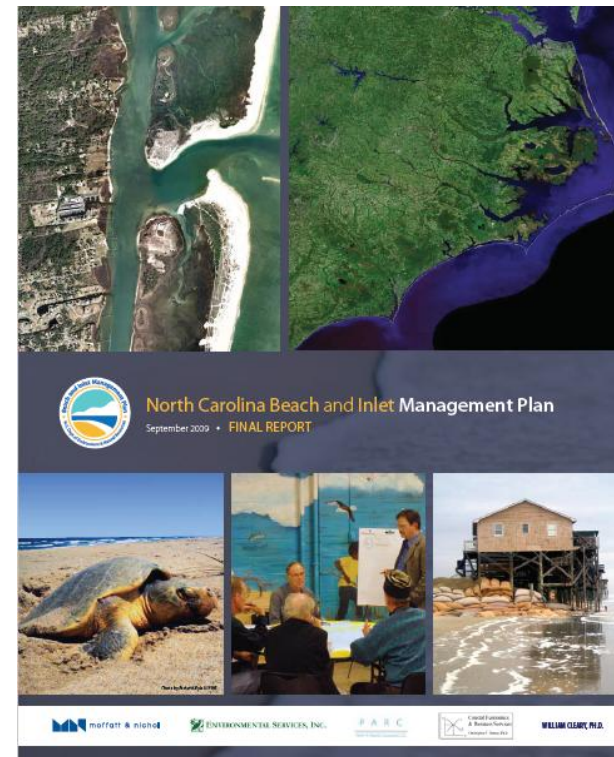


George Mitchell Photo

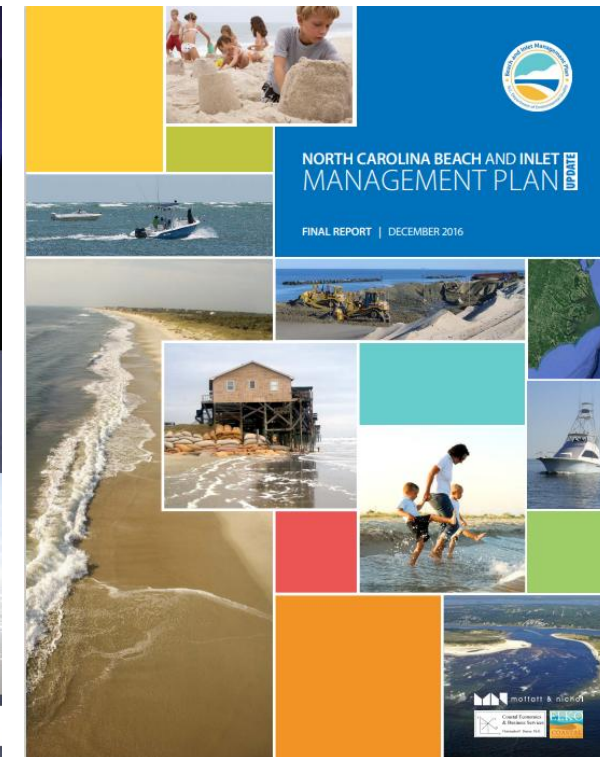
BIMP Purpose & Need

- › Original BIMP authorized by Section 13.9c of HB 1840 (2000)
- › BIMP update authorized in HB 97 (2015)
- › NC: 326 miles of ocean beaches, 19 active inlet complexes, known for beautiful barrier islands & coasts
- › State committed to long-term conservation and management of the State's beaches & Inlets
- › Agencies: Division of Water Resources & Division of Coastal Management
- › Funding Priorities and Return on Investment

2009



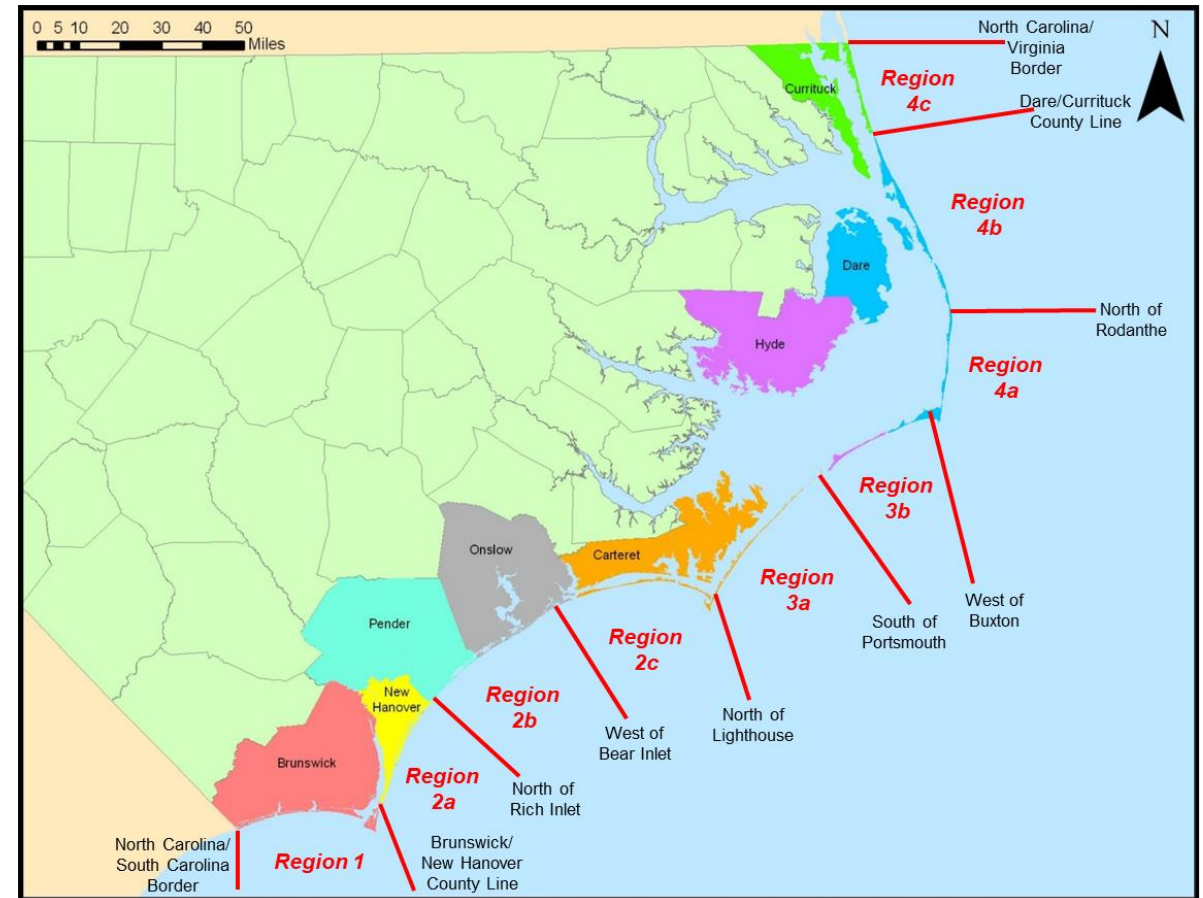
2013



2009 BIMP Data Collection

- › Stakeholder Engagement: Working Group, BIMP Advisory Committee, Public Meetings
- › Six Categories of Strategies
 - › Beach Nourishment
 - › Coastal Zone Management Practices
 - › Storm Recovery Practices
 - › Dredging
 - › Sand Bypassing
 - › Inlet Management/Realignment
- › Gathered Quantities, Costs to Manage
- › Economic Benefits of Management

Four (4) Regions, Nine (9) Sub-Regions



2009 BIMP Results



› COSTS

- › State of NC Should plan to have 4 to 5.5 Mcy of beach nourishment annually at cost of \$45-\$55 M per year.
- › Inlet dredging costs add another \$30 M for a total of \$75-\$85 M per year
- › Estimated that USACE may continue to cover \$15-\$30 M for dredging and beach nourishment
- › If deep-draft included, state and local would be \$60-\$70 M
- › **State Funding Requirement: \$25 - \$35 M/yr**
assuming State provides 40 to 50 percent of need.
- › **If deep-draft included, \$30 - \$42.5 M/yr**

› SOCIO-ECONOMIC BENEFITS

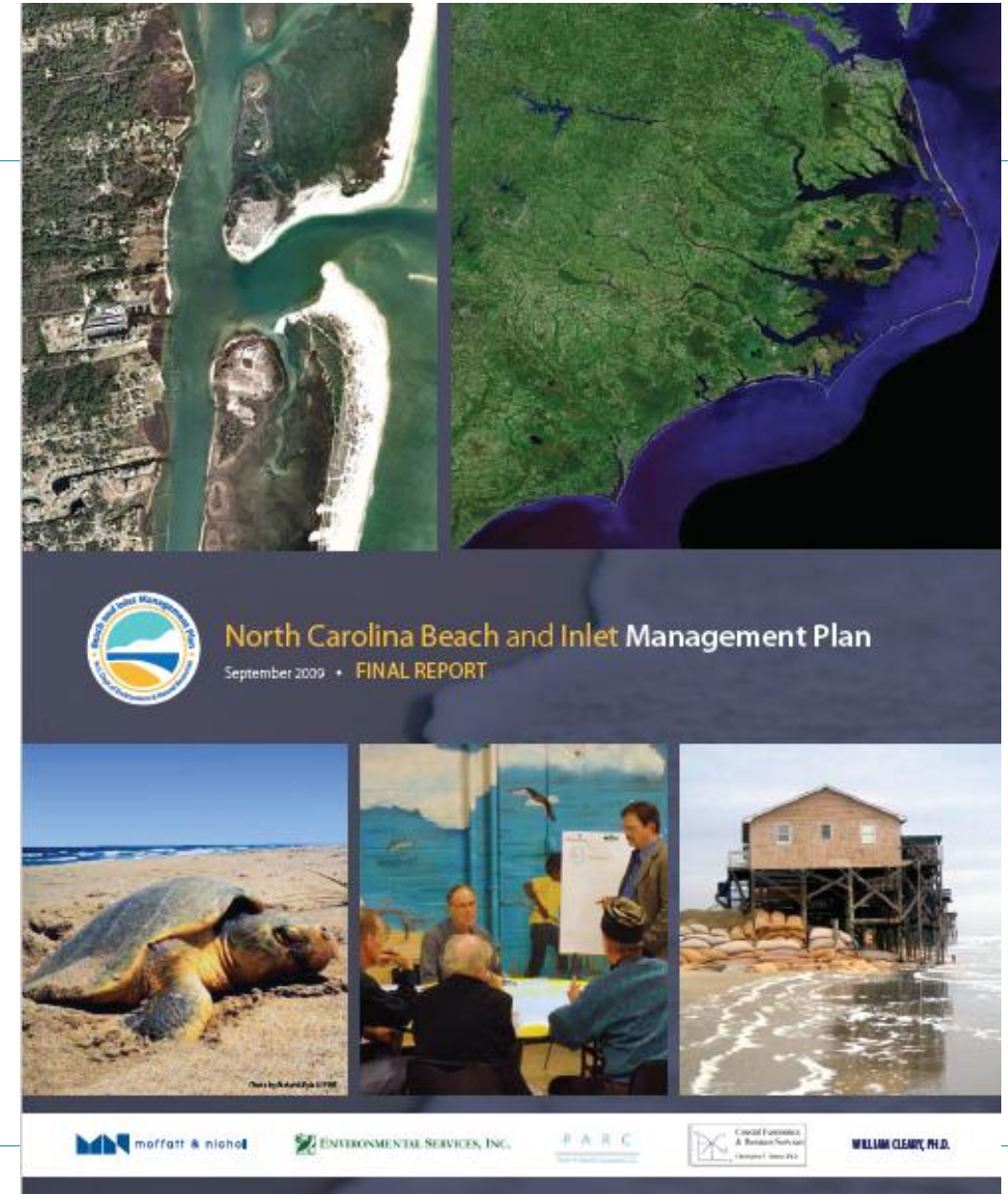
- › Recreation, Residential and Commercial Property,
- › Commercial and Recreational Fishing, Marinas, Boat-Building Industry
- › **Direct Expenditures: \$3.0 B/yr**
- › **Economic Multipliers Added: \$4.8 B/yr**

› RECOMMENDATIONS

- › **Beneficial Use, Regional Sediment Management, and Best Practices to Protect Environmental Resources**
- › **Leverage Federal Funding**
- › **Establish Beach, Inlet, & Waterway Management Fund**

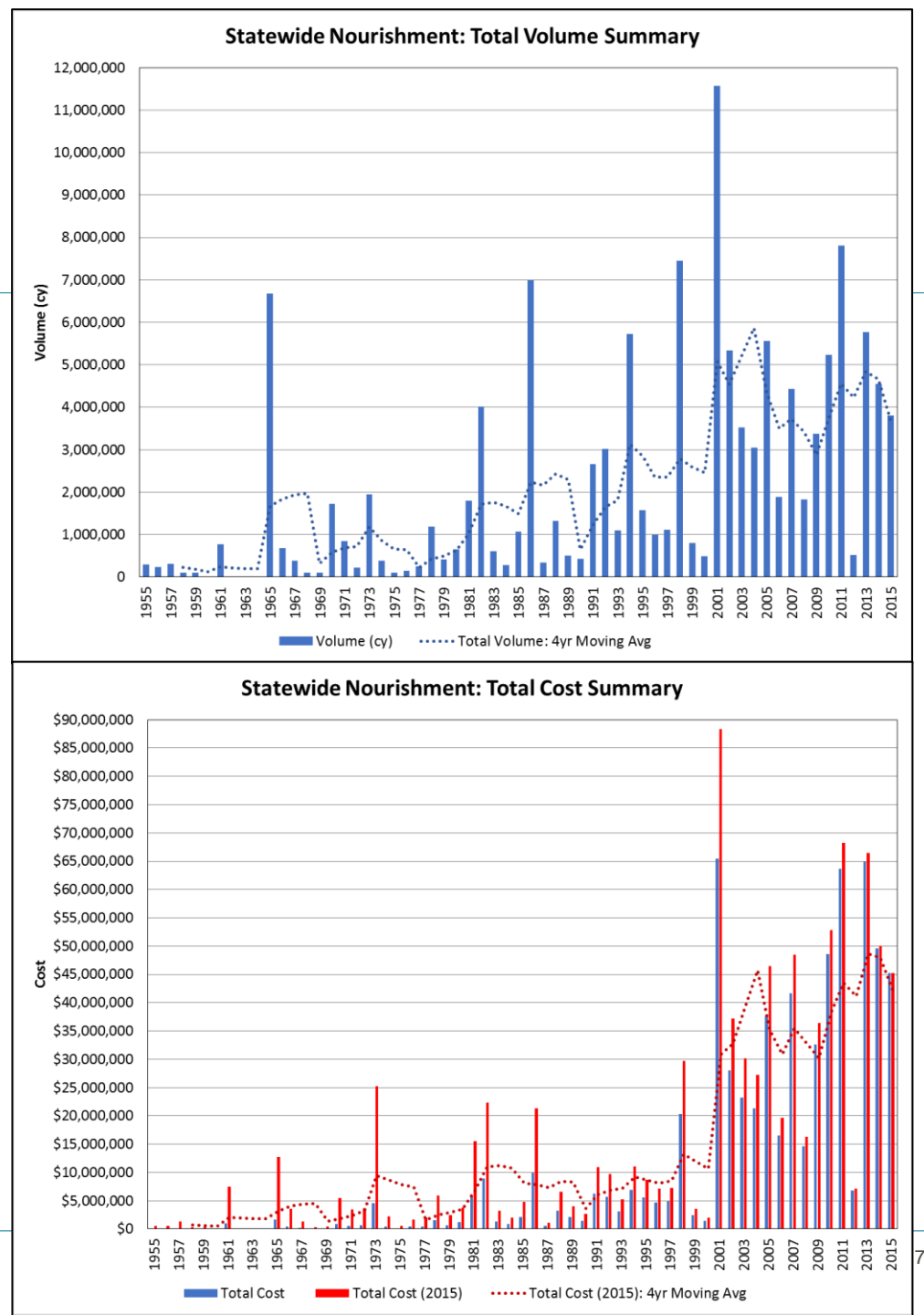
2009 BIMP Outcomes

- › Local, County, and Municipal Government Budget Planning
- › Centralized Source of Local and Statewide Beach and Inlet Management Data for Environmental Documents
- › Leveraging Information for Regional Planning Approaches
- › 2013: Shallow Draft Navigation Channel and Lake Dredging Fund



2016 BIMP Updates

- › Update Dredging/Beach Nourishment/Sediment Resource Databases
- › Update Projections and Estimate for Beach and Inlet Funding Need
- › Update Analysis for Economic Effects of Beach and Inlet Projects
- › Literature Review of Other States Funding Sources/Strategies
- › FEMA Engineered Beach Case Studies



2016 BIMP Results: Beach Nourishment

- › Beach Nourishment Volume Increased from **1-2 Million cy/yr Historically to 4-5 Million cy/yr** in the 15 Years Before 2016
- › Beach Nourishment Distance Increased From **1-4 miles per year historically to 10-12 miles per year** in the 15 Years Before 2016 (Half Federal, Half State/Local)
- › Beach Nourishment Costs Increased From **\$5-\$10 Million Per Year Historically to \$50 Million Per Year** In the 15 Years Before 2016 (Federal and State/Local Share Split Evenly at Approximately \$25 Million Each)
- › Assuming an Increase in Nourishment Needs Based on Miles of Developed Shoreline, the **Estimated State/Local Funding Need = \$40 Million Per Year**
- › Assuming Storm Losses and Potential Responsibility for CSDR Projects, the **Estimated State/Local Funding Need = \$40 - \$60 Million Per Year**
- › Depending on State/Local Cost Share, **State Funding Need = \$20 - \$40 Million Per Year**

2016 BIMP Results: Inlets

› State Fund for Shallow Draft Projects

- › Estimated Funding Need = \$23.25 Million Per Year (**\$16.25 Million – Shallow Draft and \$7 Million – AIWW & Inland Waterways**)
- › Shallow Draft and Lake Dredging Fund Established in 2013 - **\$19 Million Per Year (State/Local Cost Share Changed in 2015 from 50/50 to 66/33)**
- › With Local Cost Share Included, Current Capacity With Shallow Draft and Lake Dredging Fund is **\$28.5 Million Per Year**

› State Fund for Deep Draft Projects

- › Current Deep Draft Funding = \$21.3 Million Per Year
- › Estimated Funding Need = **\$36.3 - \$47.4 Million Per Year**
- › Estimated **Funding Shortfall = \$17.5 Million Per Year**
- › Separate Appropriation from General Assembly Recommended

2016 BIMP Results: Return on Investment

- › **Shallow Draft Dredging**
- › Current Shallow Draft Fund (\$19 Million/Yr) Is Adequate To Meet Both Current And Future Projected Needs And Should Be Kept As Is
- › Shallow Draft Inlets In NC Provide \$651.8 Million In Direct Impact, \$908.8 Million In Indirect Impact, and 13,220 Jobs.
- › Approximates a **ROI Of \$34.3/\$1 To \$47.8/\$1 Depending On Whether Economic Multiplier Effects Are Considered**



Dredge Murden USACE Photo

2016 BIMP Results: Return on Investment

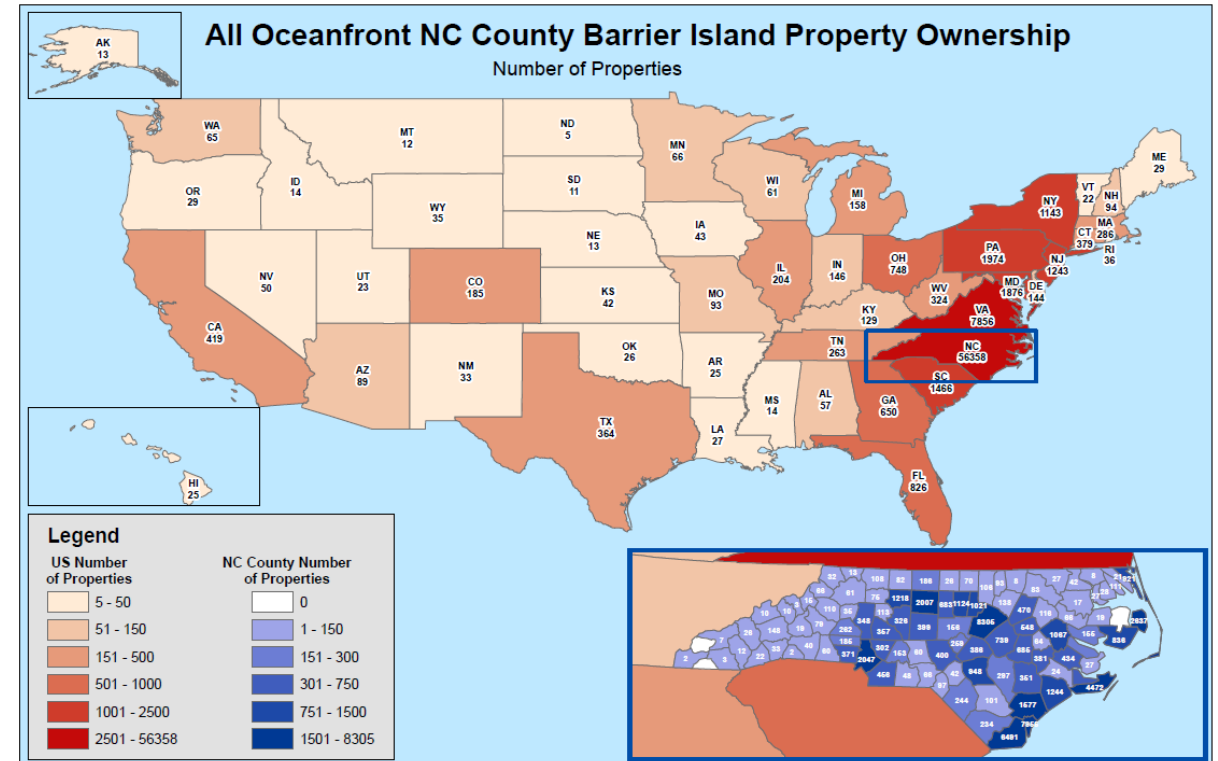
- › **Beach Nourishment**
- › Considering the Economic Impact to the Counties Outside of the Eight Coastal Counties Alone, the Investment of \$25 Million Provides \$1.406 Billion in Economic Impact (**ROI = \$56/\$1**) And Just Over 10,000 Jobs.
- › If the Eight Coastal Counties are Included, the Economic Effect Goes to \$1.66 Billion Direct Impact (**ROI = \$66.5/\$1**) And \$4.74 Billion Indirect (**ROI = \$189.9/\$1**) With 48,718 Jobs
- › **Recommend State Beach Nourishment Fund**



Carteret County / Pine Knoll Shores Photo

2016 BIMP Results & Outcomes

- › Shallow Draft Fund Continues
- › 2017: Coastal Storm Damage Mitigation Fund G.S. §143-215.73M
- › Stakeholder Engagement and Regional Collaboration Based on BIMP Framework
- › Management of Shared Resources
- › Justification of Legislative Expenditures



Why Update

- › State needs to know how dredging and beach nourishment needs and costs have changed
- › Identify potential new funding sources
- › Add additional new economic benefits (e.g. aquaculture)

- › Longer-term planning
- › Storms
- › Dredging cost increases



NC Sea Grant Photo

Thank you

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