



Living Shorelines = Living Coast



North Carolina
Coastal Federation
Working Together for a Healthy Coast

About Us

- Founded 1982
- 10,000 members
- 24 staff members
- 30 board members
- 20 county coverage



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Important Disclaimer

Following “Findings” and “Recommendations” are made by the N.C. Coastal Federation, and have not been proposed or endorsed by any other workshop sponsor.



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Report on Living Shoreline Site Visit and Discussion

Smithsonian Environmental Research Center
April 11, 2013 Edgewater, Maryland



Findings

- Estuarine shorelines are among the world's most ecologically and economically valuable natural habitats.



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Findings

- Laws and programs have not adequately protected many of these shorelines.



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Findings

- Bulkheads give the illusion of providing long-term protection to property but are not as reliable as other more natural means of shoreline stabilization.



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Findings

- Selection of best methods of shoreline stabilization should be based on site conditions, landowner needs, and what's practical to do.



Findings

- Bulkheads are seldom the preferred environmental option. They cause long-term environmental damage.



Findings

- Management programs for estuarine shorelines vary greatly from state to state, but are evolving in an attempt to promote the preferred environmental alternative.



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Findings

- There is a need to develop more standardized management methods, designs, cost, permit standards, and institutional structures for shoreline management.



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Findings

- Publicly funded shoreline management projects provide excellent opportunities to refine management techniques.



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Findings

- Privately funded shoreline management projects need to rely on proven management techniques.



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Findings

- Leadership and guidance from policy makers are critical to provide agency staff that design and permit shoreline management with adequate institutional support.



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Findings

- Sea-level rise, heightened storm damage and on-going waterfront development are intensifying pressure to protect estuarine shorelines.



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Recommendations

- Need to reaffirm that it is a national imperative to protect and restore estuarine shorelines.



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Recommendations

- Headquarter agencies need to provide leadership and coordination.



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Recommendations

- National principles for estuarine shoreline management that are consistent with the Clean Water Act and other key federal environmental laws need to be adopted.



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Recommendations

Hierarchy of Erosion Control Options

- Estuarine shoreline management should be based upon a hierarchy of options.



- No Action
- Relocation of Threatened Structures
- Non-Structural Stabilization Measures (Slope Grading, Marsh Creation, Bio- Engineering, beach nourishment)
- Combination Approaches (Sills, Stone containment cells, breakwaters with plantings)
- Hardening Structures (Groins, Revetments, Gabions, Bulkheads)



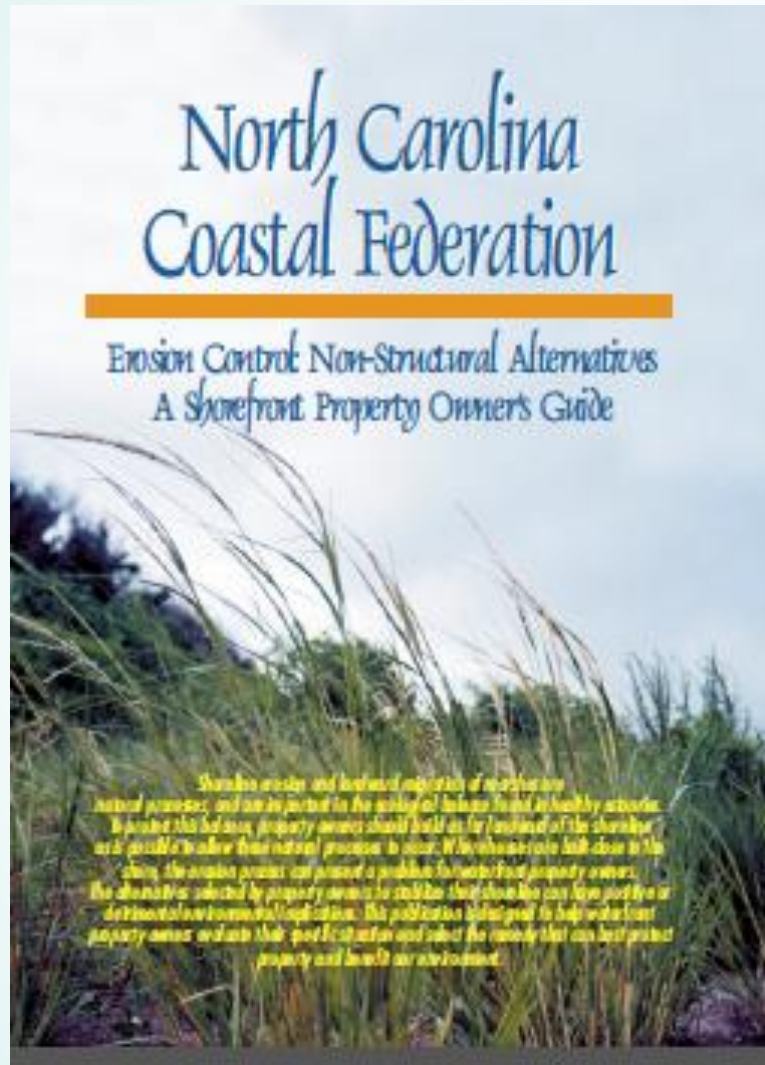
Recommendations

- Large public landowners such as DOD should consider instituting such a hierarchy on shorelines they manage.



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Recommendations



- A national repository of information on estuarine shoreline management should be established.



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Recommendations

- Formal training opportunities for agency managers, contractors, and other stakeholders need to be routinely offered in an accredited fashion.



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Recommendations

- Educational materials for landowners need to be developed and widely distributed.



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Recommendations

- Management impediments to environmentally sound shoreline management need to be eliminated, and institutional capacity to manage shorelines enhanced.



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