

Title:

N-116: Coordinate and implement regional "living shoreline" objectives to increase the use and protection of natural infrastructure (e.g., coral reefs, native vegetation, mangrove wetlands) to provide natural barriers to storm surge and maintain coastal biodiversity with the agreement of property owners.

Background:

- This recommended management action relates to all Southeast Florida Coral Reef Initiative (SEFCRI) counties and includes all lagoon and ocean shorelines.
- This recommended management action is being put forth to employ the "living shoreline" concept: counties, municipalities and waterfront homeowners will be able to protect their property from storm surge and erosion via natural means or "barriers" while providing an ecologically beneficial habitat for estuarine and marine species. This action promotes natural infrastructure to protect shorelines and offers a cost-effective and preferred approach (in many situations) over hardened structures such as seawalls.

Objective:

- The intended outcome of this action is for SEFCRI partners to produce a coordinated plan and working group with the goal of improving coastal resilience by increasing the efficiency, amount and scale of natural erosion controls and/or shoreline protection and, at the same time, maintaining coastal biodiversity. The working group will select projects in accordance with the objectives of the plan.

Intended Benefits and/or Potential Adverse Effects:

- Benefits of implementation of this recommended management action include: (1) the establishment of a Regional Living Shoreline Working Group that could serve as a clearinghouse for best practices and other technical information in the SEFCRI region, (2) identify representative examples of completed projects that may be used to inform planning and implementation of new projects, (3) assess regional opportunities for new projects that take into consideration the so-called "triple bottom line" - environmental, economic and social benefits, and (4) promote successful projects to help raise awareness and build community support, gain political approval and secure funding. The regional clearinghouse eliminates the need to start from scratch each living shoreline project as communities will be able to learn from the lessons learned of others.
- Challenges that may arise with implementation of this recommended management action include: overcoming waterfront homeowner bias against mangroves (e.g., blocking of views, increase in bugs and insects, etc.), and potentially prohibitive project costs.
- Failure to implement this recommended management action will likely result in continued increases in the use of hardened shorelines and consequent losses in habitat and decreasing property values due to risk of flooding.

Agencies/ Organizations:

- The lead agencies for implementation of this recommended management action are the Florida Department of Environmental Protection, South Florida Water Management District, United States Army Corps of Engineers, municipalities, counties, local governments, and non-governmental organizations.
- Other agencies or organizations who could be involved include SEFCRI partner agencies, The Nature Conservancy and other non-profits.
- The key stakeholders for this recommended management action are homeowners, public land owners, and the marine industry.
- The legislative considerations include local county resolutions adopting the Southeast Florida

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Regional Climate Change Compact Action Plan, which includes a living shoreline component.

Permitting/ Enforcement Requirements of RMA:

- In some instances, individual projects would need construction permits, but permits would not be required to implement the working group.
- There are no enforcement requirements with this recommended management action.
- Metrics to gauge success of this recommended management action include the numbers of acres of seagrass recruited and oyster reefs created, as well as measurable improvements in water quality.

Cost:

- Developing the regional program would have a minimum cost. The cost of implementing individual projects would vary according to scale and could range from \$50,000-\$20,000,000.
- Potential funding sources include the National Ocean Service's Coastal Resilience grants program and National Marine Fisheries Service's Coastal Ecosystem Resiliency grant.

Time Frame & Extent:

- Although some individual projects are already underway, the regional effort will take longer and be an ongoing process.

Miscellaneous Info:

- This recommended management action is linked to N-70. This recommended management action would be a pre-cursor to N-70, but not a requirement.
- An information gap exists with Martin County, which is not included in the current Shoreline Resilience Working Group. Thus, additional outreach/information gathering may be needed there to achieve all SEFCRI and Our Florida Reefs goals.
- Supporting and relevant data include many articles and studies supporting the concept of living shorelines.
 - Ariana E. Sutton-Grier, Kateryna Wowka, and Holly Bamford. "Future of our coasts: The potential for natural and hybrid infrastructure to enhance the resilience of our coastal communities, economies and ecosystems." See: <http://www.sciencedirect.com/science/journal/14629011>
 - In cooperation with the Shoreline Resilience Working Group, Dr. Mitsova, Florida Atlantic University, is planning to create a catalogue of living shoreline project types and a decision support tool (DST) to be hosted on TNC's *coastalresilience.org* that will help users to identify the types of living shoreline projects that can be implemented at their location of interest, as well as the ecosystem services provided by those projects. This version of the catalogue and DST will target most of the SEFCRI region. Together, the catalogue and DST will help make the case for local, state and federal government investments in living shoreline projects (large projects, multi-project packages and supportive, long-term programs) and will prompt private property owners to consider both their individual options and their place in regional efforts.
- At present, the Florida Fish and Wildlife Conservation Commission is finalizing a website on living shorelines targeted at waterfront homeowners. See www.floridalivingshorelines.com.

Goals/ Objectives to be achieved:

Refer to the [SEFCRI Coral Reef Management Goals and Objectives Reference Guide](#)

- FL Priorities, Goal C2, Obj. 4.
- SE Coastal Oceans Taskforce Recommendation under "Beaches" #5.

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