

# CWG Review 1: Spring 2015

## Tier 1 Information:

### 1. Management Action

**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.**

### 2. Intended Result (Output/Outcome)

*What is the end product/result of this management action?*

- The result from implementing this management action is to have a coordinated plan/ working group created by partners in the SEFCRI region to improve coastal resilience by increasing the efficiency, number and scale of nature-based erosion control shoreline protection and at the same time maintaining coastal biodiversity.
- This implemented plan and/or specific projects are to achieve objectives developed by the working group.

### 3. Duration of Activity

*Is this a discrete action or a recurring activity? Explain.*

- Development of a Living Shoreline plan/objectives is discrete (with periodic updates) and the working group and implementation of the plan/objectives would be ongoing.

### 4. Justification

*What issue or problem will this management action address? Explain.*

- By employing the "living shoreline" concept, counties, municipalities and waterfront homeowners can protect their property from storm surge and erosion while providing an ecologically beneficial habitat for estuarine and marine species. Promoting natural infrastructure to protect shorelines offers a cost-effective and preferred approach (in many situations) over hardened structures such as seawalls.

### 5. Potential Pros

*What are the potential advantages associated with this management action?*

- Regional Living Shoreline Working Group could: Serve as a clearing house for best practices and other technical information in the SEFCRI region; identify representative examples of completed projects that may be used to inform planning and implementation of new projects; assess regional opportunities for new projects including consideration of the "triple bottom line;" environmental, economic and social benefits of projects; promote successful projects to help raise awareness and build community support, gain political approval, secure funding, etc.
- Regional "clearing house" eliminates the need to start from scratch with every living shorelines project. Communities are able to learn from other's successes and benefit from lessons learned.

### 6. Potential Cons

*What are the potential disadvantages associated with this management action?*

- The challenge of overcoming waterfront homeowner bias against mangroves (e.g. blocking of views, increase in bugs and insects, etc.).
- Individual project costs could be a potential disadvantage.

### 7. Location

*County/Counties: Miami-Dade, Broward, Palm Beach, Martin, Other?*

- All

*Relevant Habitats: Coral reef, seagrass, watershed, etc.?*

- Coral reef, dune, oyster reef, mangrove, saltmarsh

*Specific Location: City, site name, coordinates, etc.?*

- Regional and covering both the lagoon and ocean shoreline

## 8. Extent

*Area, number, etc.*

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## 9. Is this action spatial in nature?

- yes

**Do you believe this management action could be informed by the Our Florida Reefs Marine Planner Decision Support Tool?**

*If yes, you will proceed to the next section on Marine Planner Information.*

- It is not necessary to utilize the Marine Planner for this as the coastalresilience.org tools are being designed to address this issue.

## Marine Planer Information:

N/A

## Tier 2 Information:

### *WHY?*

#### 1. Strategic Goals & Objectives to be Achieved

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

- FL Priorities, Goal C2, Obj. 4 – Protect living shorelines and implement a program to help maintain their ecological value and to contain runoff from uplands in areas where natural wetland buffers have been eliminated through coastal construction activities.
- SE Coastal Oceans Taskforce Recommendation under “Beaches” #5. Shoreline Development: Coordinate regional “living shoreline” objectives to promote the use and protection of natural infrastructure (e.g. coral reefs, native vegetation, mangroves, and wetlands) to provide natural barriers to storm surge and maintain coastal biodiversity.

#### 2. Current Status

*Is this activity currently underway, or are there planned actions related to this recommendation in southeast Florida? If so, what are they, and what is their status.*

- This management action was written to align with the goals of the Shoreline Resilience Working Group organized under the SEFL Regional Climate Change Compact. This working group is in the planning phase and when the project implementation phase begins, living shoreline projects in the SEFCRI region will be part of this effort. Martin County is not part of the SEFL Regional Climate Change Compact and therefore not included on the Shoreline Resilience Working Group. This RMA would seek to include Martin County.
- The Florida Beaches Habitat Conservation Plan ([www.flbeacheshcp.com](http://www.flbeacheshcp.com)) addresses the importance of protecting and enhancing natural dunes with native vegetation
- The Palm Beach County ERM Living Shoreline program could be used as a model and expanded beyond the county to a larger scale. More information on individual projects available at <http://www.co.palm-beach.fl.us/erm/lakes/estuarine/estuarine-projects.htm>. Currently in PBC, each living shoreline project is addressed on an individual basis.
- Miami-Beach has contacted DERM about putting mangroves in at seawalls in parks  
This RMA needs to designate a lead to compile data and make a working group--See James Byrne about TNC's

living shoreline working group, there could be a possibility that it can be modeled after PBC program or TNC.

### 3. Intended Benefits (Outcomes)

*What potential environmental benefits or positive impacts might this management action have?*

- Improved resilience, improved fisheries habitat, improved soil and sediment control.

*What potential social/economic benefits or positive impacts might this management action have?*

- Once projects are implemented and shown as examples, people tend to become more accepting of using natural solutions for shoreline protection.

*What is the likely duration of these benefits - short term or long-lasting? Explain.*

- Benefits of establishing a Working Group are long term. Benefits of individual projects are as follows:
  - Offshore: Dune restoration projects in high-erosion areas generally have a life span of 2-5 years depending on storm activity. Nearshore reefs could be utilized as submerged breakwaters and have a lifespan of 50 years or longer.
  - Inshore: living shoreline projects such as Snook Islands ([http://www.co.palm-beach.fl.us/erm/downloads/pdf/projectfactsheets/SnookIslands\\_FS.pdf](http://www.co.palm-beach.fl.us/erm/downloads/pdf/projectfactsheets/SnookIslands_FS.pdf)) require minimum maintenance once established.

### 4. Indirect Costs (Outcomes)

*What potential negative environmental impacts might this action have?*

- -No known potential negative environmental impacts have been associated with this management action.
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*What potential negative social/economic impacts might this action have?*

- Perception of mangroves as a concern to blocking views, etc.
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*What is the likely duration of these negative impacts - short term or long-lasting? Explain.*

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### 5. Risk

*What is the threat of adverse environmental, social, or economic effects arising from not implementing this action?*

- Increase of hardened shoreline, loss of habitat, loss of property values due to flooding.
- Higher costs of individual living shorelines projects. A regional plan could reduce engineering and permitting costs if a template could be produced.

### 6. Relevant Supporting Data

*What existing science supports this recommendation? (Provide citations)*

- There are many articles and studies to support Living Shorelines, one recently released is titled “Future of our coasts: The potential for natural and hybrid infrastructure to enhance the resilience of our coastal communities, economies and ecosystems” authors: Ariana E. Sutton-Grier, Kateryna Wowka, Holly Bamford. This paper can be found at: <http://www.sciencedirect.com/science/journal/14629011>

### 7. Information Gaps

*What uncertainties or information gaps still exist?*

- In cooperation with the Shoreline Resilience Working Group, Dr. Mitsova, Florida Atlantic University (FAU), 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](http://coastalresilience.org) that will help users identify what types of living shoreline projects 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 the majority of the SEFCRI region. Together, the catalogue and DST will help make the case for federal, state and local government investments in living shoreline projects – large projects, multi-project packages and supportive, long-term programs – and it will spur private property owners to consider both their individual options and their place in regional efforts.

- Current Shoreline Resilience Working Group does not include Martin County so additional outreach/information gathering may need to be done there to achieve the full SEFCRI/OFR region goals.

## WHEN?

### 8. Anticipated Timeframe for Implementation

*How long will this recommendation take to implement?*

- Some individual projects are already underway. The regional effort will take longer and will be ongoing.

### 9. Linkage to Other Proposed Management Actions

*Is this activity linked to other proposed management recommendations?*

- Yes

*If so, which ones, and how are they linked? (e.g., is this activity a necessary step for other management actions to be completed?)*

- N-70: Prioritize the protection of existing and the restoration of historical mangrove, seagrass, oyster and other estuarine habitats to redirect historical freshwater flows, increase habitat, improve water quality and support nursery areas for reef fauna.
- Establishing a “Living Shoreline Plan” (this MA) would be the pre-cursor to N-70, but not a requirement.

*Does this activity conflict with other existing or proposed management actions?*

- No

## WHO?

### 10. Lead Agency or Organization for Implementation

*What agency or organization currently has/would have authority? Refer to the [Agencies and Actions Reference Guide](#).*

- FDEP regulates activities that affect mangroves under the Environmental Resources Program. DEP Southeast District encompasses the SEFCRI region.
- FDEP would be lead agency to compile living shoreline data and would produce what strategies would work best in given areas.
- FDEP, SFWMD, ACOE all have permitting/commenting authority for offshore and inshore construction.
- Municipalities, counties, local governments, and NGOs.

### 11. Other Agencies or Organizations

*Are there any other agencies or organizations that may also support implementation? Explain.*

- SEFCRI partner agencies including the four counties, TNC and other non-profits, as well as municipalities may also support implementation.
- FWC is finalizing a statewide website on living shorelines targeted to waterfront homeowners, [www.floridalivingshorelines.com](http://www.floridalivingshorelines.com)

### 12. Key Stakeholders

*Identify those stakeholders most greatly impacted by this management action, including those from whom you might expect a high level of support or opposition. Explain.*

- Homeowners, public land owners, marine industry,

## HOW?

### 13. Feasibility

*Is there appropriate political will to support this? Explain.*

- Living shorelines have not met with opposition in the SEFCRI region.

*What are the potential technical challenges to implementing this action? Has it been done elsewhere?*

- It has been done elsewhere but implementing at a regional scale will be the biggest challenge.

#### **14. Legislative Considerations**

*Does the recommendation conflict with or actively support existing local, state, or federal laws or regulations? Explain.*

- No. There is local support through county resolutions that adopted the SEFL Regional Climate Change Compact Action Plan, which includes a living shoreline component.

#### **15. Permitting Requirements**

*Will any permits be required to implement this action? Explain.*

- In some cases, individual projects would need permits for construction, but permits would not be needed to implement the working group.

#### **16. Estimated Direct Costs**

*Approximately how much will this action likely cost? (Consider one-time direct costs, annual costs, and staff time, including enforcement.)*

- Developing the regional program would have a minimum cost and the cost to implement individual projects would vary according to scale. \$50,000-\$20,000,000

*Will costs associated with this activity be one-time or recurring?*

- Recurring maintenance at project locations – trash removal, mangrove trimming

*If recurring, approximately how long will staff time and annual costs be necessary to implement the management action?*

- eternal

#### **17. Enforcement**

*Does this require enforcement effort?*

- No

*Provide an explanation if available.*

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#### **18. Potential Funding Sources**

*Identify potential funding organizations/grant opportunities, etc.*

- There are many, such as the Coastal Resilience Grants Program through the National Ocean Service and National Marine Fisheries Service's (NMFS) Coastal Ecosystem Resiliency Grants

#### **19. Measurable Outcomes/Success Criteria/Milestones**

*How will the success of this recommendation be measured? How will you know when the intended result is achieved?*

- A monitoring plan should be developed for each individual project
- Success could be measured by acres of seagrass recruited, oyster reefs created, improvement in water quality

### **SEFCRI/TAC Targeted Questions:**

1. **TAC** - Is the recommendation likely to achieve the intended result? Explain.

*Tier 1 – #2 (Intended Result - Output/Outcome)*

- KG: The recommendation is likely to achieve the intended result.

2. **TAC - Is the recommendation sufficient to address the identified issue or problem? Explain.**

*Tier 1 – #4 (Justification)*

- KG: The recommendation is sufficient to achieve the intended result.

3. **TAC - Is the recommendation technically achievable from a science or management perspective? Explain.**

*Tier 2 – #8 (Anticipated Timeframe for Implementation) and Tier 2 - #13 (Feasibility)*

- KG: With buy in from appropriate partners, the recommendation is technically feasible from a scientific and management perspective.

4. **SEFCRI Team, PPT & Other Advisors - Has this been done (by SEFCRI, other agencies or organizations in the SEFCRI region)? Explain.**

*Tier 2 – #2 (Current Status)*

- KG: Palm Beach County ERM has been active in developing living shorelines along publicly-owned property. Their approach could be expanded to other parts of southeast Florida.

5. **SEFCRI Team, PPT & Other Advisors - Is this recommendation a research or monitoring project? (Recommendations should be turn-dirt management actions, not the step you take before a management action). Explain.**

- KG: This is a turn dirt management recommendation. Monitoring could be a part of individual living shoreline projects.
- Some SEFCRI and TAC comments seem to misunderstand the intent and suggest this is a turn dirt RMA – It doesn't seem to be – The intent is to develop a working group or a plan. Needs to re-worked to become an actual project – who is going to build living shorelines and enforce them should be the focus

6. **SEFCRI Team, PPT & Other Advisors - If either of the following applies to this management action, provide feedback on which information submitted by the Community Working Groups may be more appropriate, or if entries should be merged. Explain.**

- a. There are different viewpoints for an individual management action (i.e. two working group members provided separate information, as indicated by a '/' marking between them).
- b. Information submitted for this and other draft management actions is sufficiently similar that they might be considered the same.

7. **SEFCRI Team, PPT & Other Advisors - Non-agency Question: Is the recommendation technically achievable from your stakeholder perspective? If not, do you have suggestions that would allow this to become technically achievable from your stakeholder perspective? Explain.**

*Tier 1 - #5 (Potential Pros), Tier 1 - #6 (Potential Cons), Tier 2 - #3 (Intended Benefits), Tier 2 - #4 (Indirect Costs) and Tier 2 - #12 (Key Stakeholders)*

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8. **SEFCRI Team, PPT & Other Advisors - Agency Question: Is the recommendation technically achievable from a management perspective? If not, do you have suggestions that would allow this to become technically achievable from your agency's management perspective? Explain.**

*Tier 2 – #10 (Lead Agency or Organization for Implementation) and Tier 2 - #11 (Other Agencies or Organizations)*

- KG: The recommendation is technically feasible from an agency perspective

## **Comments from the Reviewers:**

- KG: This is an excellent MA!

- KG: Agree with this justification.
- KG: Agree with the Pros
- KG: Region wide scope is appropriate.
- KG: The MA is consistent with federal state and local goals and objectives.
- TAC Team 1 recommends expanding the living shoreline program.

### Questions from the Reviewers:

| Questions/Information Needs Highlighted by the Reviewers |     | Addressed by CWG:        | Not Addressed by CWG Because:   |
|--|-----|--------------------------|---|
| 1.   | N/A | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it.            |
| 2.   |     | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it.            |
| 3.   |     | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it.            |
| 4.   |     | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input checked="" type="checkbox"/> Need help addressing it. |
| 5.   |     | <input type="checkbox"/> | <input checked="" type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it. |
| 6.   |     | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it.            |
| 7.   |     | <input type="checkbox"/> | <input type="checkbox"/> This does not apply.<br><input type="checkbox"/> Need help addressing it.            |

### Questions from the CWGs back to the Reviewers:

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