

UNDERSTANDING AND NAVIGATING THE LIVING SHORELINE PERMITTING PROCESS

FINAL REPORT & PROJECT SUMMARY

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in the Gulf of Mexico States: A Summary
Document



Funding information

This project was made possible by funding from the Gulf of Mexico Alliance through their Gulf Star Program. The contents of this document do not necessarily reflect the views and policies of the Gulf of Mexico Alliance or its partners.



MASGC Publication Number

This publication was prepared by the Mississippi-Alabama Sea Grant Consortium using federal funds under award NA22OAR4170090 from the National Sea Grant Office, NOAA, U.S. Department of Commerce. The statements, findings, conclusions and recommendations are those of the authors and do not necessarily reflect the views of the National Sea Grant Office, NOAA, U.S. Department of Commerce. MASGP-23-064.

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PROJECT BACKGROUND

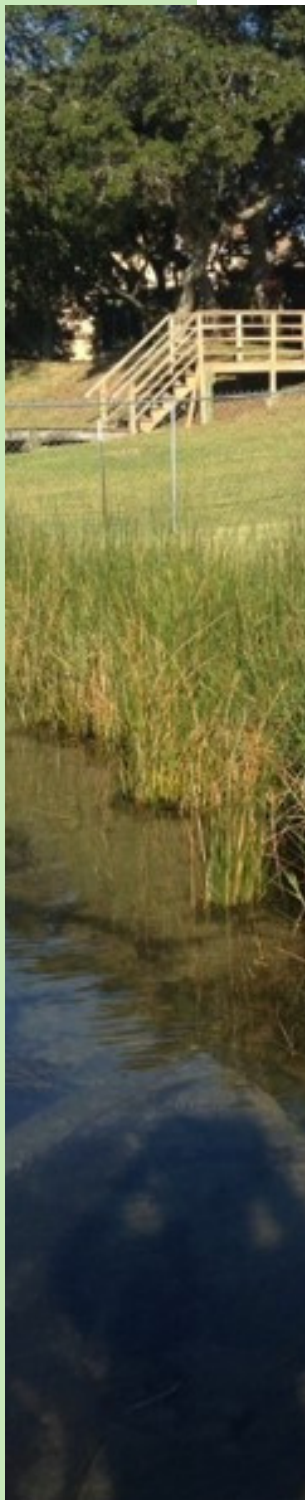
Shorelines along the Gulf of Mexico are under threat from both natural and anthropogenic pressures. Waves, storms, and coastal development all contribute to erosion along these shorelines, threatening important wildlife habitat and other ecosystem services.

To protect shorelines, hardened structures like bulkheads and seawalls have historically been used. However, these structures lead to the destruction of intertidal habitat, fail over time, and require maintenance.

Living shorelines offer a natural alternative to shoreline hardening that not only prevents erosion, but also provides intertidal habitat, improves water quality, and increases resilience to storms.

As the use of living shorelines increase, the need to understand challenges to their implementation also increases. These challenges often involve the regulations and permitting of living shoreline projects.

This project brings together living shoreline experts from the five Gulf of Mexico states to identify barriers to living shoreline implementation and to demystify the permitting process by producing outreach publications and hosting workshops.



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PROJECT DELIVERABLES

1. Living Shoreline Workshop for each State

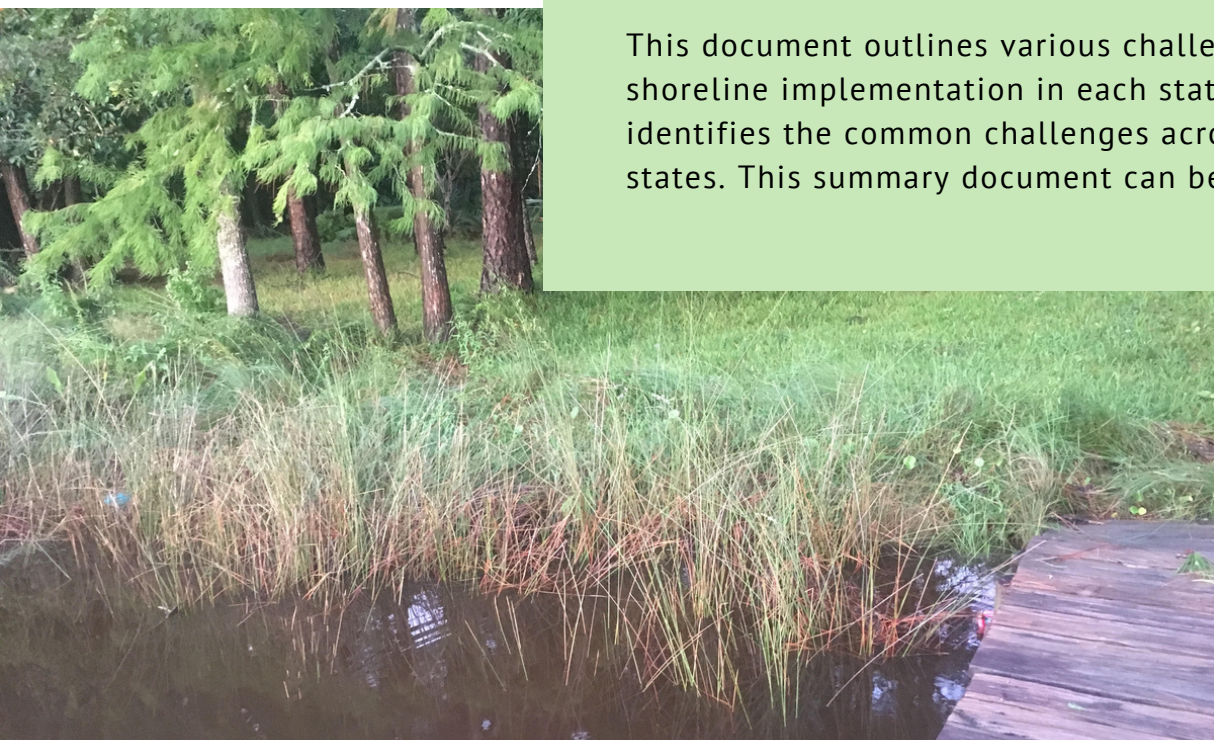
Team leads for each state planned and hosted a living shorelines permitting workshop for at least one relevant audience in each state.

2. State-Specific Workshop Toolkits

For each of the five states, a workshop toolkit was produced that includes a workshop agenda, presentation and training materials, and pre- and post- workshop evaluations. These materials can be found in the workshop toolkits for each state on pages 5-19.

3. Barriers to Living Shoreline Implementation Summary Document

This document outlines various challenges to living shoreline implementation in each state and identifies the common challenges across the five states. This summary document can be found [here](#).



THE PROJECT TEAM

This project spanned the five states bordering the Gulf of Mexico: Texas, Louisiana, Mississippi, Alabama, and Florida. Therefore, the project team was made up of members from each state. Each member of the project team is an expert in living shorelines and living shorelines permitting for their respective state.

Texas:

Jessica Chappell (jessica.chappell@glo.texas.gov)

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The Nature Conservancy - Coastal Alabama

Florida:

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University of Florida

Florida Sea Grant

LIVING SHORELINE WORKSHOP TOOLKITS

The following section summarizes the audience for each state workshop, the workshop agenda, workshop results, evaluation results, and what products were produced. All materials for each workshop toolkit can be found [here](#). Individual materials are also linked in the following section headers.

TEXAS

Audience

The Living Shorelines Dine & Discuss event was attended by 15 waterfront property owners, 4 community members who do now own waterfront property, and 5 members of the event team.

Agenda

The workshop had 4 parts: 1) a short living shorelines [presentation](#), 2) small group discussions with event team members, 3) discussion of topics covered in the small groups, and 4) question & answer session. (Figure 1).



Figure 1. Attendees during dinner & discussion portion of the workshop. Attendees were able to discuss living shorelines with Texas General Land Office and Restore America's Estuaries staff. Event photos can be viewed at [here](#).



TEXAS

Evaluation Results

The pre- and post-workshop evaluations contained a mix of multiple choice questions and statements of agreement. The first question asked if the attendee would consider implementing a living shoreline on their property. Answers to this question are summarized below on a scale of 1 (would not consider) to 3 (would definitely consider). Attendees also had the answer choices such as, “I currently have a living shoreline”, “I don’t know”, and “Not applicable”. “I don’t know” was assigned a value of 2 (might consider) while the other two responses were not included in calculations below. The next three statements were answered on a scale of 1 (completely disagree) to 5 (completely agree). Comparing the pre- and post-evaluation responses showed an increase in agreement on all questions and statements following the workshop presentation. Evaluation responses can be found [here](#).

Statement	Average Answer (Pre-Workshop)	Average Answer (Post-Workshop)	Percent Change
To what degree would you consider a living shoreline to protect your bayfront or oceanfront property? *Answers on a scale of 1-3 instead of 1-5	2.2	2.44	11.11%
I understand what a living shoreline is.	3.17	4.35	37.59%
I know where to find resources on living shorelines.	3.33	4.21	26.43%
I know where to find the permit applications for a living shoreline.	2.44	4.14	69.48%

TEXAS

Texas Living Shoreline Materials

The Texas team also gathered relevant living shoreline and living shoreline permitting materials:

- [Coastal Boundary Surveys Information Sheet](#)
- [Living Shorelines: A Permitting Guide for Texas Landowners](#)
- [Living Shorelines Information Sheet](#)
- [A Guide to Living Shorelines in Texas \(Figure 2\)](#)
- [Living Shorelines: A Quick Guide for Texas Landowners](#)
- [Residential Application Packet](#)
- [Application for Permit to Introduce Fish, Shellfish, or Aquatic Plants into Public Waters](#)
- [Texas Living Shorelines Tools & Resources](#)

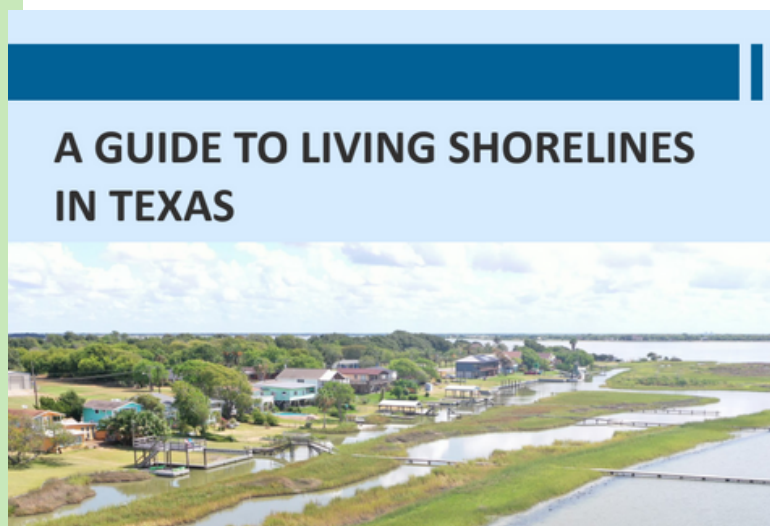


Figure 2. A Guide to Living Shorelines in Texas

LOUISIANA

Audience

The Louisiana Living Shorelines Lunch & Learn event was attended by 28 people who were asked to self-identify by selecting one of the following categories: resource manager, property owner, consultant, and other. Of the 28 people, 17 marked other, 5 were property owners, 3 were resource managers, 2 selected multiple categories, and 1 was a consultant.

Agenda

The workshop had a presentation section that covered 4 topics: 1) benefits of living shorelines, 2) Bucktown living shoreline project, 3) Living shorelines around the lake: past, present, and future, and 4) Louisiana living shoreline permitting guide. This was followed by a question & answer and discussion session.



Figure 3. Attendees during presentation portion of the workshop. Attendees were able to hear about the benefits of living shorelines, living shoreline case studies, and living shoreline permitting in Louisiana. Event photos can be viewed [here](#).

LOUISIANA

Evaluation Results

The pre- and post-workshop had 7 statements. For each, a workshop participant rated their agreement with the statement on a scale of 1 (completely disagree) to 5 (completely agree). Comparing the pre- and post-evaluation responses showed an increase in agreement on all statements following the workshop presentation. Evaluation responses can be found [here](#).

Statement	Average Answer (Pre-Workshop)	Average Answer (Post-Workshop)	Percent Change
I understand what a living shoreline is.	3.55	4.67	31.55%
Living shorelines are a more environmentally friendly way to prevent shoreline erosion than bulkheads or seawalls.	4.15	4.78	15.18%
I feel comfortable completing the required permit applications for a living shoreline.	2.45	3.94	60.82%
I know where to find resources on living shorelines and living shoreline permitting.	2.95	4.41	49.49%
I know where to find the permit applications for a living shoreline.	2.75	4.29	56%
I know which government agencies are involved in approving a living shoreline.	2.95	4.18	41.69%
I know where to turn if I have questions or need help with a living shoreline permit.	3.55	4.53	27.61%

LOUISIANA

Louisiana Living Shoreline Presentations

The Louisiana team gave multiple presentations during the Living Shoreline Lunch & Learn. They are linked below.

- [Benefits of Living Shorelines Presentation](#)
- [Living Shorelines around the Lake: Past, Present, and Future](#)
- [Living Shoreline Permitting in Coastal Louisiana](#)

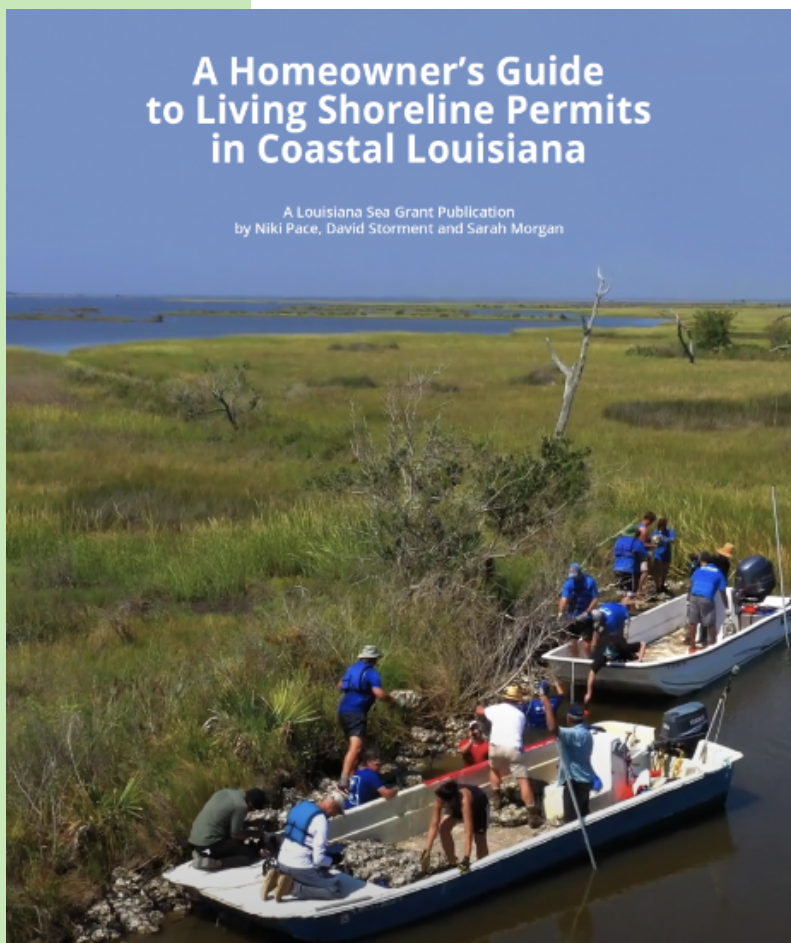


Figure 4. A Homeowner's Guide to Living Shorelines Permits in Coastal Louisiana was one of the materials covered during the living shoreline permitting portion of the Lunch & Learn.

MISSISSIPPI

Unfortunately, the project team was unable to host a Mississippi Living Shoreline workshop due to regulatory barriers within the state that have prevented the granting of living shoreline permits over the last year. However, the team from Mississippi State University (MSU) has been working closely with state agencies to rectify this and to reduce these barriers. While permitting has been closed, the MSU team has been preparing for a future workshop by identifying potential workshop audiences (Figure 5; <https://tinyurl.com/ywkhu7tc>), locations, and outlining materials so that a workshop can quickly take place once the permitting is open.

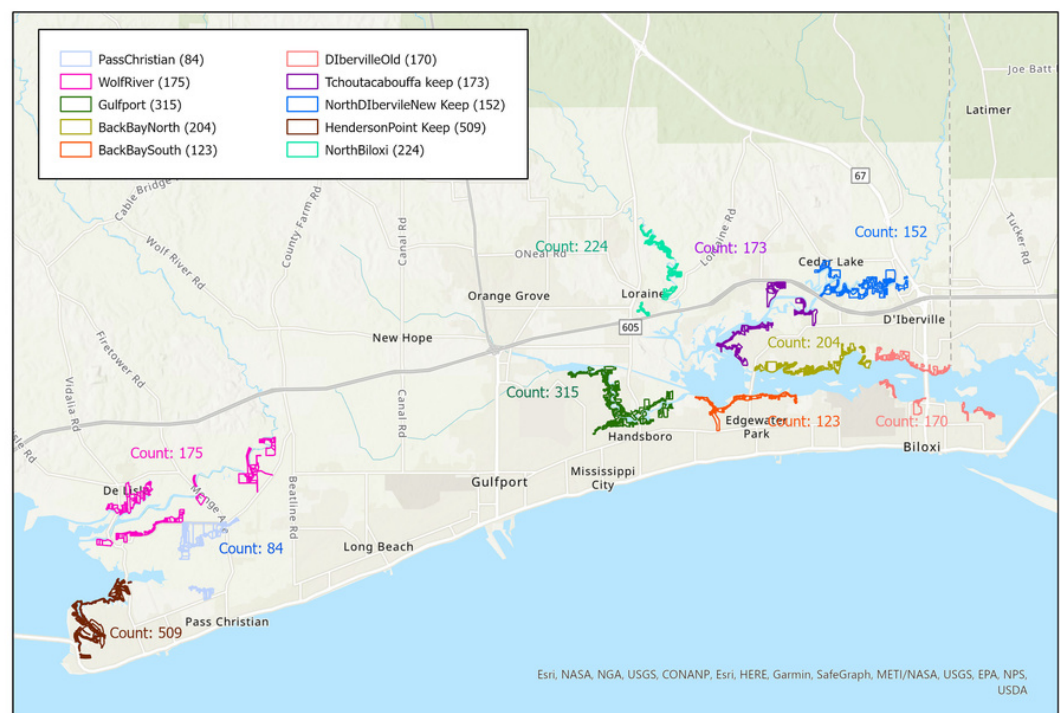


Figure 5. The MSU team has identified potential audiences to invite to a future living shorelines workshop. Here is an example where the team identified areas in Harrison county where living shorelines would be a viable option for private property owners to consider.

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ALABAMA

Audience

The workshop was attended by 19 property owners, 2 property managers, and 1 watershed planner from Baldwin County, AL. Together they represented 13 waterfront properties.

Agenda

The workshop had 3 parts: 1) a free meal, 2) a short [living shorelines presentation](#), and 3) one-on-one conversations between property owners and Living Shoreline team members (Figure 6).

Workshop Results

Of the 13 properties represented at the workshop, 10 stayed for the one-on-one conversations (76.9%). However, 2 of the properties that did not stay for the one-on-ones chose to not do so because they already had spoken with the Living Shoreline team and had a shoreline assessment done. Not including those property owners, 90.1% of attendees stayed beyond the presentation to converse with the Living Shorelines team and all of those people scheduled a free shoreline assessment.

Figure 6. A member of the Living Shorelines team working with a private property owner during the Alabama workshop.



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ALABAMA

Evaluation

The pre- and post-workshop had 7 statements. For each, a workshop participant rated their agreement with the statement on a scale of 1 (completely disagree) to 5 (completely agree). Comparing the pre- and post-evaluation responses showed an increase in agreement on all statements following the workshop presentation. Evaluation responses can be found [here](#).

Statement	Average Answer (Pre-Workshop)	Average Answer (Post-Workshop)	Percent Change
I understand what a living shoreline is.	3.44	5	45.35%
Living shorelines are a more environmentally friendly way to prevent shoreline erosion than bulkheads or seawalls.	4.33	4.85	12.01%
I feel comfortable completing the required permit applications for a living shoreline.	2.33	4.25	82.41%
I know where to find resources on living shorelines and living shoreline permitting.	2.17	4.75	120.27%
I know where to find the permit applications for a living shoreline.	1.5	4.7	213.33%
I know which government agencies are involved in approving a living shoreline.	1.89	4.9	159.25%
I know where to turn if I have questions or need help with a living shoreline permit.	2.17	4.95	128.11%

ALABAMA

Presentation and Outreach Materials

For this workshop, the living shorelines team produced the following materials:

- [Living shoreline workshop presentation](#)
- [Living shoreline checklist for property owners](#)
- [Living shorelines vs. bulkheads infographic](#)
- [Living shorelines for waterfront property owners two-pager](#)
- [Living shoreline permitting guidebook](#)
- [Living shoreline permitting video](#)

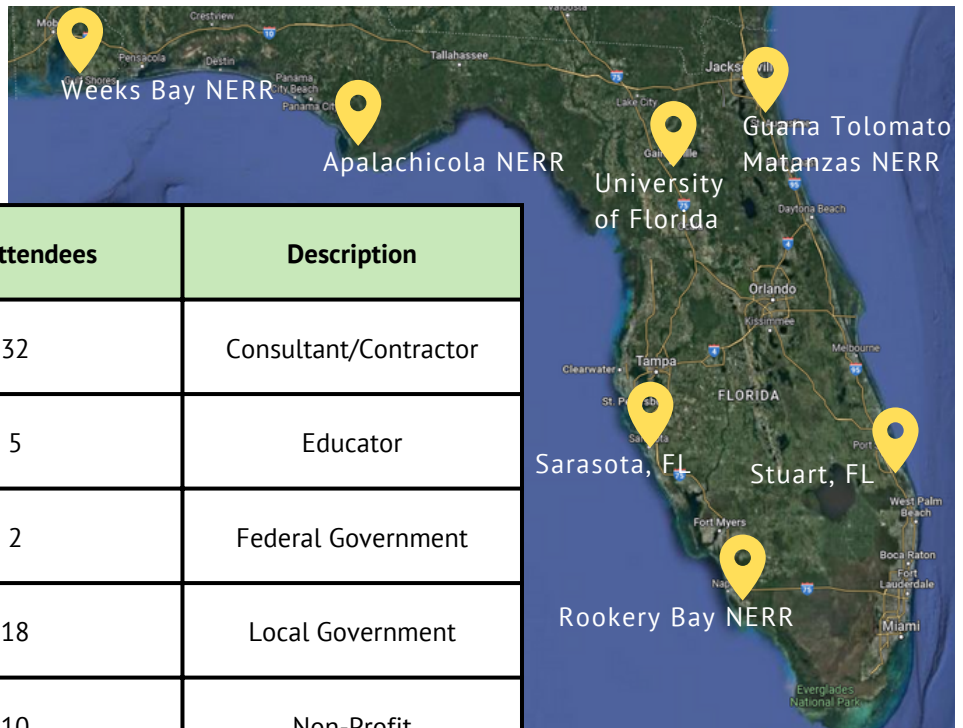


Figure 7. Examples of outreach materials produced for the Alabama living shoreline workshop. Pictured: Living shorelines for waterfront property owners (left) and Living shorelines vs. bulkheads infographic (right).

FLORIDA

Audience

114 people attended a concurrent living shoreline workshop that Florida Sea Grant hosted across 7 locations (Figure 8). The attendees described their roles as in the table below.



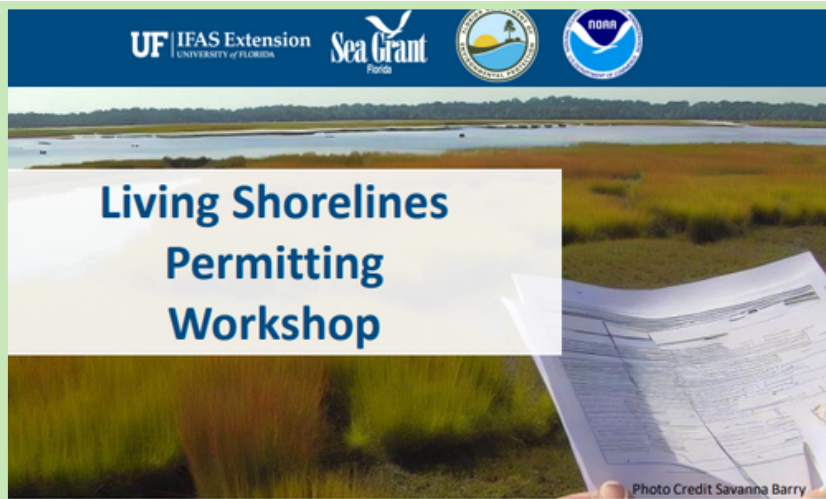
# of attendees	Description
32	Consultant/Contractor
5	Educator
2	Federal Government
18	Local Government
10	Non-Profit
7	Onsite Expert
9	Other
1	Planner
7	Private Property Owner
14	Resource Manager
9	State Government

Figure 8. (Above) The seven locations of the workshops are mapped above. Four of the workshops were hosted at National Estuarine Research Reserves (abbreviated NERR).

FLORIDA

Agenda

The workshop had 3 parts: 1) a federal permitting presentation, 2) a state permitting presentation, and 3) small group work with scenarios/case studies.



UF IFAS Extension **Sea Grant** **NOAA**

Living Shorelines Permitting Workshop

Photo Credit Savannah Barry

Workshop Details The goal of this workshop is to make living shorelines permitting more approachable to a wider audience, not just experts. It is open to anyone with a basic knowledge of living shorelines who needs support with permitting, including consultants, homeowners, HOA officials, contractors, environmental managers, city/county staff, parks staff, and landscape professionals.

Offered free of charge through a Gulf of Mexico Sea Grant (TX, LA, MS, AL, FL) partnership and Gulf of Mexico Alliance-funded project "Understanding and Navigating Living Shorelines Permitting"

Locations Hosted in-person across seven locations simultaneously through a partnership between UF/Florida Sea Grant and the National Estuarine Research Reserve (NERR) system. Each satellite location will offer additional location-specific details during/after the main broadcast.

Instructors Presentations will be offered from UF/Florida Sea Grant, Florida Department of Environmental Protection, US Army Corps of Engineers, and other local permitting experts.

***Satellite In-Person Registrations**
Please register below for individual satellite location:

- Sarasota County, Sarasota <https://www.eventbrite.com/e/634720635507>
- Martin County, Stuart <https://tinyurl.com/LSPermittingMartin>
- Collier County, Rookery Bay NERR <https://bit.ly/liveshore>
- St Johns and Flagler Counties, Guana-Tolomato-Matanzas NERR <https://bit.ly/LSPermittingWkspGTM>
- Franklin County, Apalachicola NERR <https://bit.ly/3Mzv8EO>
- Baldwin, AL Weeks Bay NERR (Florida-Focused) <https://bit.ly/3ICFL7G>

Wednesday July 12th, 2023
9am -12:30pm (ET)
Satellite locations may offer additional time after the main session concludes at 12:30pm (ET)

Main Session: UF Gainesville Campus, McCarty Hall D

Registration for Gainesville session
<https://bit.ly/3nWG9GT>

***Satellite In-Person Locations**
Registration links to left

- Sarasota County
- Martin County
- Collier County
- St Johns and Flagler Counties
- Franklin County
- Baldwin, Alabama (8am-11:30CT)

Figure 9. Flyer for the concurrent Florida living shoreline workshops..

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FLORIDA

Workshop Evaluation

The pre- and post-workshop had 7 statements. For each, a workshop participant rated their agreement with the statement on a scale of 1 (completely disagree) to 5 (completely agree). Comparing the pre- and post-evaluation responses showed an increase in agreement on all statements following the workshop presentation. Evaluation responses can be found [here](#).

Statement	Average Answer (Pre-Workshop)	Average Answer (Post-Workshop)	Percent Change
I understand what a living shoreline is.	3.67	3.81	3.81%
Living shorelines are a more environmentally friendly way to prevent shoreline erosion than bulkheads or seawalls.	3.72	3.79	1.88%
I feel comfortable completing the required permit applications for a living shoreline.	2.45	3.04	24.08%
I know where to find resources on living shorelines and living shoreline permitting.	2.9	3.51	21.03%
I know where to find the permit applications for a living shoreline.	2.72	3.39	24.63%
I know which government agencies are involved in approving a living shoreline.	3.25	3.61	11.08%
I know where to turn if I have questions or need help with a living shoreline permit.	3.08	3.54	14.94%

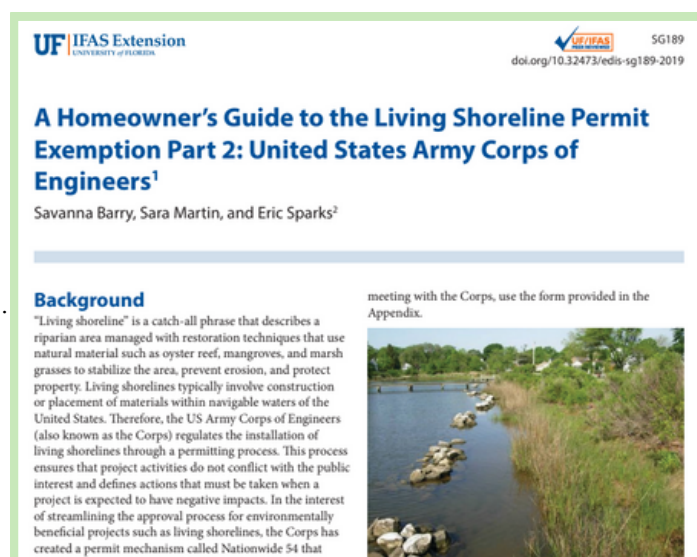
FLORIDA

Presentation and Outreach Materials

For this workshop, the living shorelines team produced and/or distributed the following materials:

- [Living shoreline workshop presentation](#)
- [Living shoreline permitting exercises](#)
- [Living shoreline resources for a general audience](#)
- [Environmental Resource Permit Applicant's Handbook Volume I](#)
- [State Permitting Guidance](#)
- [Living Shoreline Permitting Video](#)
- [A Homeowner's Guide to the Living Shoreline Permit Exemption, Part 1](#)
- [A Homeowner's Guide to the Living Shoreline Permit Exemption, Part 2](#)

Figure 10. A Homeowner's Guide to the Living Shoreline Permit Exemption, Part 2.



BARRIERS TO LIVING SHORELINE IMPLEMENTATION IN THE GULF OF MEXICO STATES: A SUMMARY DOCUMENT

The state leads collaborated to create a summary document that outlines barriers that applicants may encounter when trying to obtain a living shoreline permit, solutions that currently exist for addressing those barriers, and proposed solutions that state leads and other stakeholder may pursue to improve living shoreline permitting in the future. The summary document can be found [here](#).

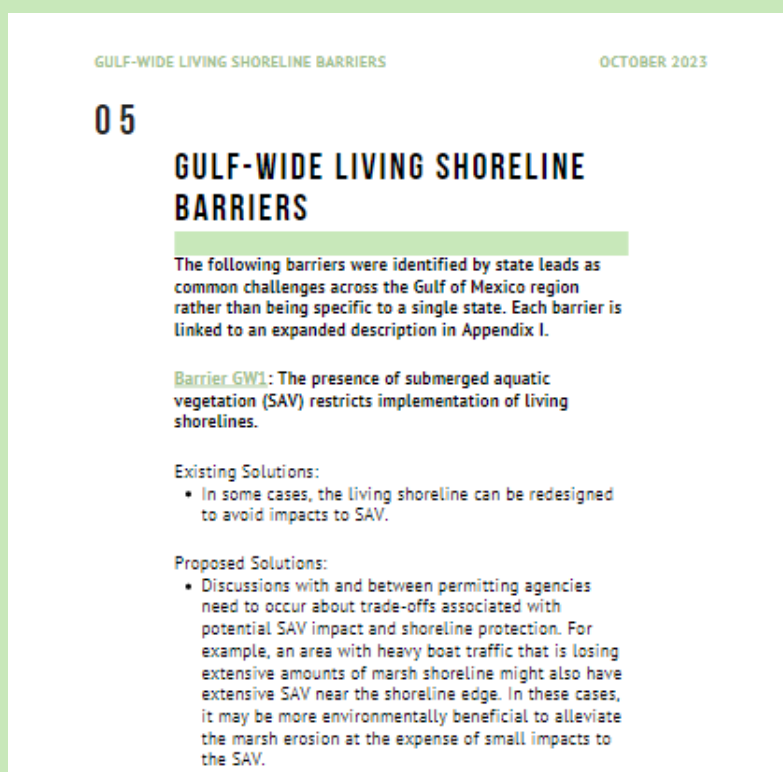


Figure 11. A page from the summary document outlining the gulf-wide permitting barrier of seagrass presence.