# From Shoreline to State line: A Strategic Marine Area Plan (S-MAP) for Hernando County's Marine Resources


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NATURE COAST BIOLOGICAL STATION

# Overview

- **RESTORE Act** – Provides Hernando County a **guaranteed source of funding** for 15 years to undertake restoration activities in its marine waters

- Hernando County Port Authority engaged **Florida Sea Grant and UF Law** to develop a long-term strategy to efficiently allocate these funds towards projects designed to restore, manage and enhance the County's coastal and marine resources.

- The final Strategic Marine Area Plan (S-MAP) was **designed to be incorporated into the County's comprehensive plan** based on a traditional planning framework of "goals, objectives and policies/actions."

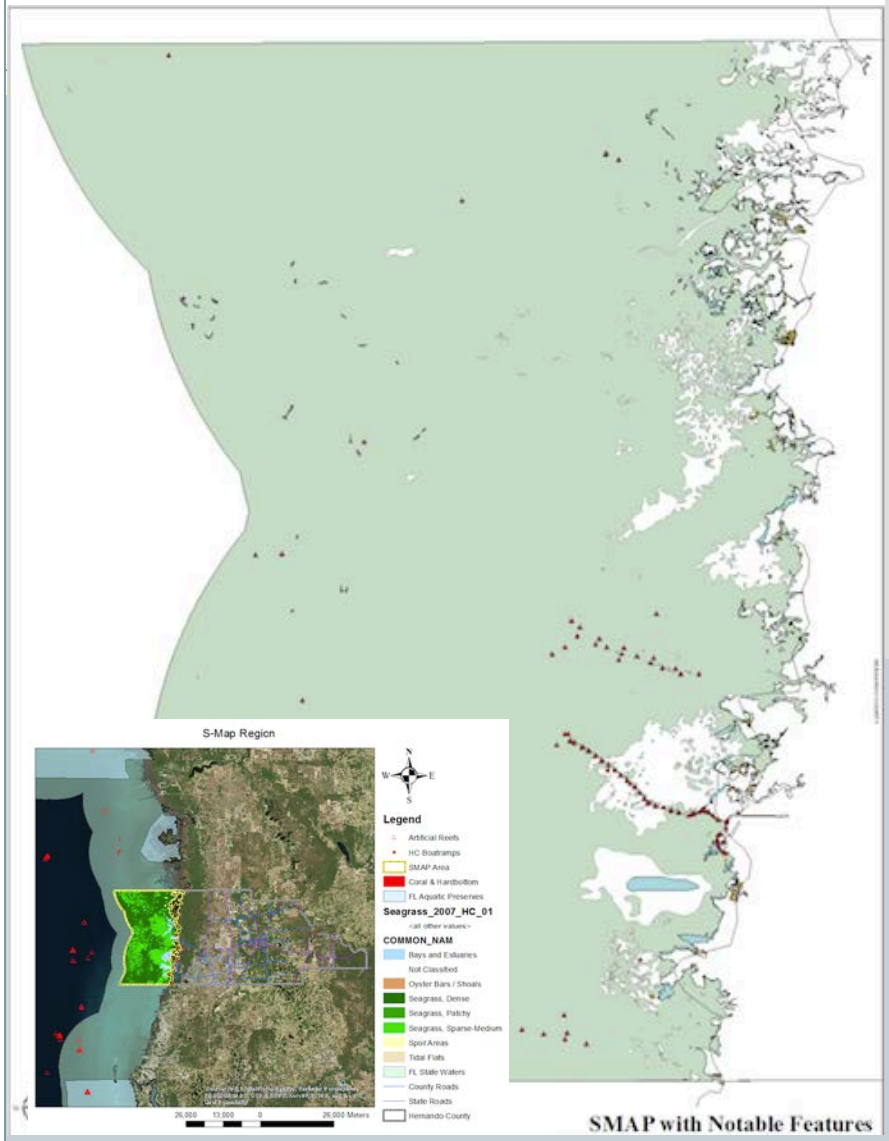
- The S-MAP is informed by **integrating science and policy**, and includes a research feedback loop to adapt both as necessary

- After **stakeholder engagement**, including a prioritization exercise, six goals were identified.

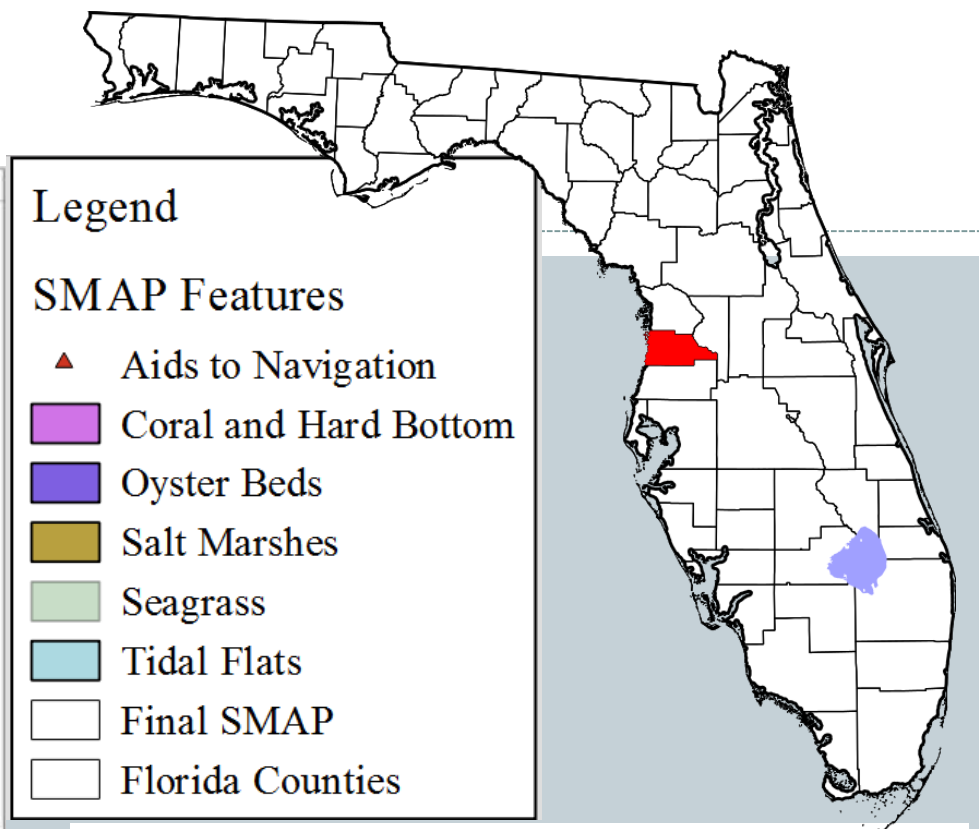
# Key Considerations

- Political Jurisdiction (shoreline to stateline)
- Regulatory constraints (SSL & permitting)
- Data gaps
- Resource quality & abundance (esp. sea grass & hardbottom)
- Multiple resource users (esp. rec & commercial fisheries)
- Stable funding source
- Eager stakeholder group (marine advisory board)
- On the ground extension support (Florida Sea Grant & Nature Coast Biological Station)
- Available university subject matter expertise
- Student engagement

# Florida's "Forgotten" Planning Jurisdiction

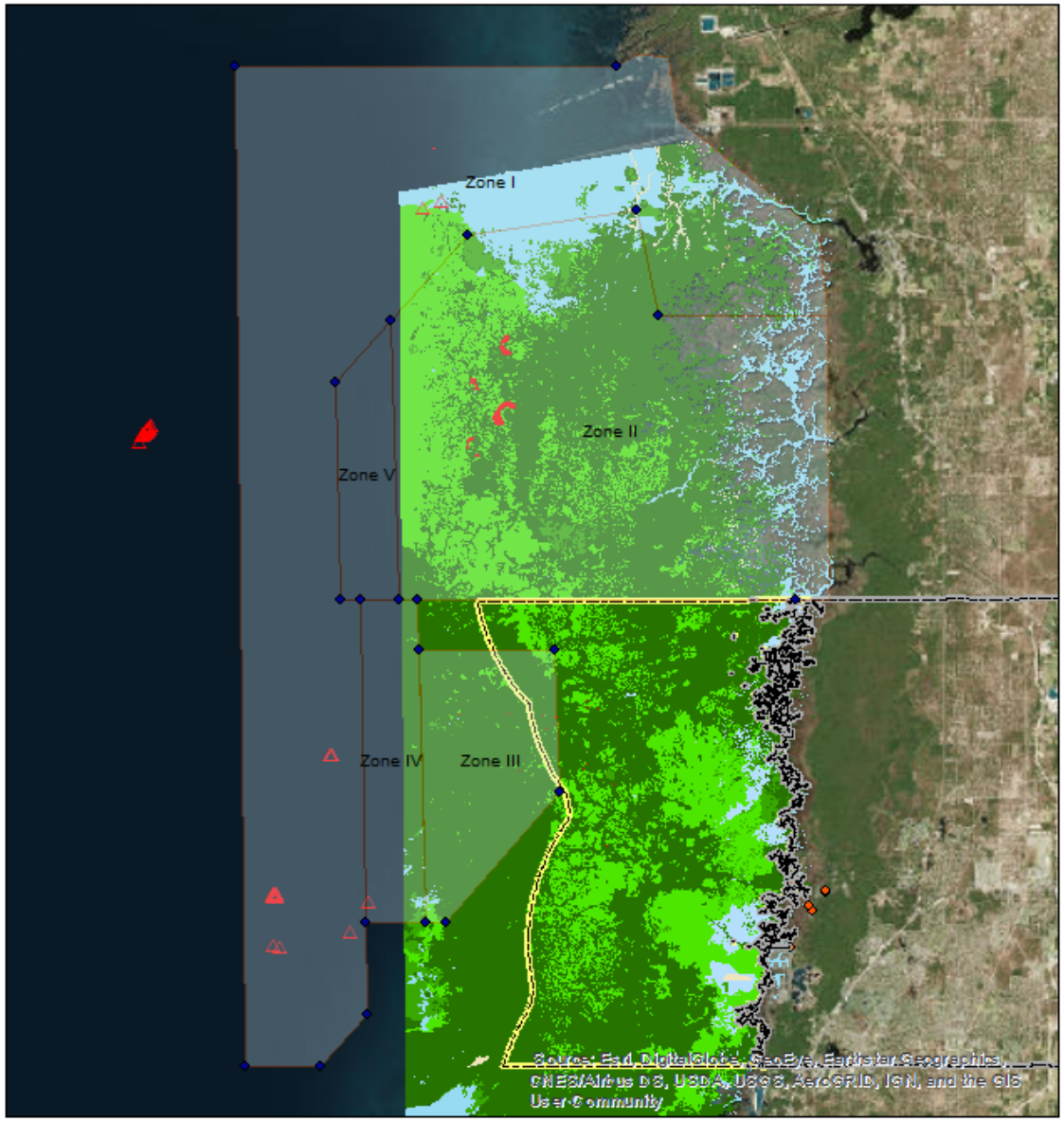



SMAP with Notable Features




| | |
|---|---|
| SMAP Area | 226.727 sq. mi. |
| FWC Region: | Southwest |
| Coral/Hardbottom Area | 0.057 sq. mi. |
| Oyster Bed Area | 0.021 sq. mi. |
| Salt Marsh Area | 20.00 sq. mi. |
| Seagrass Area | 9.58 sq. mi. |
| Aids to Navigation Count | 179 Objects |

# S-Map Region

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S

## Legend

- Shrimp & Crab Pt
- Shrimp & Crab Zones
- Hernando County
- Artificial Reefs
- HC Boatramps
- SMAP Area
- Coral & Hardbottom

**Seagrass_2007_HC_01**

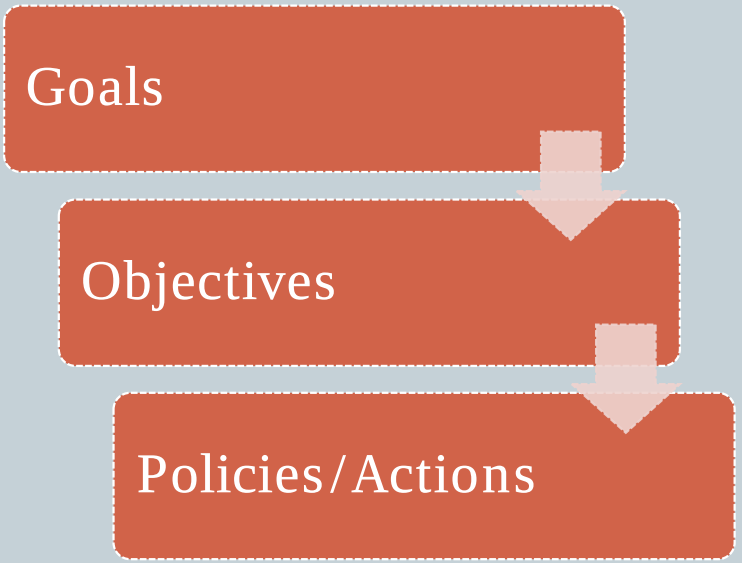
<all other values>

**COMMON_NAM**

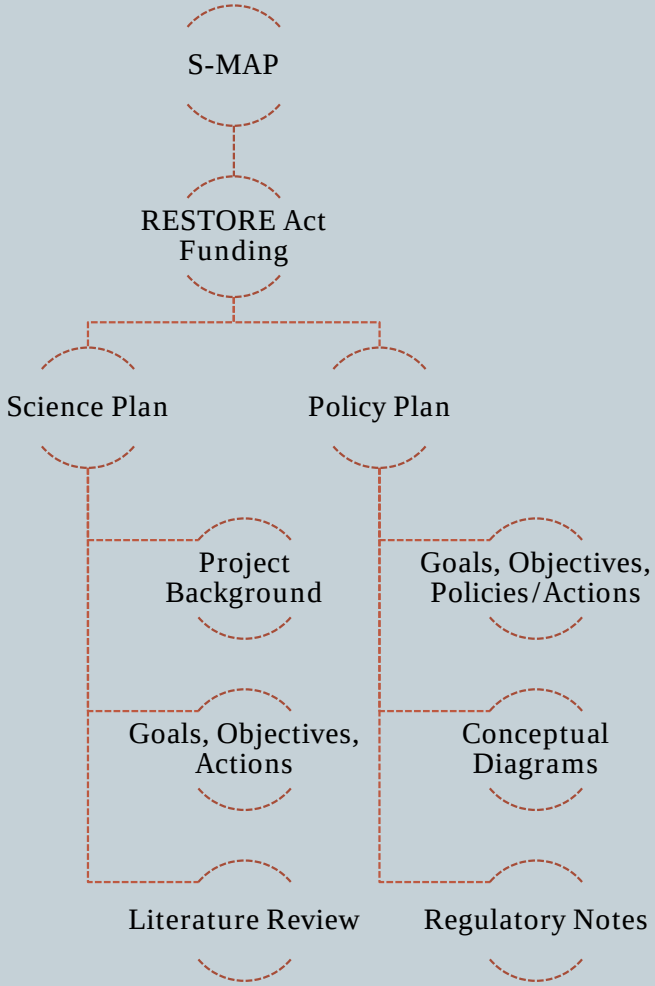
- Bays and Estuaries
- Not Classified
- Oyster Bars / Shoals
- Seagrass, Dense
- Seagrass, Patchy
- Seagrass, Sparse-Medium
- Spoil Areas
- Tidal Flats

# Identified Goals

- Goal 1: Shoreline stabilization
- Goal 2: Oyster reefs
- Goal 3: Artificial reefs
- Goal 4: Recreational and commercial fisheries
- Goal 5: Vessel navigation and gulf access
- Goal 6: Hard bottom habitat and seagrass



# Science/Policy Integration Framework

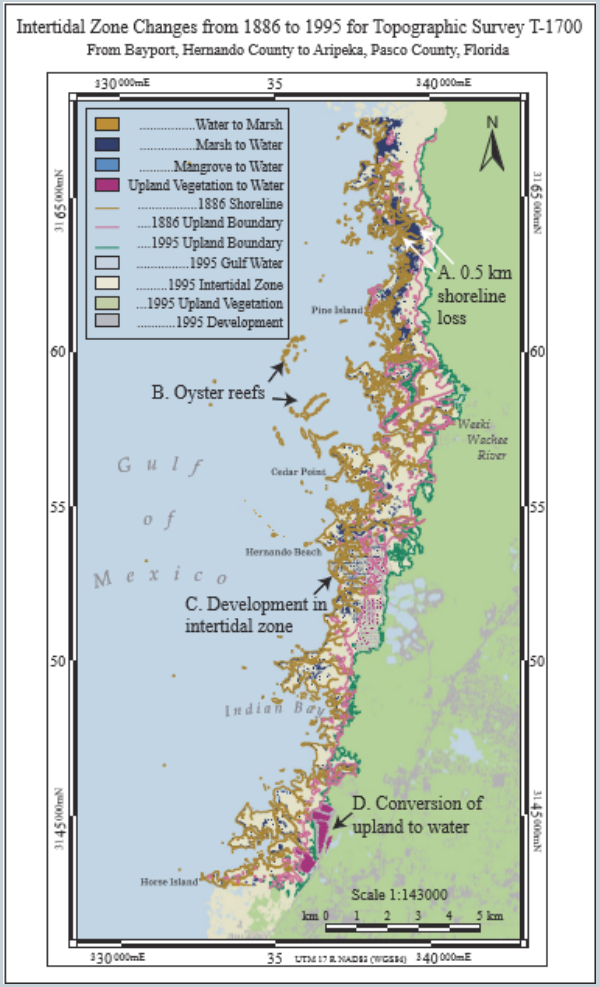


# Example
# Goal 2: Oyster Reef Restoration

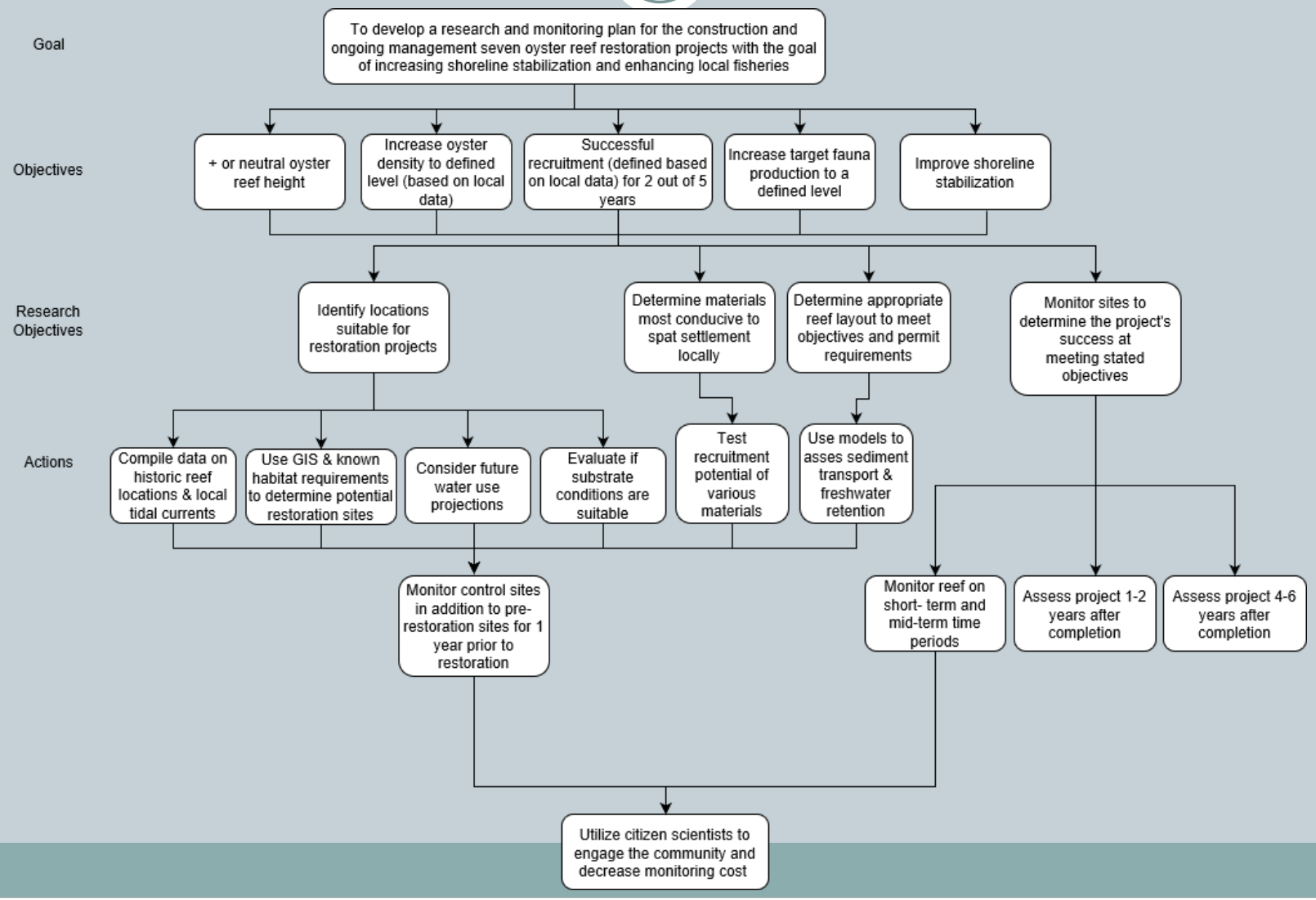
- **To maintain, restore and create a robust system of near shore oyster reefs that contributes to estuarine health, productive fisheries and coastal resiliency**

# Oyster Reef Restoration Science Background

- Review of relevant literature
  - Historical declines
  - Ecosystem services
- Identification of available data
  - Planning resources
  - Pre- and post-construction monitoring guidelines
- Identification of data gaps
  - Historical reefs in Hernando County
  - Optimal conditions can be site specific
- Proposed future research
  - To develop a research and monitoring plan for the construction and ongoing management oyster reef restoration projects focused on increasing shoreline stabilization and enhancing local fisheries.



# Oyster Reef Research Map



# Goal 2 Objectives

- Goal 2: To maintain, restore and create a robust system of near shore oyster reefs that contributes to estuarine health, productive fisheries and coastal resiliency

  - **Objective 2.1: Ensure the health of existing oyster reefs in Hernando County**
  - **Objective 2.2: Restore historic oyster reefs where current and foreseeable future conditions warrant it**
  - **Objective 2.3: Create new oyster reefs in viable habitats that will contribute to marine health, productive fisheries and coastal resiliency**
  - **Objective 2.4: Ensure that Hernando County has a consistent source of cultch for use in restoration and creation of oyster reefs**
  - **Objective 2.5: Create a comprehensive spatially-explicit Hernando County Oyster Restoration and Management Plan that addresses existing, restored and created oyster reefs and their associated habitat**

# Objective 2.5 - Policies/Actions

Objective 2.5: By _____, Create a comprehensive spatially-explicit Hernando County Oyster Reef Restoration and Management Plan that addresses existing, restored and created oyster reefs and their associated habitat

Policy/Action 2.5.1: Delineate potential management areas including spawning reserves, experimental reef development sites, regulated harvest areas, and suitable but un-colonized habitat.

Policy/Action 2.5.2: Create and support a community-based oyster habitat management and restoration program that includes oyster reef gardening, living shorelines, shell recycling, and small scale reef development coupled with education and outreach

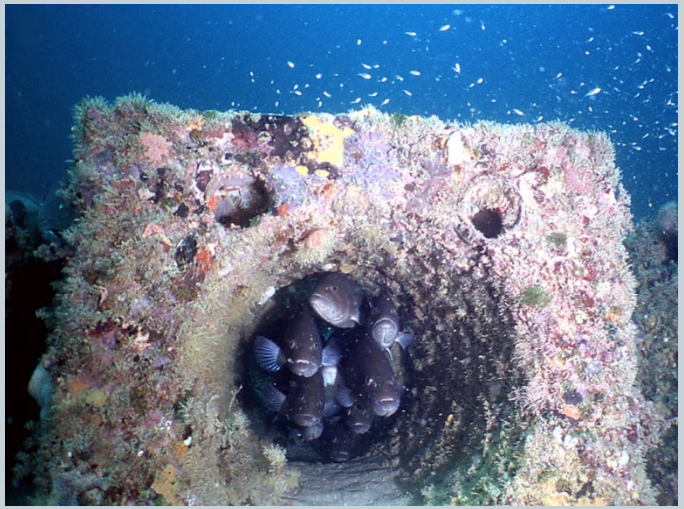
Policy/Action 2.5.3: Create a comprehensive monitoring program that monitors water quality, salinity, freshwater inputs, benthic habitat, , navigation impacts, spat recruitment, fisheries enhancement, and bird foraging.

Policy/Action 2.5.4: Ensure plan consistency with existing federal, state, regional and non-governmental oyster reef restoration plans, programs and initiatives.[1]

Policy/Action 2.5.5: Seek conceptual approval from regulatory agencies for oyster reef restoration and enhancement oyster reef projects identified by the Plan.

# Goal 3: Artificial Reefs

- **To enhance Hernando County's fisheries by maximizing available structure for recreationally important fish species at all life history stages through artificial reef deployment.**

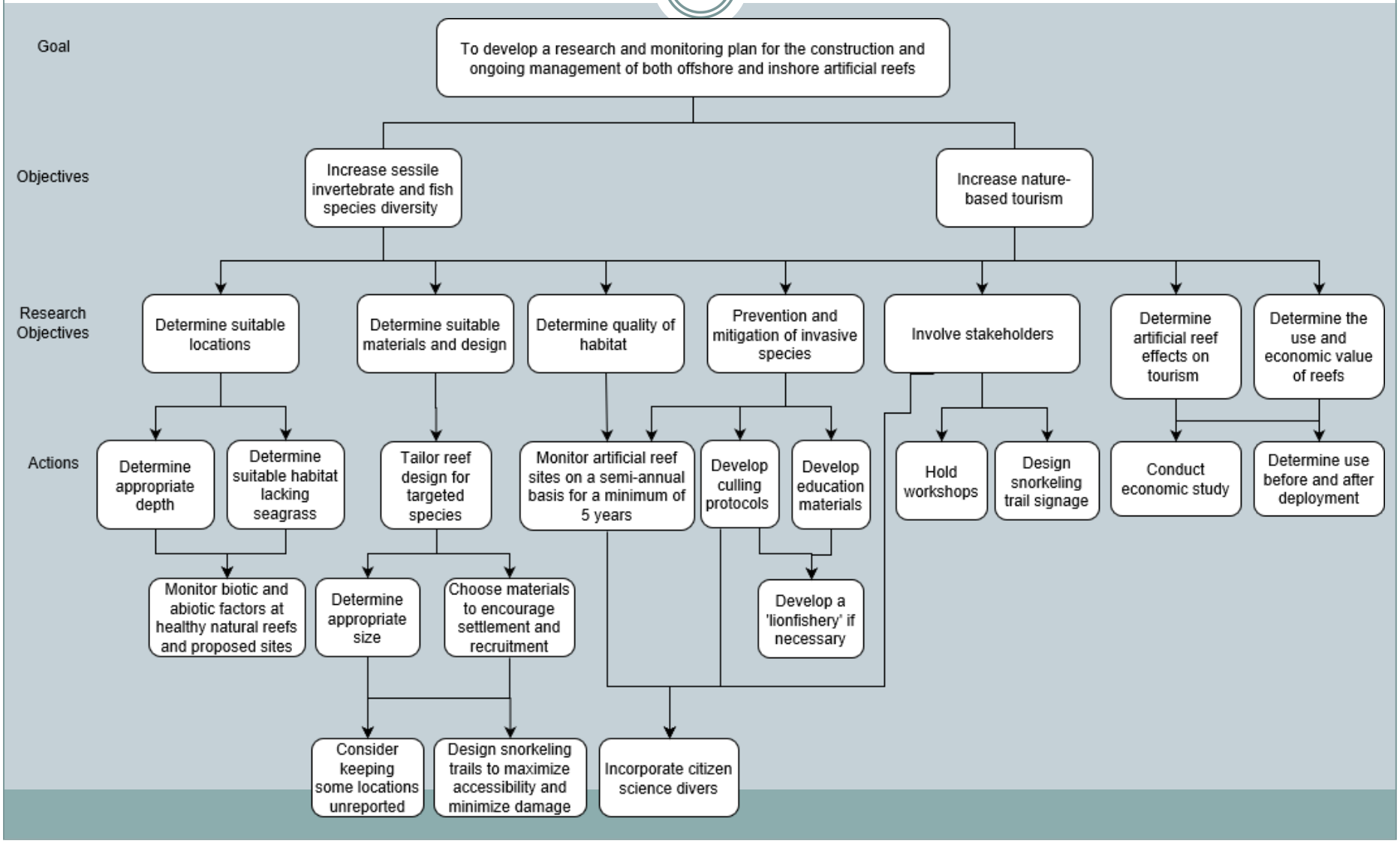


# Artificial Reefs Science Background

- Review of relevant literature
  - Most common obstacles
  - Importance of baseline data
- Identification of available data
  - Biology & design
  - Appeal and accessibility to users
- Identification of data gaps
  - Need for ongoing monitoring program
- Proposed future research
  - To develop a research and monitoring plan for the construction and ongoing management of inshore and offshore artificial reefs focused on increasing nature-based tourism within Hernando County

*Photo by Keith Kolasa*

# Artificial Reef Research Map



# Artificial Reefs Objectives

- Goal 3: To enhance Hernando County's fisheries by maximizing available structure for recreationally important fish species at all life history stages through artificial reef deployment.
  - **Objective 3.1: Create a robust complex of nearshore artificial reefs that enhances existing hard bottom habitat, support nature-based tourism and contributes to sustainable fisheries management.**
  - Objective 3.2: Create a robust complex of offshore artificial reefs that enhance available structure, support recreational fisheries and contribute to sustainable fisheries management
  - Objective 3.3: Create a comprehensive spatially and temporally explicit Hernando County Artificial Reef Construction and Management Plan

# Policy 3.1.2

- Objective 3.1: Create a robust complex of nearshore artificial reefs that enhances existing hard bottom habitat, support nature-based tourism and contributes to sustainable fisheries management
  - Policy 3.1.2: Prioritize habitat structure gaps where nearshore artificial reefs can serve as life history stepping stones for recreationally important juvenile fish moving to deeper water.

**GOAL 11.04 – Protection of Marine Resources**
**Hernando County's marine area, which exhibits unique biophysical and ecological characteristics, supports a rich assemblage of marine biota that drive the marine resource-based economy. The County commits to planning for marine resources that conserves natural resources, supports recreation, promotes strategic land conservation, protects water quality, and promotes coastal resiliency through shoreline stabilization, oyster reef restoration, and artificial reefs; recreational and commercial fisheries; vessel navigation and water access; and protects hardbottom and seagrass.**

**Strategic Marine Area Plan**

**Objective 11.04A:** **The County will prepare, implement, and periodically update a Strategic Marine Area Plan (S MAP) to maintain, restore, or create stabilized shorelines, nearshore oyster reefs, and artificial reefs; to sustain economic and ecologic recreational and commercial fisheries; to develop, maintain, and enhance a resilient program of infrastructure to support the sustainable commercial and recreational use of the marine and estuarine waters; and to ensure the ecological integrity of Hernando County's unique assemblage of seagrass bed habitats and interspersed hardbottom.**

**Shoreline Stabilization, Oyster Reef Restoration, and Artificial Reefs**

**Strategy 11.04A(1):** As set forth in the S MAP, adopt programs that promote estuarine shoreline interfaces that contribute to the ecological health and resiliency of the County's coastal and estuarine ecosystems.


"As a result of this plan, Hernando County has included funding for the collection of baseline data to fill data gaps that currently exist for our expansive areas of hard bottom and seagrass beds,"

- Keith Kolasa, Marine Services Manager, Hernando County

"It was also a great way to bring awareness to the marine and coastal resources of one of Florida's communities, and show what Florida Sea Grant agents and specialists bring to the table.

- Brittany Hall-Scharf, Florida Sea Grant, Hernando County

# Thank you! Questions?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