



# FLORIDA'S CORAL REEF: APRIL 2024 UPDATE



**Joanna C. Walczak**  
Office of Resilience and Coastal Protection  
Coral Protection and Restoration Program  
Florida Department of Environmental Protection

South Florida & Treasure Coast Regional Planning Councils  
Meeting Ft. Lauderdale, FL | April 15, 2024





# FLORIDA'S CORAL REEF



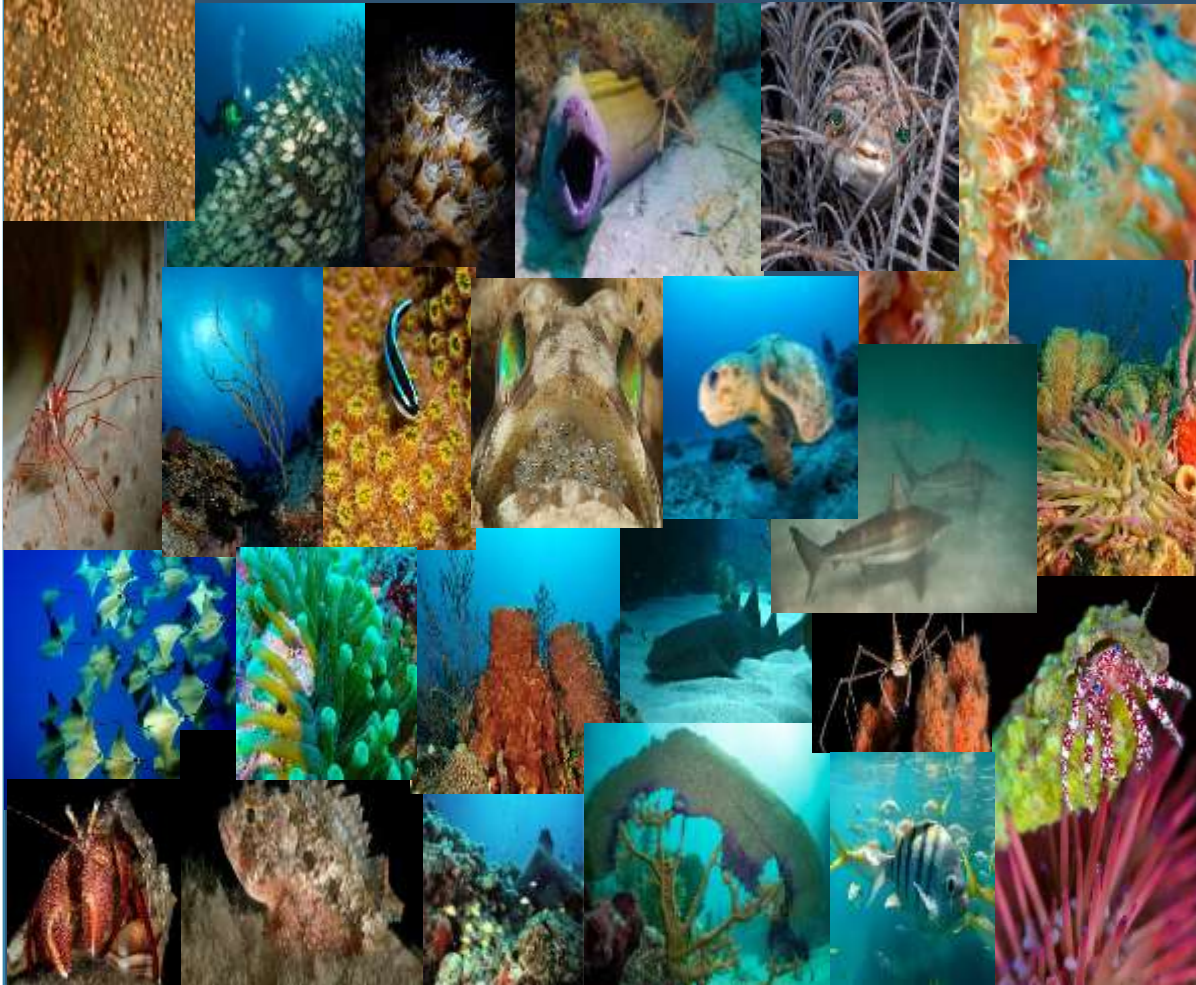
Images: DEP, D. Gilliam, NOAA





# FLORIDA'S CORAL REEF

## Ecologically Diverse

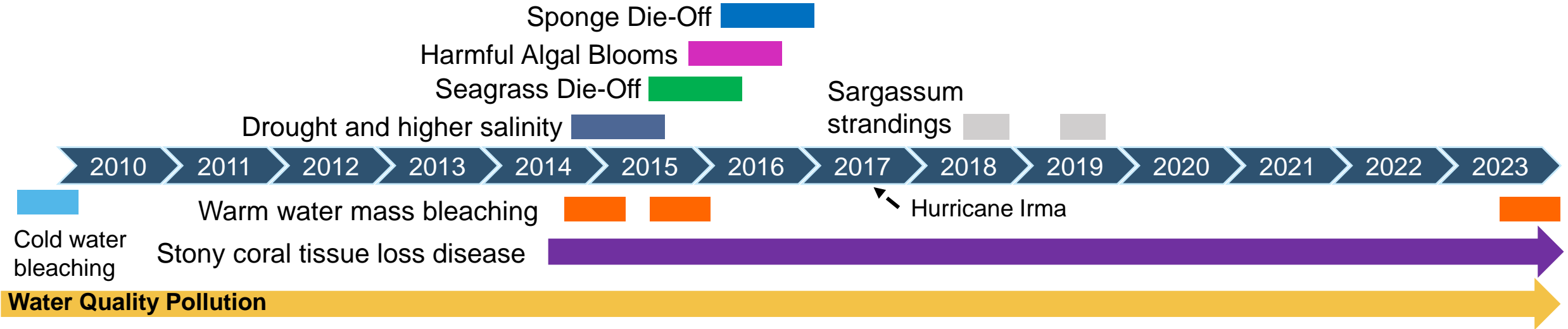


## Economically Essential

- **Shoreline Protection:** Providing protection for **5,600 people** and **\$675 million** in economic activity – over **\$1 billion** in severe storm events.
- **Fisheries Habitat:** Providing **3,787 jobs** and **\$456.2 million/year** in economic output.
- **Tourism:** Annually supporting **71,000 jobs** and **\$6.3 billion** in sales and income.



# FLORIDA'S CORAL REEF ENVIRONMENTAL AND BIOLOGICAL STRESSORS OVER TIME







# FLORIDA'S CORAL REEF

## 2023 BLEACHING





# FLORIDA'S CORAL REEF RESILIENCE PROGRAM

## LEVERAGING EXISTING NETWORKS

### Coral Rescue & Propagation and Restoration Networks

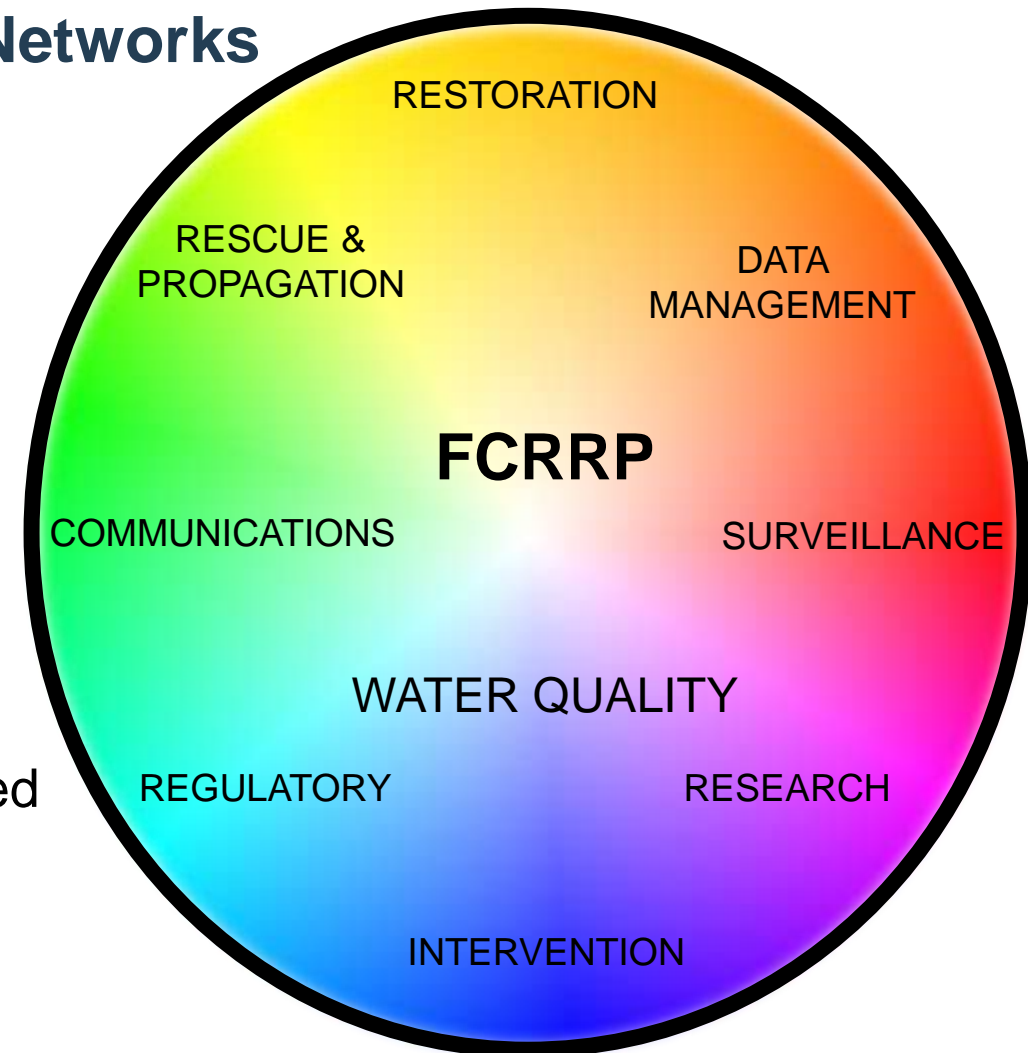
- Rapidly coordinated to implement conservation actions.
- Collated emergency triage funding needs.

### Leadership Network

- Collaborated to ensure that funding was made available to practitioners.
  - ~\$1M in Federal funding.
  - ~\$3M in State funding.

### Communications & Outreach Network

- Rapidly developed common talking points and coordinated media requests.







# INTERVENTIONS

## Evacuated thousands of corals from *in situ* nurseries to land-based facilities

- **Moving nurseries into deeper water or areas of higher circulation.**
  - FKNMS designated a 'special use area' using emergency authorities.
- **Shading experiments.**
  - Permitting challenges for fixed structures.
  - Considered vessel-tended shades for priority nursery and outplant locations.
- **Corallivore removal.**
  - Snail collection derbies at sites where predation is known to cause extensive mortality.
- **Monitoring to assess the event and identify hardy corals, resilient locations, etc.**



Photo:  
FWC  
FWRI



# CORAL MANAGEMENT & RESTORATION GOALS



1. Represent Florida's Coral Reef priorities in national policy.

## **US Coral Reef Conservation Act (CRCA), as amended, included in the National Defense Authorization Act of 2022:**

- Requires National Coral Reef Resilience Strategy and Coral Reef Action Plans for all US reefs.
- Establishes Coral Reef Stewardship Partnerships and Fund.
- Authorizes Emergency Assistance and Fund.





# CORAL MANAGEMENT & RESTORATION GOALS

1. Represent Florida's Coral Reef priorities in national policy.
2. Support Everglades restoration and unify with Florida's Coral Reef efforts.
3. Support increased funding for water quality through EPA's South FL Geographic Initiative.
4. Finalize reef restoration strategy and secure seed funding to jumpstart Florida's 'coral restoration economy'.
5. Continue stakeholder engagement and update management plans.



# NATIONAL NATURAL INFRASTRUCTURE



## US Coral Reef Task Force:

- Passed resolutions to 1) enhance national response to stony coral tissue loss disease, and 2) define coral reefs as National Natural Infrastructure.
- **Coral Reef Restoration for Risk Reduction (CR4) project.**

## Policy

### Appendix 1- State and Territorial Laws and Resolutions Relating to Coral as Nature Infrastructure

Puerto Rico Law No. 72 of the year 2020

<https://www.lexjuris.com/lexlex/Leyes2020/lexi2020072.htm>

(P. of the C. 2308); 2020, law 72

**To declare coral reefs as an essential structure for the protection of the coasts of Puerto Rico and its inherent relationship in the conservation of beaches and other elements of nature.**

**Law No. 72 of July 23, 2020**

To declare coral reefs as an essential structure for the protection of the coasts of Puerto Rico and its inherent relationship in the conservation of beaches and other elements of nature; order the Department of Natural and Environmental Resources of Puerto Rico to adopt and/or amend all the necessary regulations so that they are consistent with this declaration and empower them to process state or federal funds for their protection and maintenance; and for other purposes.





# NATIONAL CORAL REEF RESTORATION FUNDING GUIDANCE

Guiding potential applicants through the project conception, design, and implementation phases of a **Coral Reef Restoration for Risk Reduction (CR4)** project.

UC SANTA CRUZ



FEMA



science for a changing world



US Army Corps of Engineers



NIYAM IT



## Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development



Photo credit: Curt Storlazzi, USGS

### Working Group

- Austen E. Stovall, University of California Santa Cruz
- Michael W. Beck, University of California Santa Cruz
- Curt Storlazzi, U.S. Geological Survey
- Juliette Hayes, US Army Corps of Engineers
- Janan Reilly, Federal Emergency Management Agency
- Jen Koss, National Oceanic and Atmospheric Administration
- Doug Bausch, NiyamIT/FEMA Hazus



# FLORIDA RESTORATION EFFORTS

## SHORELINE PROTECTION AND FLOOD RISK REDUCTION



### SILVER JACKETS

Many Partners, One Team

- Building off CR4 guidance.
- Providing a roadmap for south Florida communities who want to build CR4 projects.



US Army Corps of Engineers®



### FEMA: Hazard Mitigation Funding for Nature-based solutions

- Updated State Hazard Mitigation Strategy to include restoration of coral reefs to protect coastal communities from flooding.
- Proposed for SE FL = \$3M for phase 1 of a \$9.7M initiative:
  - Modeling and Mapping for Florida’s Coral Reef.
  - Testing structure size and design in SE FL.





# EXISTING RESTORATION EFFORTS

## SHORELINE PROTECTION AND FLOOD RISK REDUCTION

### DARPA: Piloting Hybrid Reefs in Florida

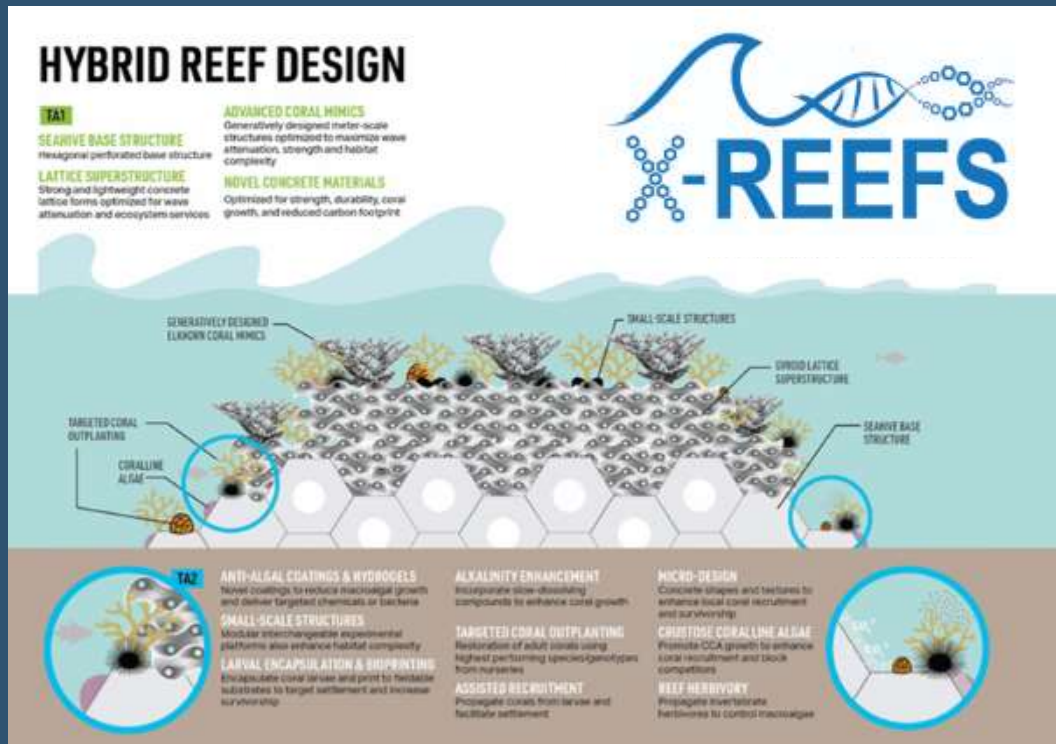


Image: University of Miami

### FEMA: Hazard Mitigation Funding for Nature-based solutions

- Updated State Hazard Mitigation Strategy to include restoration of coral reefs to protect coastal communities from flooding.
- **Proposed for SE FL = \$3M for phase 1 of a \$9.7M initiative:**
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# CORAL MANAGEMENT & RESTORATION GOALS

1. Represent Florida's Coral Reef priorities in national policy.



2. Support Everglades restoration and unify with Florida's Coral Reef efforts.

## Florida's Coral Reef Coordination Team established:

- Reconnecting South Florida Everglades Restoration Task Force (SFERTF) efforts with Florida's Coral Reef.



Image: Department of Interior





# REGIONAL RESTORATION AND RECOVERY

## FLORIDA'S CORAL REEF COORDINATION TEAM

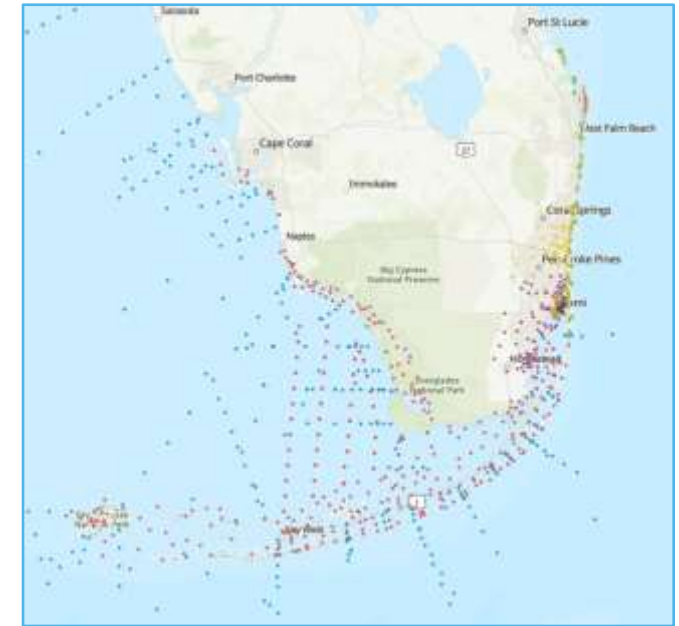
“d. adopt and refine restoration goals specific to Florida’s Coral Reef and associated resources consistent with the strategic goals of the Task Force and assess progress towards achieving those goals.”

### Priority Topics:

**Unified Monitoring Framework  
Ecosystem Restoration**


### Structure:

SOR & NPS Co-Chairs  
10 voting and 10 non-voting members (counties)





# CORAL MANAGEMENT & RESTORATION GOALS

1. Represent Florida's Coral Reef priorities in national policy.
2. Support Everglades restoration and unify with Florida's Coral Reef efforts.
3.  Support increased funding for water quality through EPA's South FL Geographic Initiative.

## **Introduced: South Florida Ecosystem Enhancement Act of 2023 (S. 119):**

- Authorizes EPA to establish a 50 Million grant program “to carry out projects to monitor, enhance, protect, preserve, or restore water quality, wetlands, aquatic ecosystems, or marine habitat...”





# CORAL MANAGEMENT & RESTORATION GOALS

1. Represent Florida's Coral Reef priorities in national policy.
2. Support Everglades restoration and unify with Florida's Coral Reef efforts.
3. Support increased funding for water quality through EPA's South FL Geographic Initiative.



4. Finalize reef restoration strategy and secure seed funding to jumpstart Florida's 'coral restoration economy'.



# FLORIDA'S CORAL REEF STATE RESTORATION PRIORITIES



## State of Florida Restoration Priorities for Florida's Coral Reef: 2021-2026 January 2021

The purpose of this document is to identify the priorities of the State of Florida (Florida Fish and Wildlife Conservation Commission (FWC) and Florida Department of Environmental Protection (DEP) related to restoration of Florida's Coral Reef (FCR), also known as the Florida Reef Tract. This document is a living document and identifies the State's priorities for the 2021-2026 five-year timeframe, but the most immediate State of Florida priorities for calendar year 2021 have been identified in purple font and separately summarized in Appendix 1. This document can be used in support of project development and solicitation activities but is not intended to replace any necessary technical review or public engagement processes.

While the State of Florida recognizes that improving water quality on FCR is important to the success of any restoration activities, those issues are addressed in other documents.

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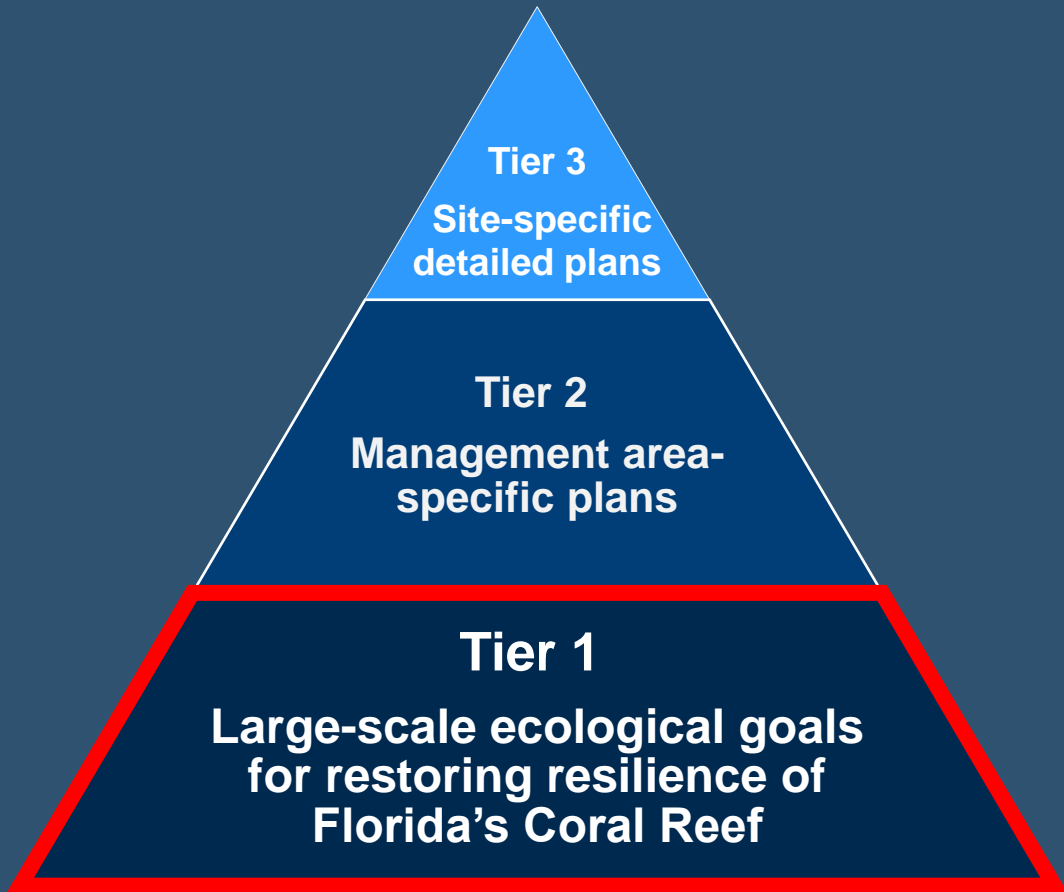






# FLORIDA'S CORAL REEF RESTORATION PLANNING

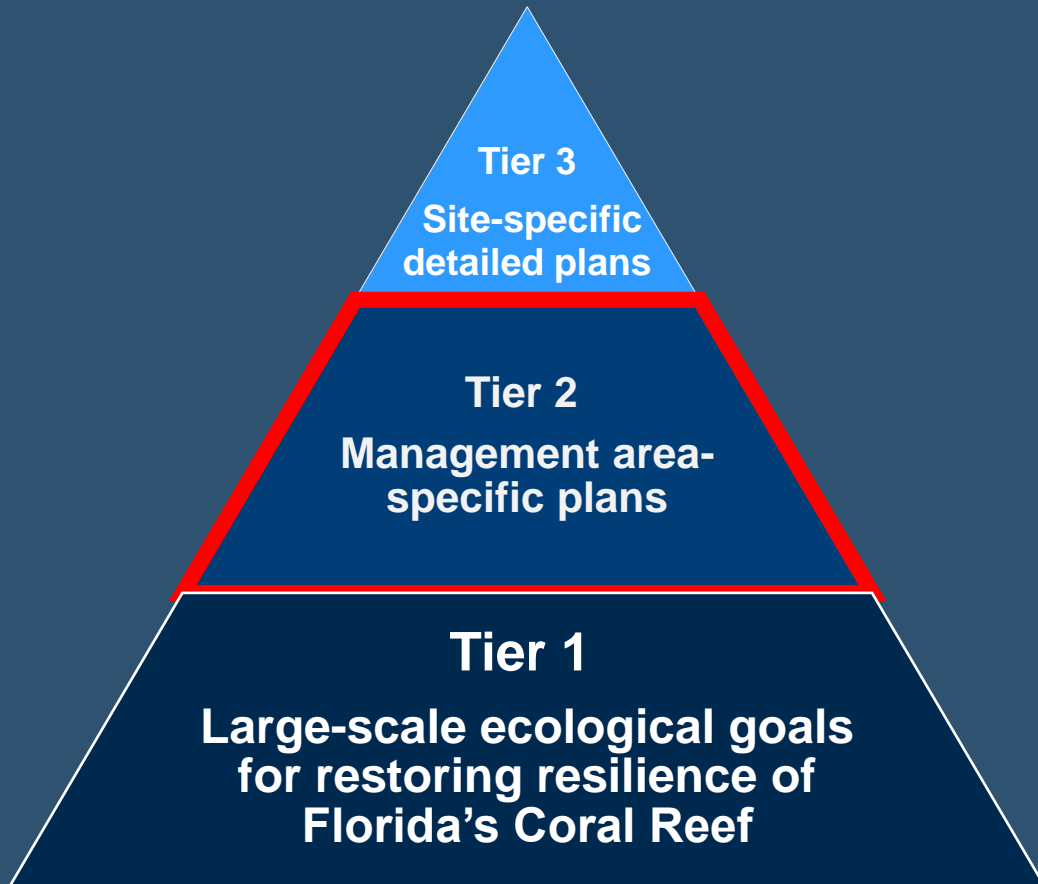
## 1. Restoration Planning





# FLORIDA'S CORAL REEF RESTORATION PLANNING

## 1. Restoration Planning

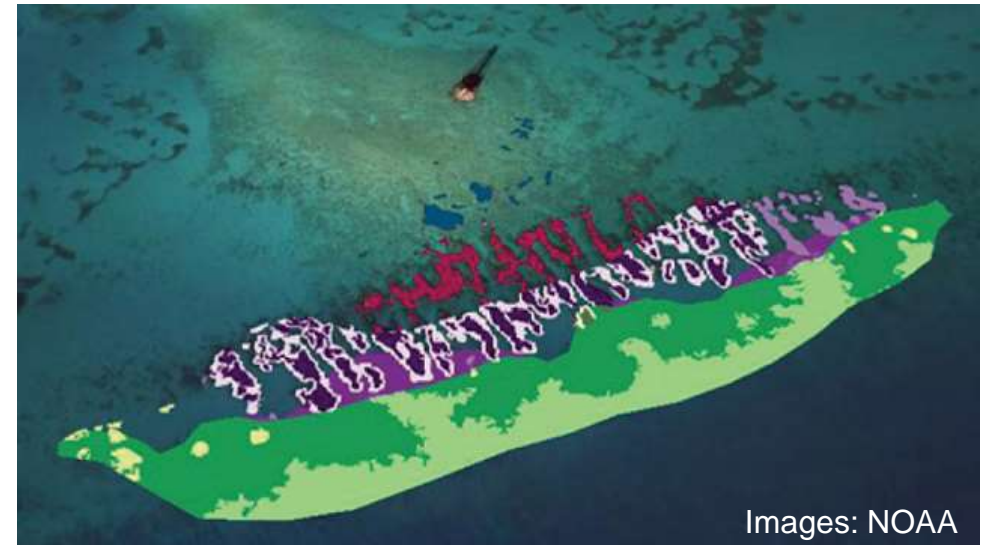
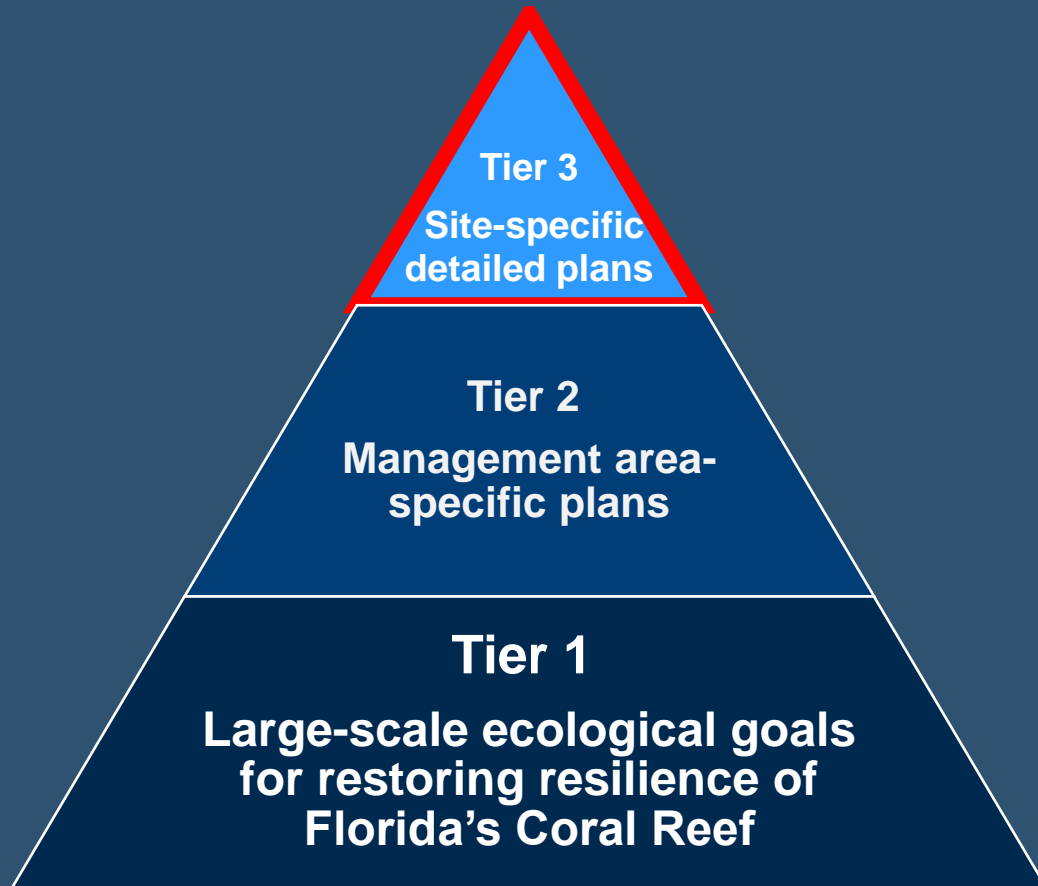






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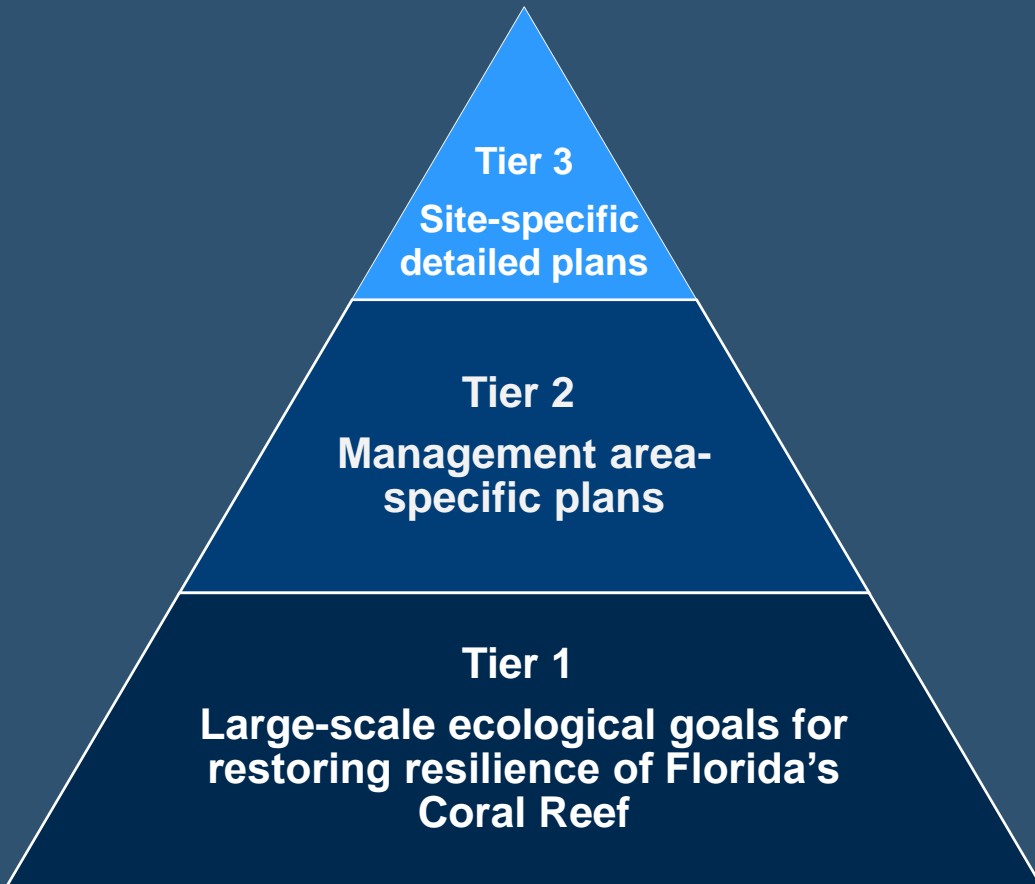
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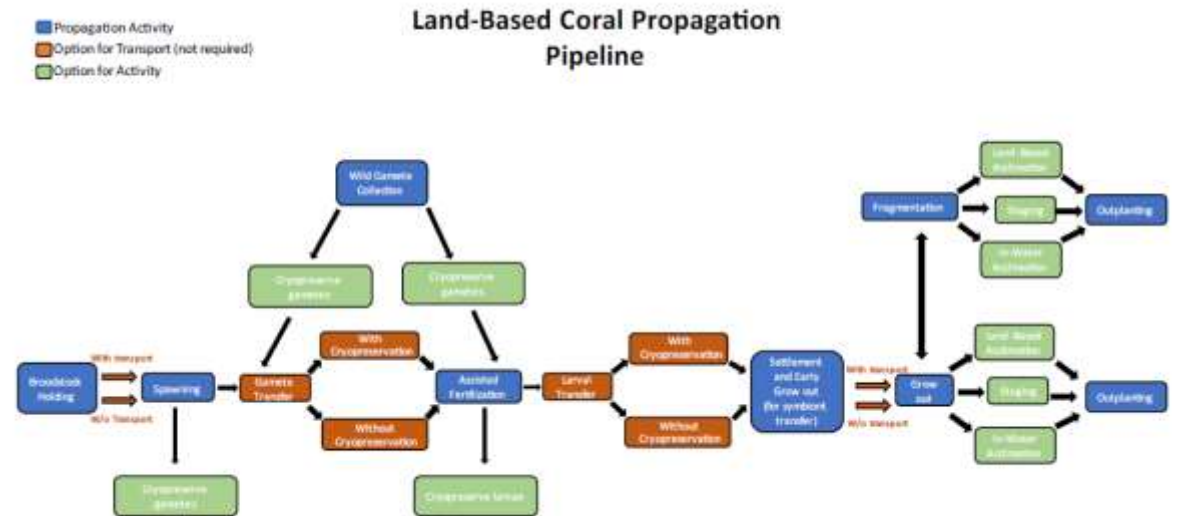


# FLORIDA'S CORAL REEF RESTORATION PLANNING

## 1. Restoration Planning



## 2. Build a Network of Nurseries





# FLORIDA'S CORAL REEF RESTORATION AND RECOVERY (FCR3) INITIATIVE

**Develop the infrastructure, technology, skilled workforce, and logistics necessary by 2050 to support the long-term recovery of no less than 25% of Florida's Coral Reef.**



## **New \$9.5M Grant for Phase 1 Priorities:**

- Establish, expand and maintain in-state propagation and grow-out facilities.
- Develop and implement strategies and site-specific restoration plans including curriculum for a trained workforce.
- Reinforce and expand restoration efforts across Florida's Coral Reef.







# FCR3 GRANT – FY 24/25

New state appropriation = \$9.5 Million

Funding for **academic and private partnerships** to implement Florida's Coral Reef Restoration and Recovery (FCR3) Initiative:

1. Establish, expand and maintain in-state coral propagation and grow-out facilities.
2. Develop and implement strategies and site-specific restoration plans including curriculum for a trained workforce.
3. Reinforce and expand restoration efforts across Florida's Coral Reef.

Request for proposals closes on **TBD**.





# EXISTING RESTORATION EFFORTS

## Southeast Florida Restoration Hub

Collaboration Between 6 SE FL Partners  
focused on Miami-Dade and Broward counties

- Rear and outplant recruits
- Optimize outplant success in the Coral ECA
- In-water nursery installation and maintenance
- Propagation Internship program



## NOAA's Mission Iconic Reefs + FCR3



Image: NOAA



# CORAL MANAGEMENT & RESTORATION GOALS

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# THANK YOU

**Joanna C. Walczak**

Office of Resilience and Coastal Protection  
Coral Protection and Restoration Program  
Florida Department of Environmental Protection



Contact Information:

786-798-4516

[Joanna.Walczak@FloridaDEP.gov](mailto:Joanna.Walczak@FloridaDEP.gov)

**Protecting Florida Together**

<https://protectingfloridatogether.gov/state-action/grants-submissions>

**Florida's Coral Reef**

[www.FloridasCoralReef.org](http://www.FloridasCoralReef.org)





# FLORIDA'S CORAL REEF: Kristin Jacobs Coral Reef Ecosystem Conservation Area



**Mollie Cordo**  
Office of Resilience and Coastal Protection / Southeast Region  
Florida Department of Environmental Protection

South Florida Regional Planning Council | Apr. 15, 2024





# FLORIDA'S CORAL REEF



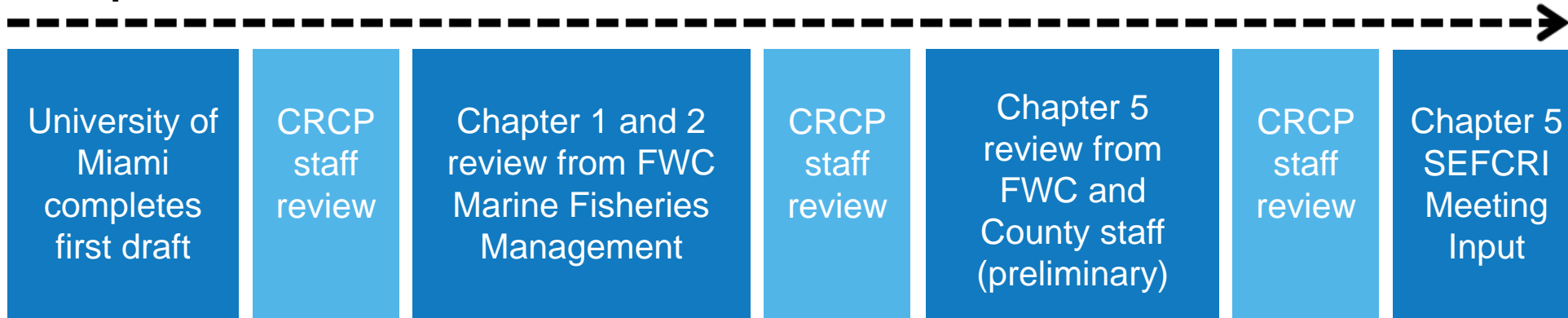
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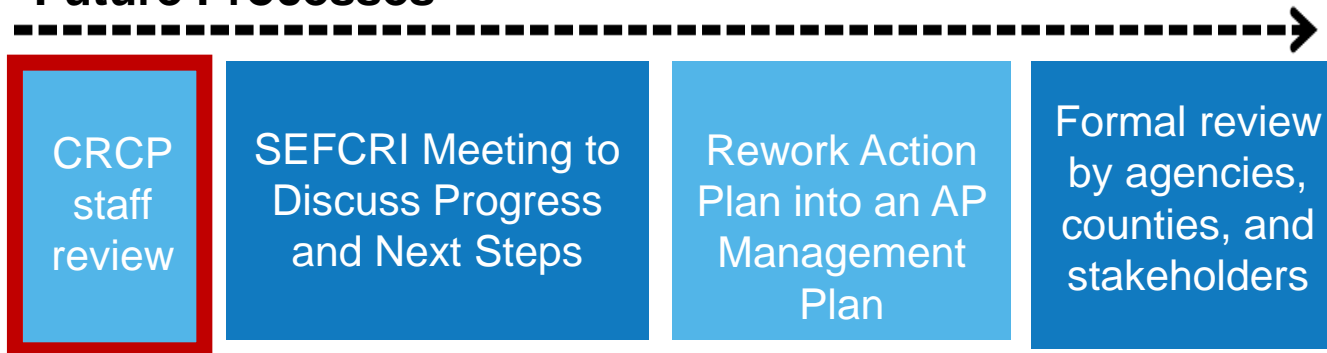


# KRISTIN JACOBS CORAL REEF ECOSYSTEM CONSERVATION AREA

## Completed Processes



## Future Processes



**Action Plan Development Process by DEP Coral Reef Conservation Program (CRCP)**



# KRISTIN JACOBS CORAL REEF ECOSYSTEM CONSERVATION AREA

## Action Plan – Chapter 5 - Issues

**Issues were streamlined based on previous projects and focus areas, feedback from the Southeast Florida Coral Reef Initiative (SEFCRI) Team and regional CRCP priorities.**

**Issue A:** Water quality/land-based sources of pollution, including marine industry and coastal construction impacts.

**Issue B:** Sustainable economic and recreational use/fishing, diving and other uses.

**Issue C:** Ecosystem disturbance response and recovery.

**Issue D:** Community education, engagement and access.

**Issue E:** Building ecosystem resilience.



# KRISTIN JACOBS CORAL REEF ECOSYSTEM CONSERVATION AREA

## Proposed Aquatic Preserve Designation

- Pending Governor's signature.
- If approved, this area would become the Kristin Jacobs Coral Reef Ecosystem Conservation Area Aquatic Preserve.
  - Subject to Florida Administrative Code, Chapter 18-20.
- Current boundary recognizes area but does not designate a managing entity.
- Additional management authority has been requested by the SEFCRI Team and stakeholders for several years.
- Thank you to everyone who has supported this proposal!

**Kristin Jacobs Coral Reef Ecosystem Conservation Area**

The Kristin Jacobs Coral Reef Ecosystem Conservation Area, formerly known as the Southwest Florida Coral Reef Initiative region, was officially established on July 1, 2018. This conservation area, also referred to as the Coral ECA, is the northeastern section of Florida's Coral Reef and runs 100 miles from the St. Lucie Inlet to the northern boundary of Bigeye National Park.

The Coral ECA is part of the only barrier reef system in the continental United States and is home to more than 6,000 species of marine life, including fish, many corals, soft corals, sponges and other marine invertebrates.

**Did You Know?**

- Coral reefs look like rocks or plants, but they are in fact animals, related to jellyfish and sea anemones.
- Reef growth is extremely slow. An individual coral colony may grow only 1 inch to 3 inches (3 centimeters) each year, depending on the species.
- Coral reefs in Southwest Florida generate \$2.7 billion in local sales and support 21,000 local jobs each year (as of 2010).

**Protecting Our Reefs**

- The Coral Reef Conservation Program at the Florida Department of Environmental Protection is responsible for managing the Coral ECA by enforcing conservation with commercial and recreational use.
- The Florida Coral Reef Protection Act of 2009 makes it illegal to harvest or anchor on coral or herbivores.

**How You Can Help**

- Practice Safe Anchoring**
  - Use a public mooring buoy or anchor in sandy areas using Florida's Coral Reef Locator available at [FloridaDEP.gov/CoralReefLocator](http://FloridaDEP.gov/CoralReefLocator)
- Use Responsibly**
  - Keep the reefs protected by reef floating. These anchors with your hands or equipment.
- Reduce Marine Pollution**
  - Be sure to remove trash with anything you brought with you. Dispose of trash properly wherever.
- Don't Dive and Recycle**
  - Don't leave unattended fishing line behind. Find an outdoor recycling bin and properly dispose of trash/baited line.
- Fish Responsibly**
  - Familiarize yourself with FWE's recreational fishing regulations, and download the Fish Rules App to find regulations quickly and easily on the water.

**Report Marine Incidents to SEAFAN!**

The Southwest Florida Action Network is a marine incident reporting and response program dedicated to protecting the Coral ECA. Go online at [SEAFAN.net](http://SEAFAN.net) to report and/or damage, coral diseases or other marine incidents. No special training is required!

Learn More About the Coral ECA, Find Resources and Get Involved. [FloridaDEP.gov/CoralECA](http://FloridaDEP.gov/CoralECA) to learn more.



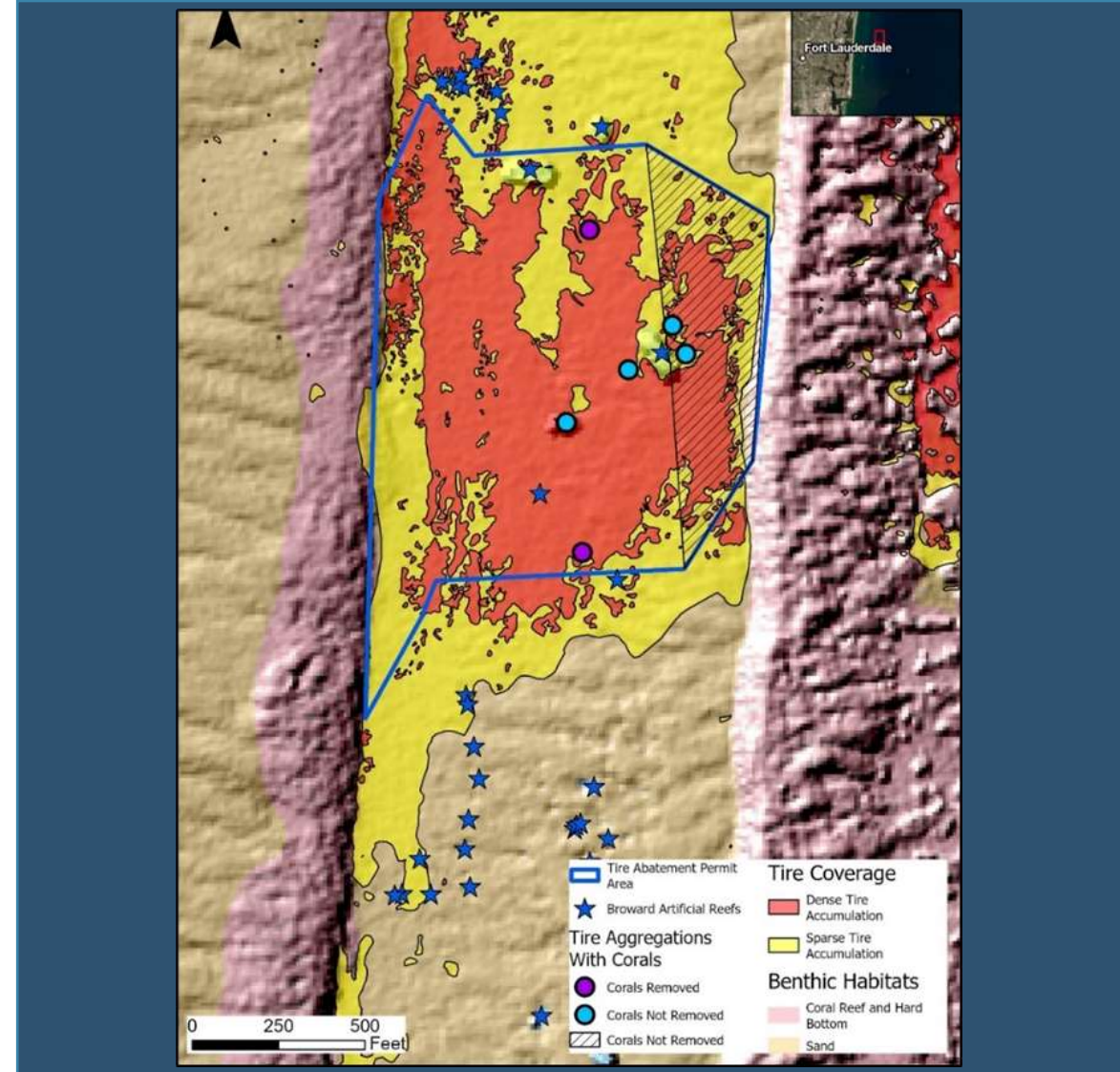


# KRISTIN JACOBS CORAL REEF ECOSYSTEM CONSERVATION AREA

## Osborne Tire Reef

### Current Efforts

- Project led by DEP's Waste Management Division, with assistance from the Office of Resilience and Coastal Protection.
- On-going tire removal from sand habitats within the Tire Abatement Project Permitted Area.
- Coral removal from tires and relocation to nearby reefs or research facilities.
- Since 2015, DEP-hired contractors have removed approximately 469,000 tires from the permitted area.



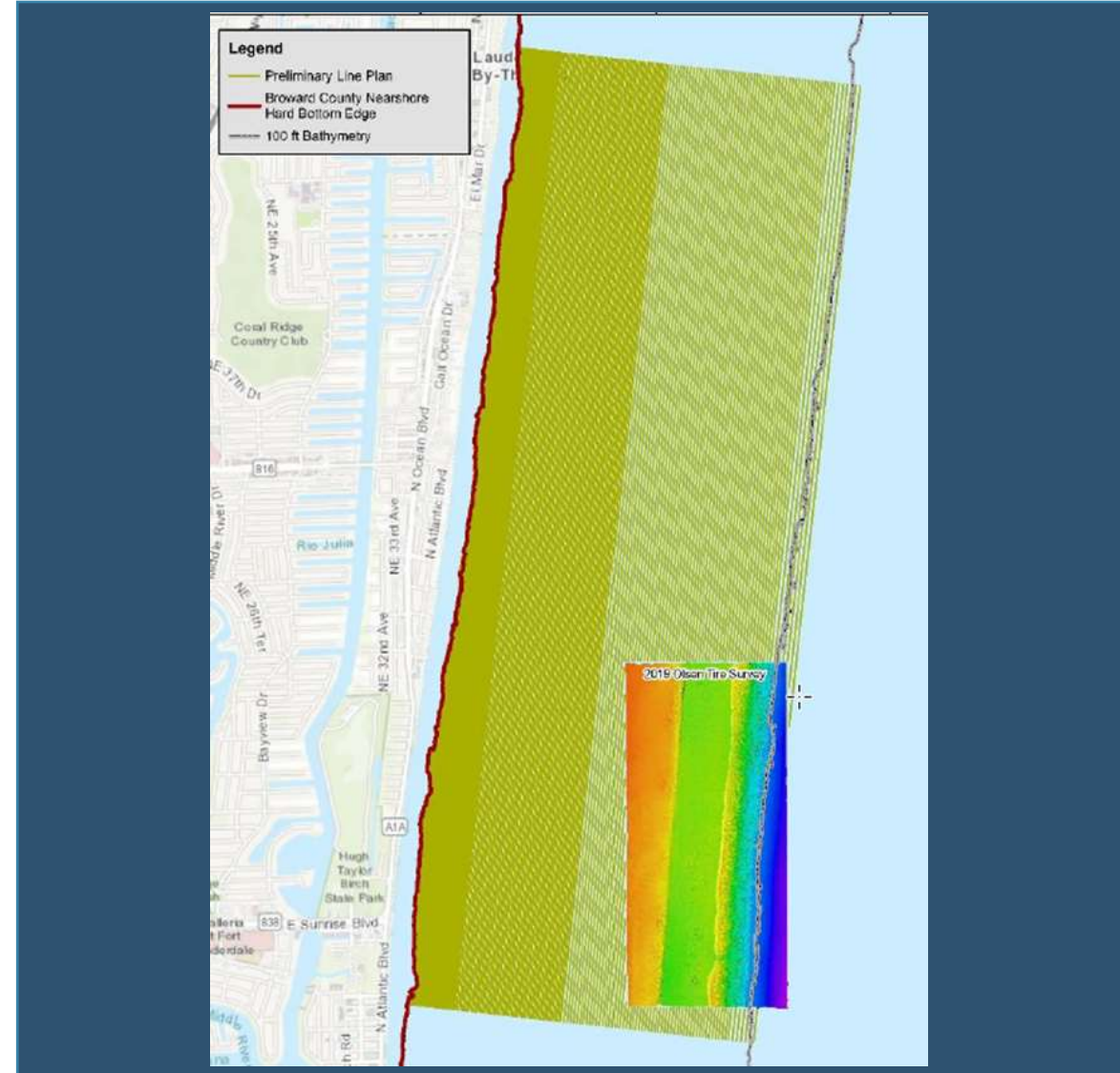


# KRISTIN JACOBS CORAL REEF ECOSYSTEM CONSERVATION AREA

## Osborne Tire Reef

### Upcoming Plans

- Phase 1: Expanded Tire Survey:
  - Supplement the 2019 survey area and estimate the larger spread of tires.
- Phase 2: Ground Truth, AI, and Map Creation:
  - Analyze mapping to identify tire locations, individual and aggregations.
- Phase 3: Development of a Restoration Plan:
  - Inform expansion of the Tire Removal Project.
  - Planning to restore the underlying habitats and coral densities after tires have been removed.
- Restoration Plan due to Legislature by July 1, 2024.





# THANK YOU

**Mollie Cordo**

Office of Resilience and Coastal Protection  
Southeast Region  
Florida Department of Environmental Protection



Contact Information:

786-798-4505

[Mollie.Cordo@FloridaDEP.gov](mailto:Mollie.Cordo@FloridaDEP.gov)

**DEP's Coral Program**

[www.FloridaDEP.gov/RCP/Coral](http://www.FloridaDEP.gov/RCP/Coral)

**Florida's Coral Reef**

[www.FloridasCoralReef.org](http://www.FloridasCoralReef.org)