FLORIDA'S CORAL REEF: FEBRUARY 2025 UPDATE

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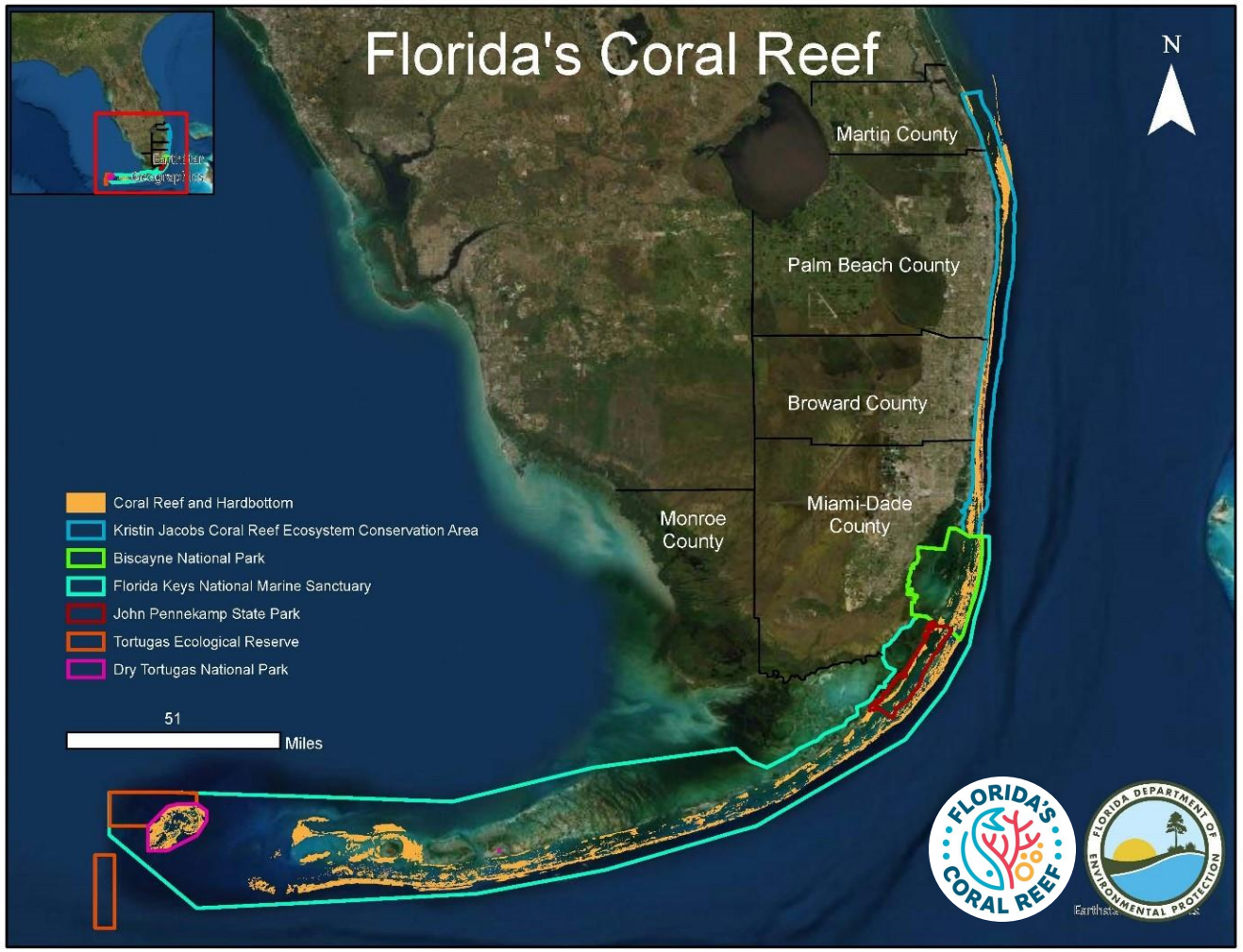
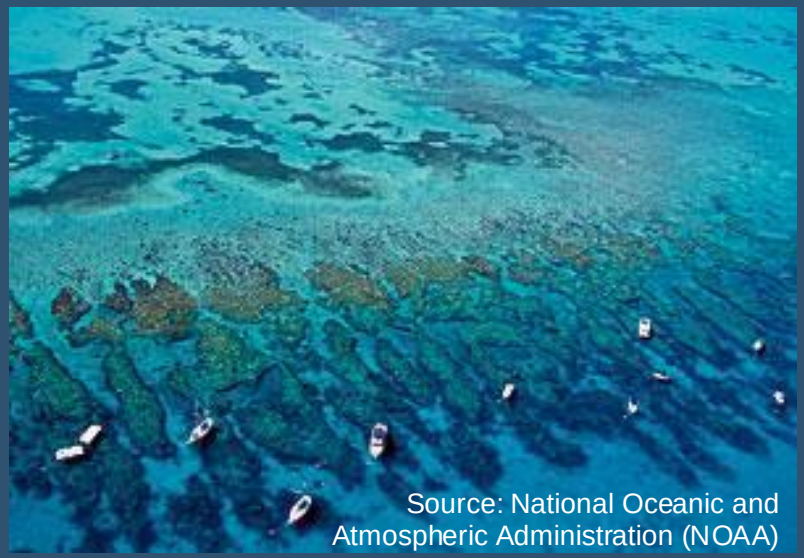
Office of Resilience and Coastal Protection
Florida Department of Environmental Protection

South Florida and Treasure Coast Regional Planning Councils Meeting
Fort Lauderdale, Florida | Feb. 28, 2025

FLORIDA'S CORAL REEF





Source: National Oceanic and Atmospheric Administration (NOAA)

FLORIDA'S CORAL REEF

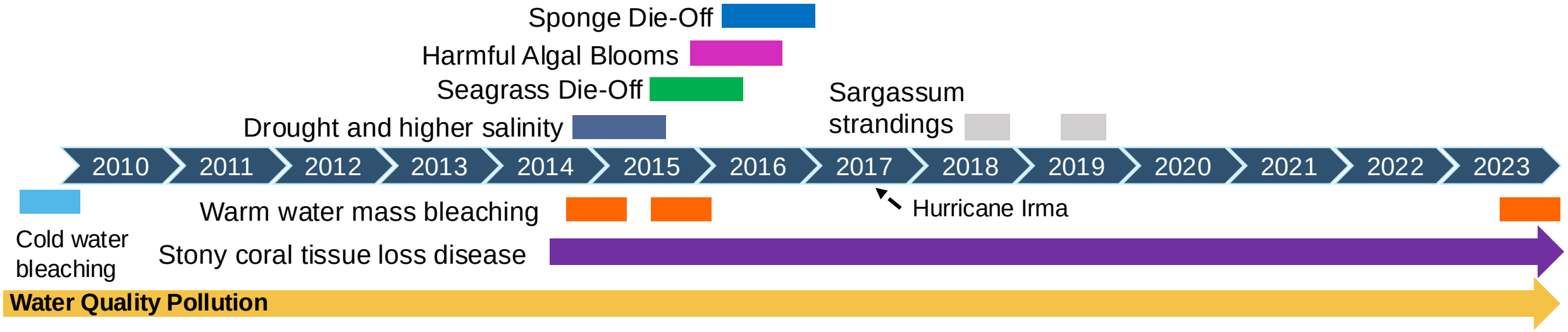
Ecologically Diverse

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.

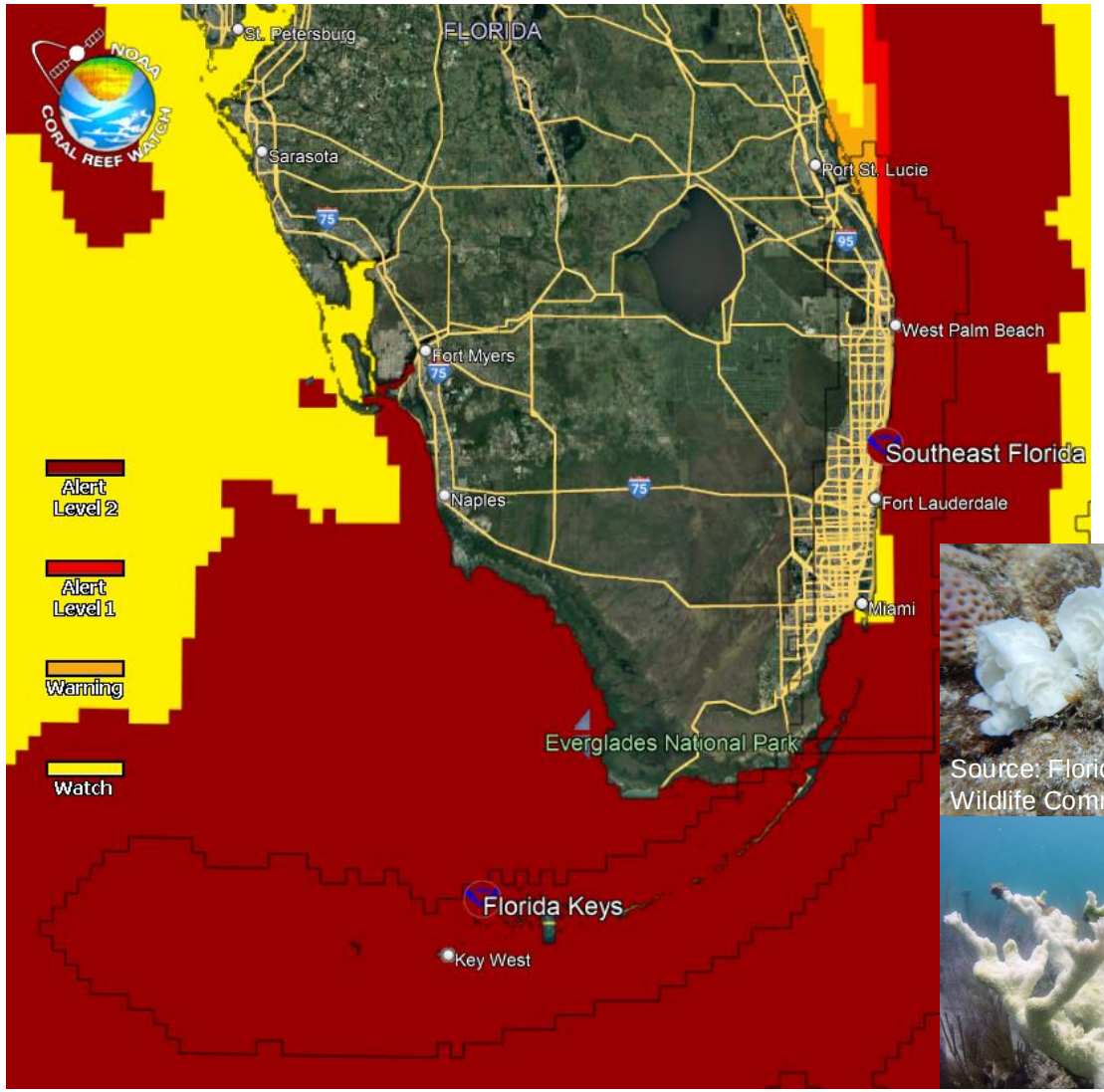
FLORIDA'S CORAL REEF

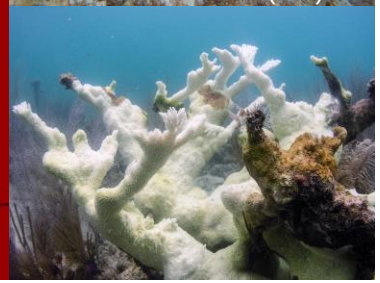
ENVIRONMENTAL AND BIOLOGICAL STRESSORS OVER TIME



FLORIDA'S CORAL REEF

2023 BLEACHING





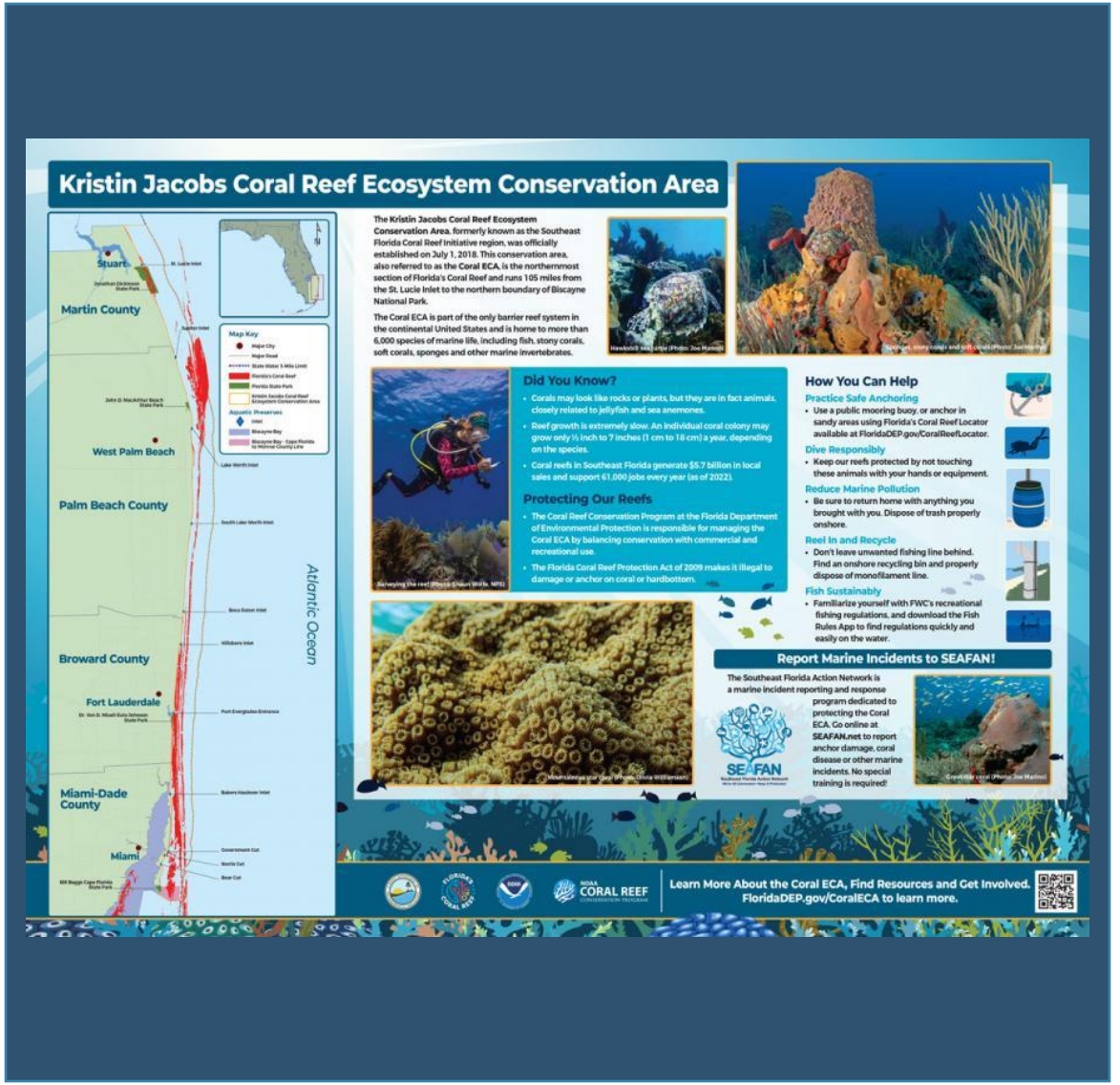
KRISTIN JACOBS CORAL AQUATIC PRESERVE (CORAL AP)

Aquatic Preserve Designation

- Aquatic Preserve designation was officially established on July 1, 2024!
  - Subject to Florida Administrative Code, Chapter 18-20.

- Along with state and federal partners, the Department of Environmental Protection's (DEP) Coral Reef Conservation Program (CRCP) is responsible for managing the Coral AP by balancing conservation with commercial and recreational use.

- **Thank you to everyone who has supported this effort!**



CORAL AP REEF ECOSYSTEM CONSERVATION AREA

Completed Processes

- University of Miami completes first draft
- CRCP staff review
- Chapter 1 and 2 review from FWC Marine Fisheries Management
- CRCP staff review
- Chapter 5 review from FWC and County staff (preliminary)
- CRCP staff review
- Chapter 5 Southeast Florida Coral Reef Initiative (SEFCRI) Meeting Input

Future Processes

- CRCP staff review
- SEFCRI Meeting to Discuss Progress and Next Steps
- Rework Action Plan into an AP Management Plan
- Formal review by agencies, counties and stakeholders

Action Plan Development Process by DEP's CRCP

CORAL AP REEF ECOSYSTEM CONSERVATION AREA

Action Plan — Chapter 5: Issues

Issues were streamlined based on previous projects and focus areas, feedback from the 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.

FLORIDA KEYS NATIONAL MARINE SANCTUARY (FKNMS) RESTORATION BLUEPRINT

Proposed FKNMS Management Plan:

- Expands the sanctuary boundaries.
- Adds additional protections for corals, seagrass, nesting birds and sea turtles.
- Adds new zones for coral restoration.
- Removes some fishing restrictions.

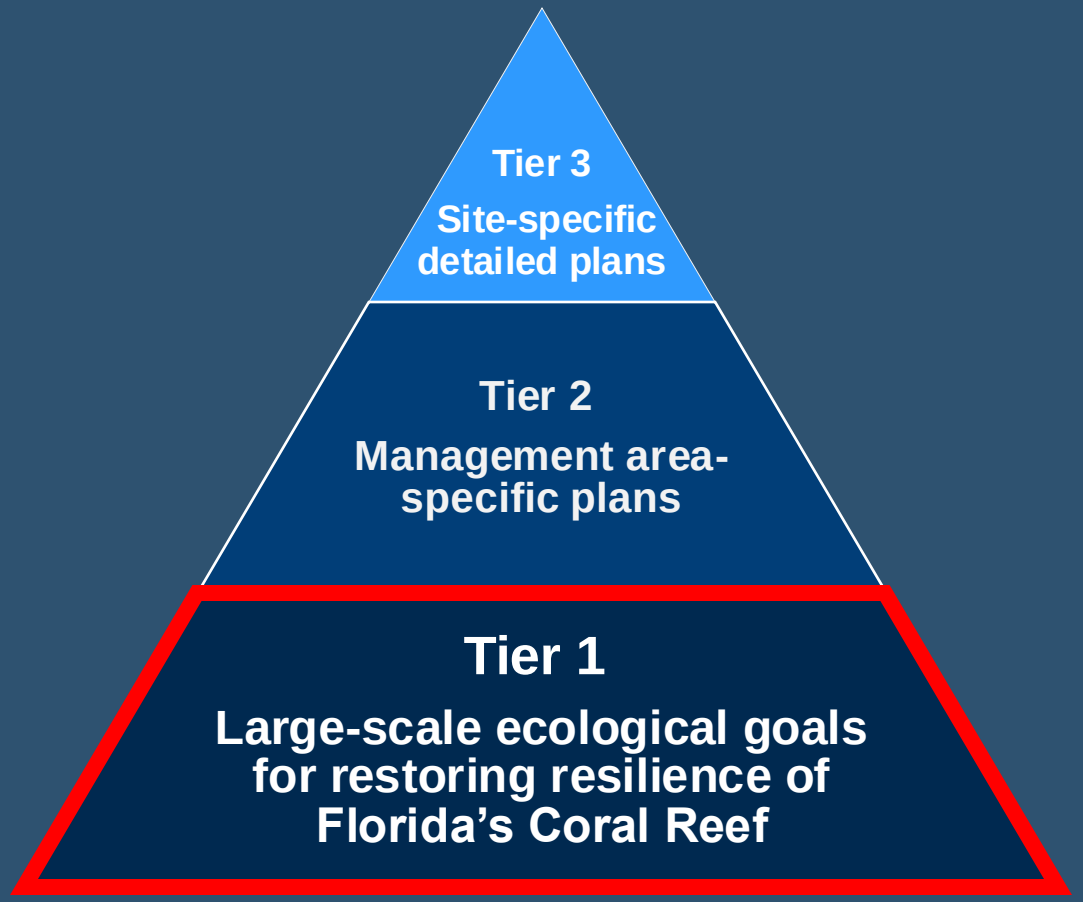
Timeline:

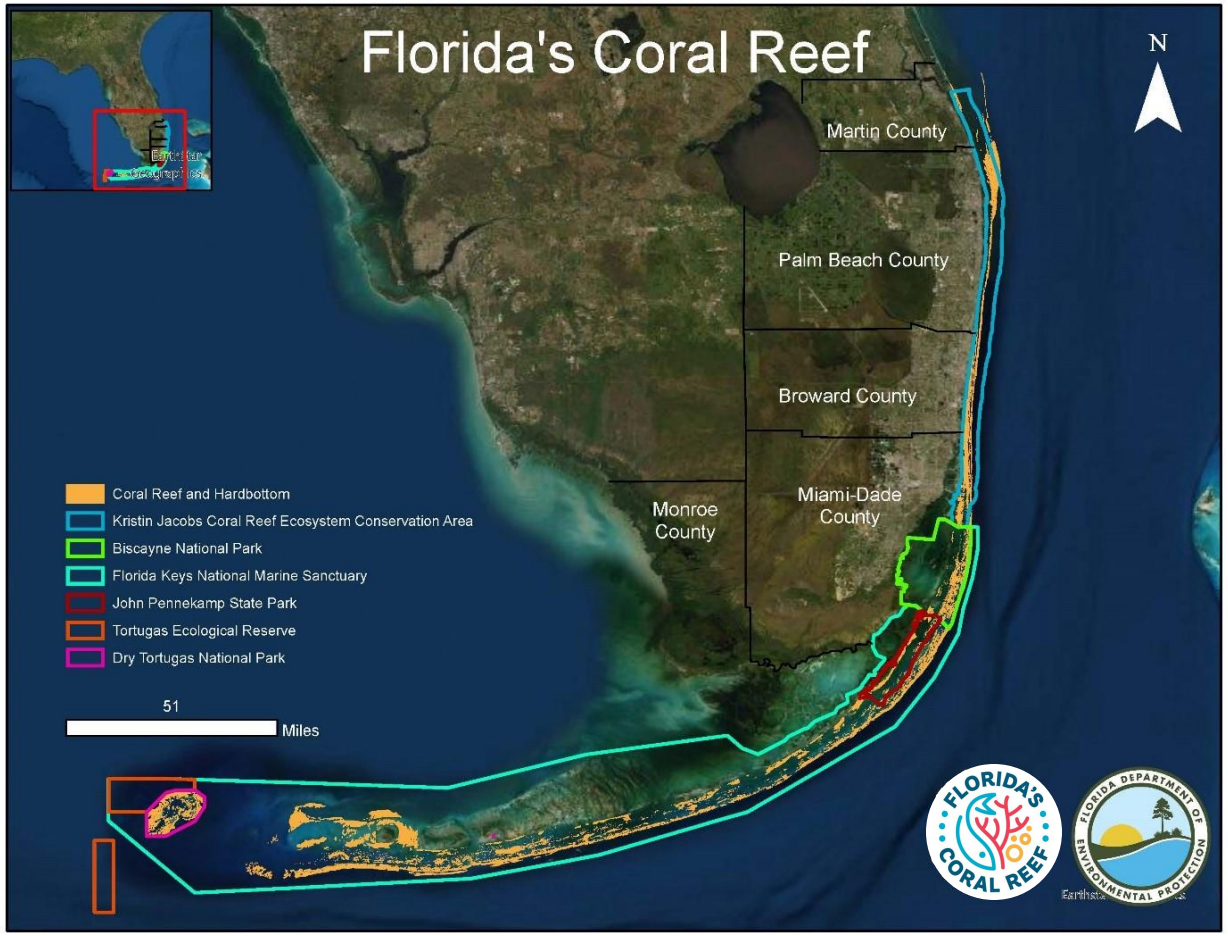
- Condition Report and Advisory Council goals (2011).
- Rule development and public comment (2012-2022).
- Proposed Rule and public comment (2022).
- Final Environmental Impact Statement (2024).
- Proposed Final Rule and Management Plan (January 2025).
- 45 days until ‘effective date.’

SHIFT FROM PLACE-BASED TO STATE-WIDE

FLORIDA'S CORAL REEF RESTORATION PLANNING

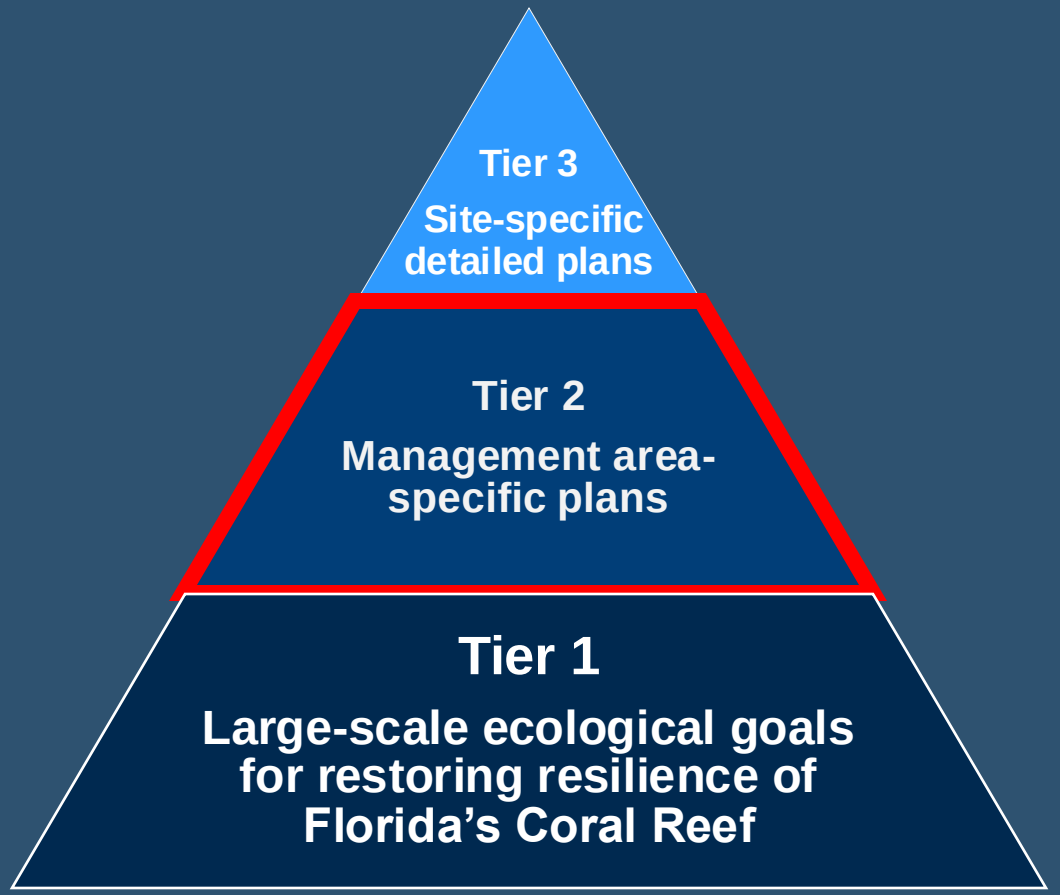
Restoration Planning

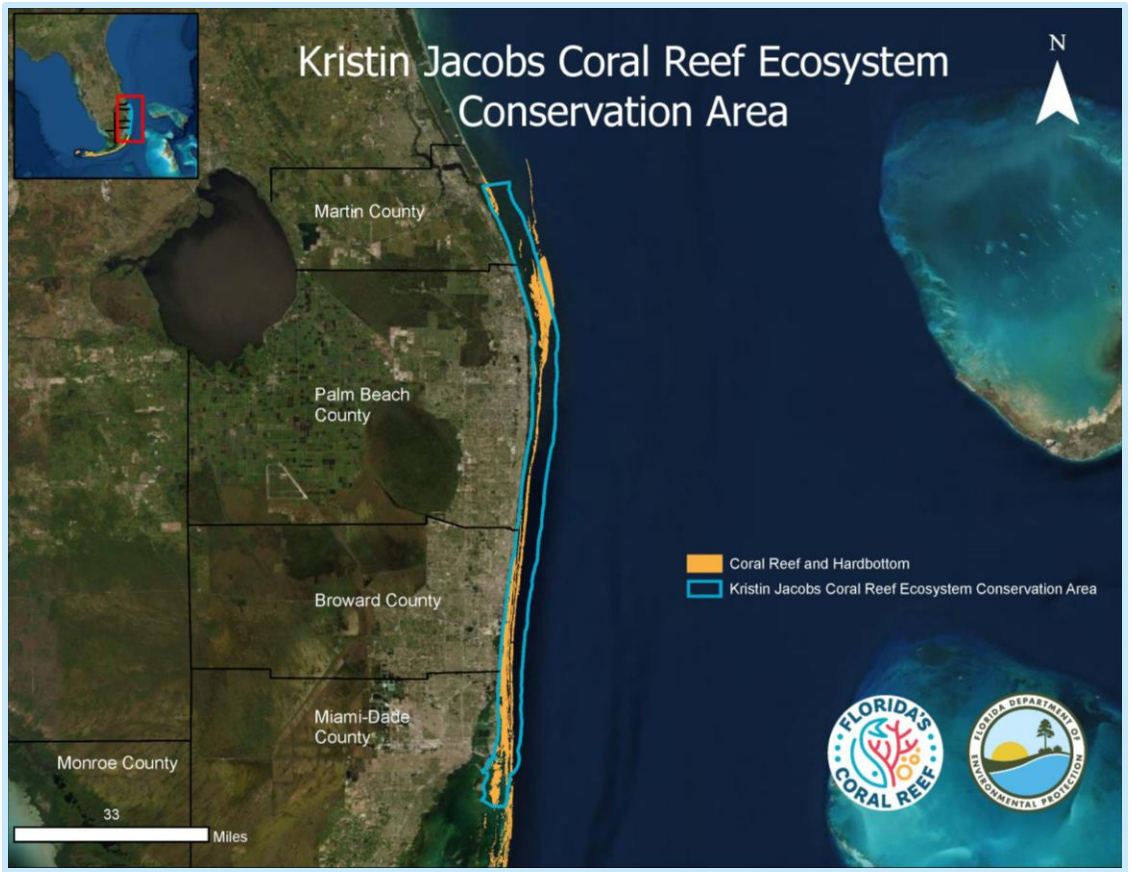




FLORIDA'S CORAL REEF RESTORATION PLANNING

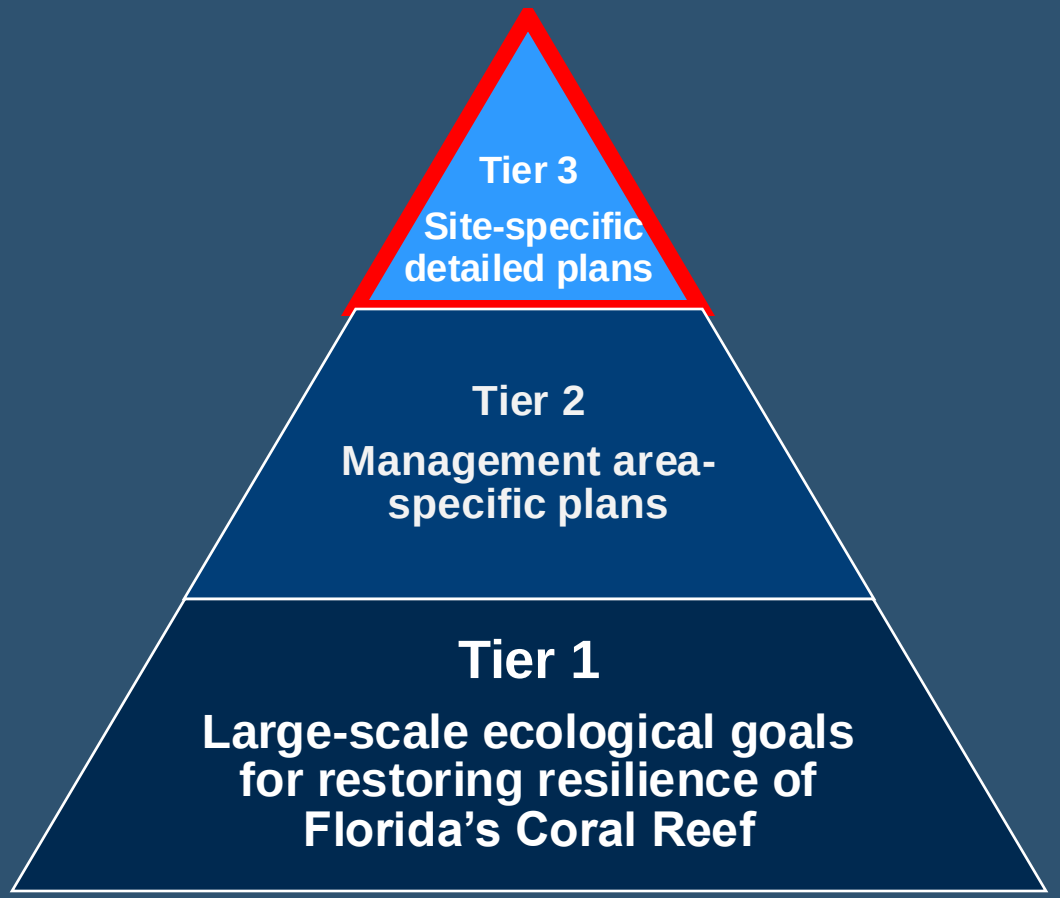
Restoration Planning

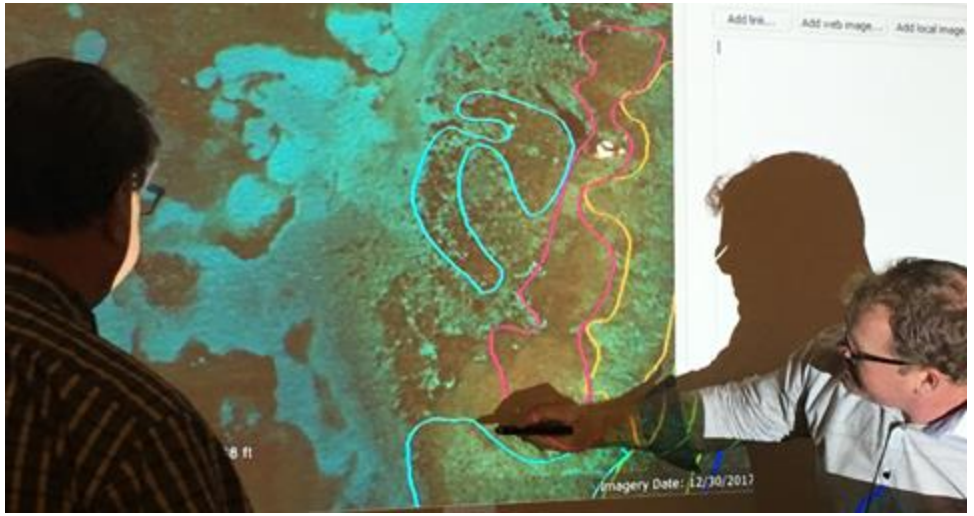


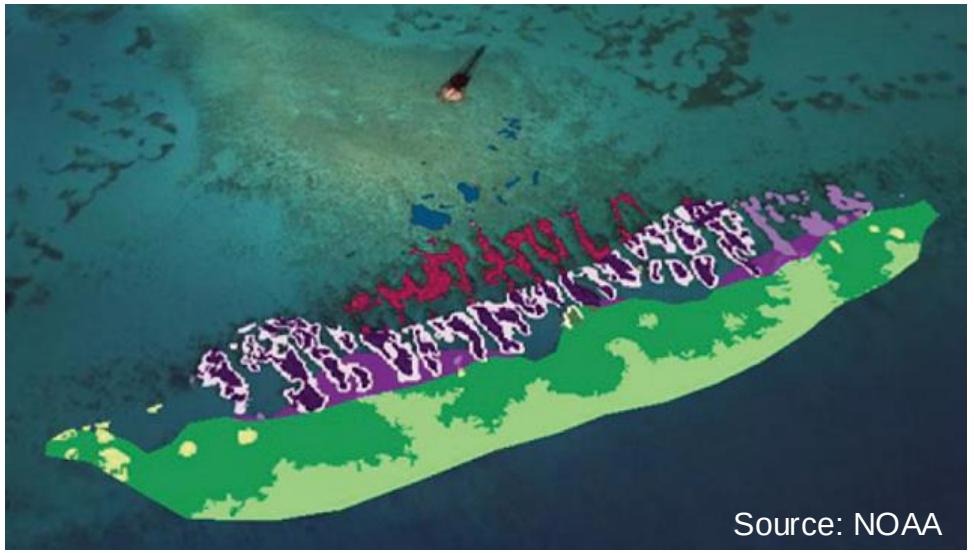


FLORIDA'S CORAL REEF RESTORATION PLANNING

Restoration Planning





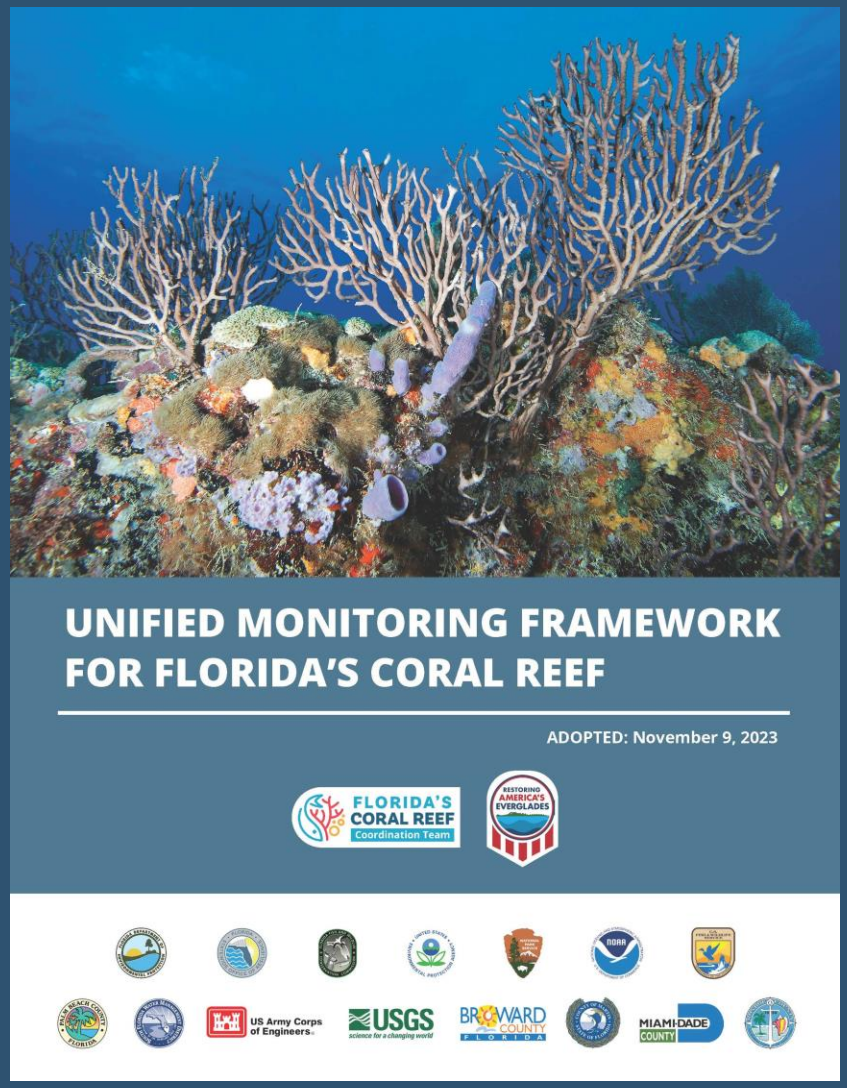


CONNECTING TO EVERGLADES RESTORATION

Established Florida's Coral Reef Coordination Team (FCRCT) under the South Florida Ecosystem Restoration Task Force in September 2022.

- Starting with understanding the connection between Everglades, restoration efforts and Florida's Coral Reef water quality.

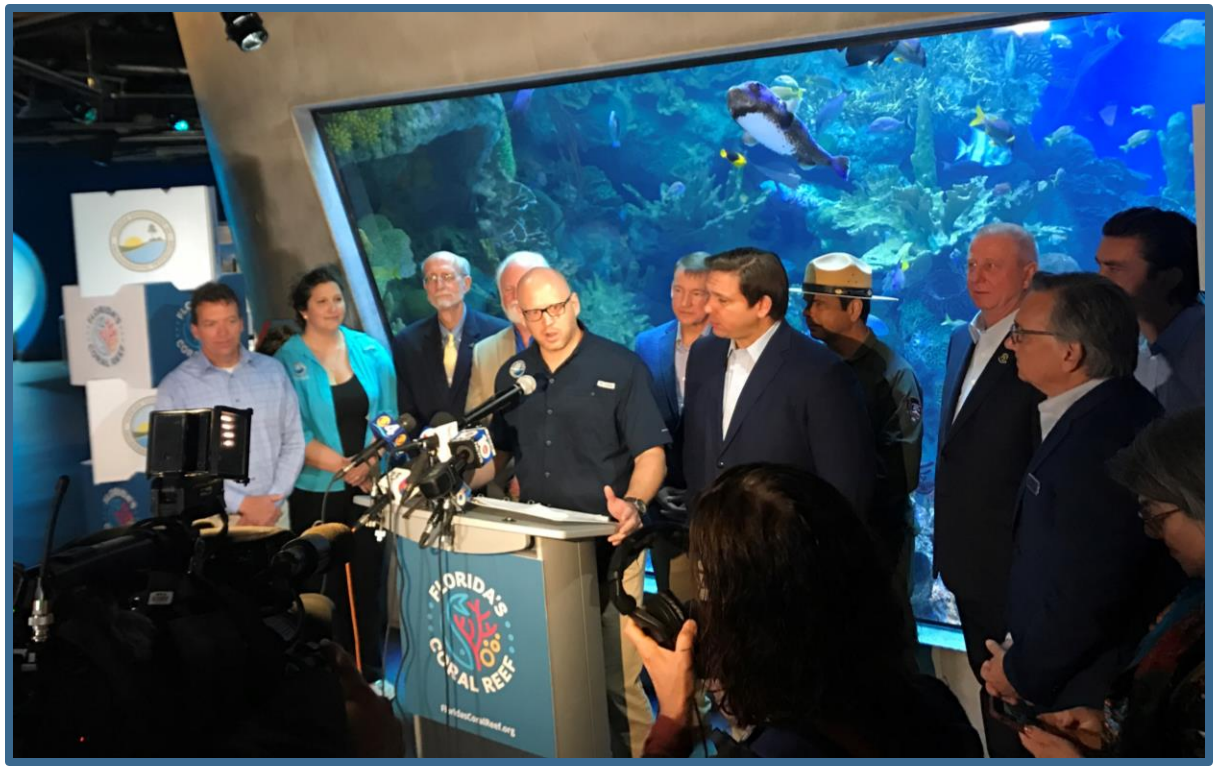
- Working to strengthen the connection between the restoration of the Everglades and the restoration of Florida's Coral Reef to interlinked ecosystems.



FLORIDA'S CORAL REEF

Florida's Coral Reef Restoration and Recovery (FCR3) Initiative

Biscayne Bay Water Quality Improvement Initiative



FLORIDA CORAL REEF RESTORATION AND RECOVERY INITIATIVE (FCR3)

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.

Through facilitating an unprecedented, evidence-based propagation and outplanting program conducted by the state and its partners, Florida's Coral Reef will be restocked with hardy populations of native corals and other keystone species to re-establish and strengthen natural reproduction, dispersal and recruitment patterns.

FCR3 will also prioritize enhancing flood protection and strengthening southeast Florida's coastal economy.

FCR3 AGENCY ROLES AND RESPONSIBILITIES

Lead FCR3 coordination and funding administration, place-based strategy development for site selections, detailed designs for selected sites, as well as local monitoring and oversight. Lead hybrid reef projects. Lead coral mitigation information sharing and permitting.

Lead species permitting for all coral restoration activities. Continue oversight of partners holding 2,000+ broodstock corals housed in land-based facilities in Florida and across the nation. Lead genetic management of coral and reef-associated species. Co-develop and implement "propagation pipeline" and associated plans.

Provide high level oversight and guidance. Identify broader strategic opportunities.

FCR3 PHASE DETAIL

Phase I [Fiscal Year (FY) 2023-26]:

- In-State Facilities Expansion.
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.

Phase I Estimated Budget:

- $9.5 million per year.
- In addition to DEP and FWC operating costs.

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- In-State Facilities Expansion.
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.

Phase II (FY 2027-35):

- Construction of New and Maintenance of Existing Facilities.
- Refine Training Curriculum.
- Maximizing Efficiency.
- Workforce and Volunteer Optimization.

Phase I Estimated Budget:

- $9.5 million per year.
- In addition to DEP and FWC operating costs.

Phase II Estimated Budget:

- $25 million per year.
- In addition to DEP and FWC operating costs.

FCR3 PHASE DETAIL

ESTIMATED BUDGETS

Phase I (FY 2023-26):
- In-State Facilities Expansion.
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.

Phase II (FY 2027-35):
- Construction of New and Maintenance of Existing Facilities.
- Refine Training Curriculum.
- Maximizing Efficiency.
- Workforce and Volunteer Optimization.

Phase III (FY 2036-50):
- Sustaining Facilities and Operations.
- Expansion and Monitoring.
- Maximizing Peoplepower.

Phase I Estimated Budget:
- $9.5 million per year.
- In addition to DEP and FWC operating costs.

Phase II Estimated Budget:
- $25 million per year.
- In addition to DEP and FWC operating costs.

Phase III Estimated Budget:
- $15 million per year.
- In addition to DEP and FWC operating costs.

FCR3 PHASE DETAIL

ESTIMATED BUDGETS

Phase I (FY 2023-26):

- In-State Facilities Expansion
- Strategy Development
- Science, Monitoring and Adaptive Management Plan
- Restoration Site Selection
- Reinforce Existing Restoration Efforts
- Workforce Development

Phase I Estimated Budget

- $9.5 million per year.
- In addition to DEP and FWC operating costs.

Phase II (FY 2027-35):

- Construction of New and Maintenance of Existing Facilities
- Refine Training Curriculum
- Maximizing Efficiency
- Workforce and Volunteer Optimization

Phase II Estimated Budget

- $25 million per year.
- In addition to DEP and FWC operating costs.

Phase III (FY 2036-50):

- Sustaining Facilities and Operations
- Expansion and Monitoring
- Maximizing Peoplepower

Phase III Estimated Budget

- $15 million per year.
- In addition to DEP and FWC operating costs.

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- **In-State Facilities Expansion.**
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.

Source: Association of Zoos and Aquariums

Objective: An initial expansion of in-state facilities to hold and propagate Florida's Stony Coral Tissue Loss Disease Rescue Corals and enhance existing propagation capacity.

Funding: FCR3 Grants supplemented with Coral Resilience funding for efficiency research.

Where we stand:

- Actively funding the expansion of Florida facilities.
- Actively planning for future expansions.
- Engaging in workforce development and training.

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- In-State Facilities Expansion.
- **Strategy Development.**
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.

Source: FWC

Objective: Support the initial architecture for the implementation and evolution of the FCR3 initiative and identify and assess the regulatory and logistical hurdles.

Funding: Written internally by Coral Protection and Restoration Program (CPR) and FWC.

Where we stand:

- Strategy being developed as we speak!
- Strategy to be completed by June 2026.

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

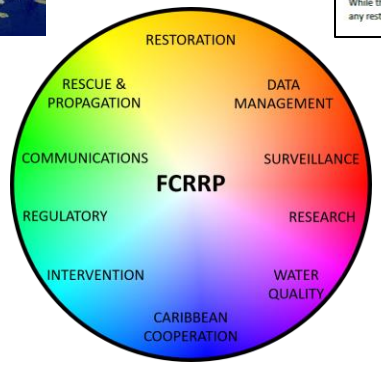
- In-State Facilities Expansion.
- Strategy Development.
- **Science, Monitoring and Adaptive Management Plan**.
- Restoration Site Selection.
- Reinforce Existing Restoration Efforts.
- Workforce Development.


FLORIDA'S CORAL REEF

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.



Objective: Develop tools, address research questions and implement monitoring and adaptive management actions necessary to effectively carry out the objectives of FCR3.

Funding: Proposed to be written internally by CPR and FWC.

Where we stand:

- Scientific Monitoring and Adaptive Management Plan drafted by December 2025.
- To be finalized by June 2026.

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- In-State Facilities Expansion.
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- **Restoration Site Selection.**
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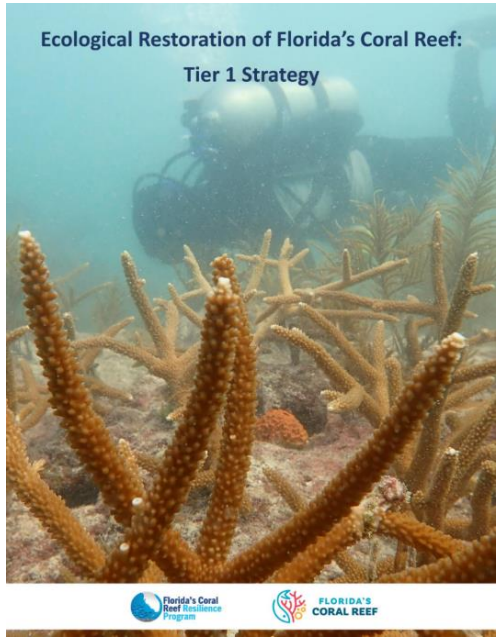
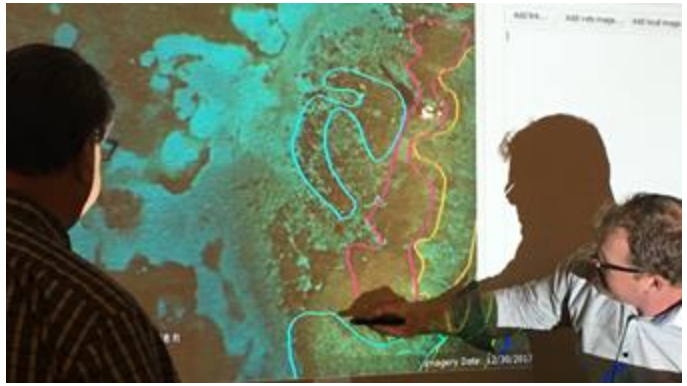




Objective: Finalize site selection and initiate development of detailed plans and specifications for the restoration of five-10 priority reefs (no less than one per county) in the mold of "Mission: Iconic Reefs" projects taking place within the FKNMS.

Funding: DEP CPR (non-FCR3) funding, may require additional for contract support for detailed site plans.

Where we stand:

- Site options being identified and collated.
- Site selection to be finalized by December 2025.
- Initiate detailed planning for at least 2 sites by January 2026.

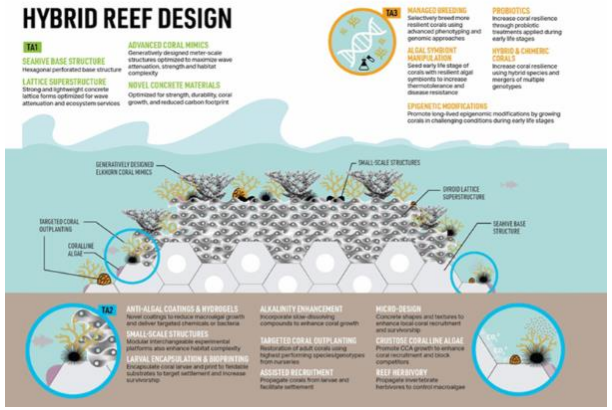
FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- In-State Facilities Expansion.
- Strategy Development.
- Science, Monitoring and Adaptive Management Plan.
- Restoration Site Selection.
- **Reinforce Existing Restoration Efforts.**
- Workforce Development.

NOAA's Mission Iconic Reefs (M:IR)

DARPA's Piloting Hybrid Reefs



Objective: Support ongoing restoration efforts on FCR.

Funding Options:

- CPR and FWC staff time.
- FCR3, Coral Resilience and Waste funding.
- NOAA and National Fish & Wildlife Foundation (NFWF) grants.
- Federal Emergency Management Agency (FEMA) funding and state match proposed for hybrid reefs.

Where we stand:

- Continue technical and funding support to existing restoration efforts.
- Complete Silver Jackets Hybrid Reef Guidance Document.
- Secure Defense Advanced Research Projects Agency (DARPA)/FEMA project funding and implement at least two hybrid reef pilot projects.

SILVER JACKETS
Many Partners, One Team

FCR3 PHASE DETAIL

Phase I (FY 2023-26):

- In-State Facilities Expansion.
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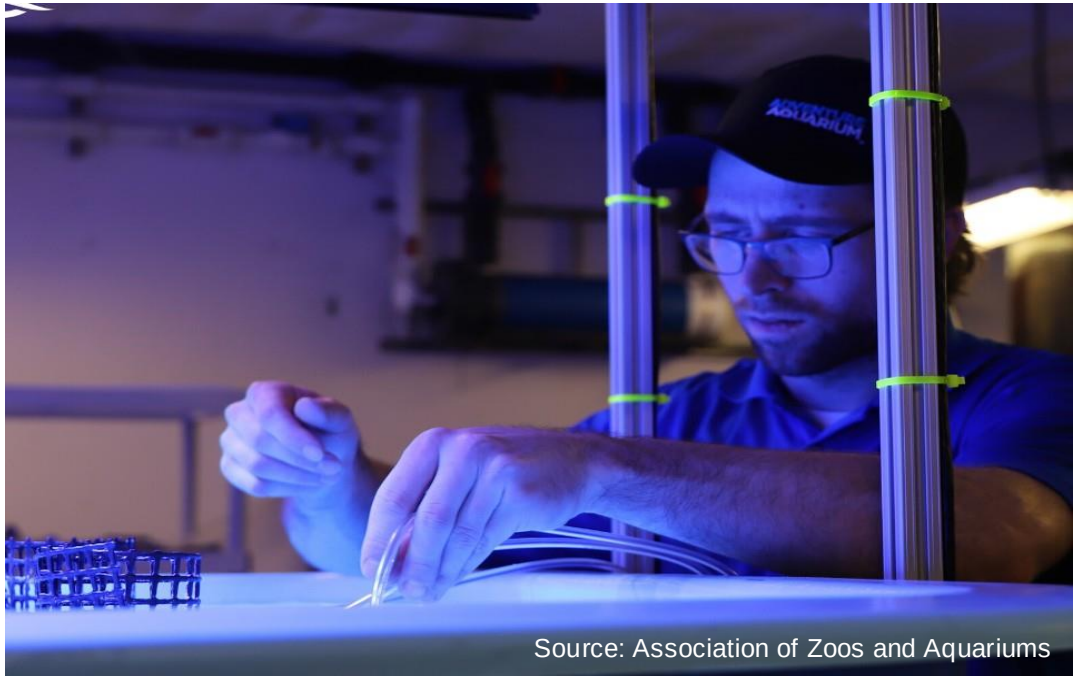
- **Workforce Development.**



Source: Association of Zoos and Aquariums

Objective: Develop and implement a training curriculum including hands-on experience at in-state facilities to establish a skilled workforce to enable the continued scaling up of the “reef restoration economy.”

Funding: Supported by FCR3 grant; searching for additional support.

Where we stand:

- Land-based Aquarist Training finalized.
- Land-based Propagation Training in development (June 2026).
- First aquarist cohort completed training!
- **Goal:** Training to be implemented for an additional 30 attendees annually (depending on funding and capacity).

FCR3 GRANT: FY 2023-24

Partners	Project Name	Funding Amount
The Florida Aquarium	Expanding land-based propagation infrastructure and capacity including the rearing of species most impacted by Stony Coral Tissue Loss Disease.	$2,150,000
Nova Southeastern University	Expanding land-based and in-water coral nursery operations for stony coral propagation and gene-banking including practitioner training.	$2,150,000
Mote Marine Laboratory & Aquarium	Building capacity for rescue corals, establishing infrastructure for target species and expanding capacity within Mote's International Coral Gene Bank.	$2,000,000
Healthy Aquatics Marine Institute of Florida, Inc. (The Reef Institute)	Expanding intensive land-based coral nursery infrastructure.	$2,000,000
University of Miami	Expanding land-based coral propagation facilities at the University of Miami Experimental Hatchery and Reef Restoration Lab.	$700,000
The Phillip and Patricia Frost Museum of Science	Expansion of holding and grow-out facilities to care for threatened Pillar coral *(Dendrogyra cylindrus)*.	$500,000
	Total:	**$9,500,000**

FCR3 GRANT: FY 2024-25

New State appropriation for $9.5 million

Funding for **academic and private partnerships** to implement the FCR3 Initiative:

- Establish, expand and maintain in-state coral 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 FCR.

Request for proposals closed: More than $20 million in funding requests!

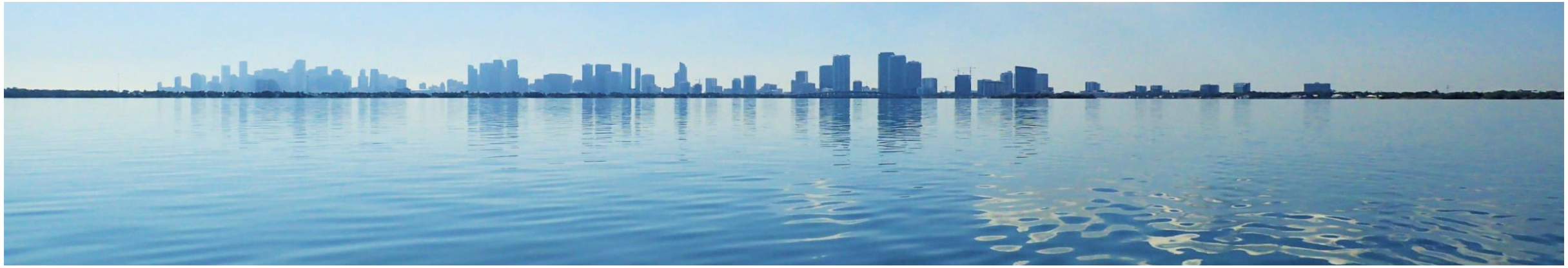
BISCAYNE BAY WATER QUALITY IMPROVEMENT GRANT SINCE 2019

105
Community projects totaling $128 million.

39K
lbs./yr of Total Nitrogen to be removed.

7.3K
lbs./yr of Total Phosphorous to be removed.

22 projects completed to date.



NUTRIENT REDUCTION SUCCESSES

MIAMI-DADE COUNTY

SmartCover Wastewater Management

234

Units Completed

*As of Oct. 2024

390

Sanitary Sewer Overflows Prevented

*from Jan. 2023-Oct. 2024

Septic to Sewer Conversions

580-800

Total properties planned for conversion.

881.34

estimated pounds per year of Nitrogen currently reduced.

97.15

estimated pounds per year of Phosphorus currently reduced.

CURRENT SUCCESSES AND PROGRESS

MIAMI WATERKEEPER

Water Quality Monitoring

22 Sites

Sampled weekly
across Biscayne Bay

Pollution Response

240

Pollution reports
received since 2022.

80

Opportunistic
samples collected.

Fecal Matter Bacteria Monitoring

716

Samples collected and analyzed.

BISCAYNE BAY WATER QUALITY IMPROVEMENT GRANT: FY 2023-24 SUBMISSIONS

$20 million grant funds

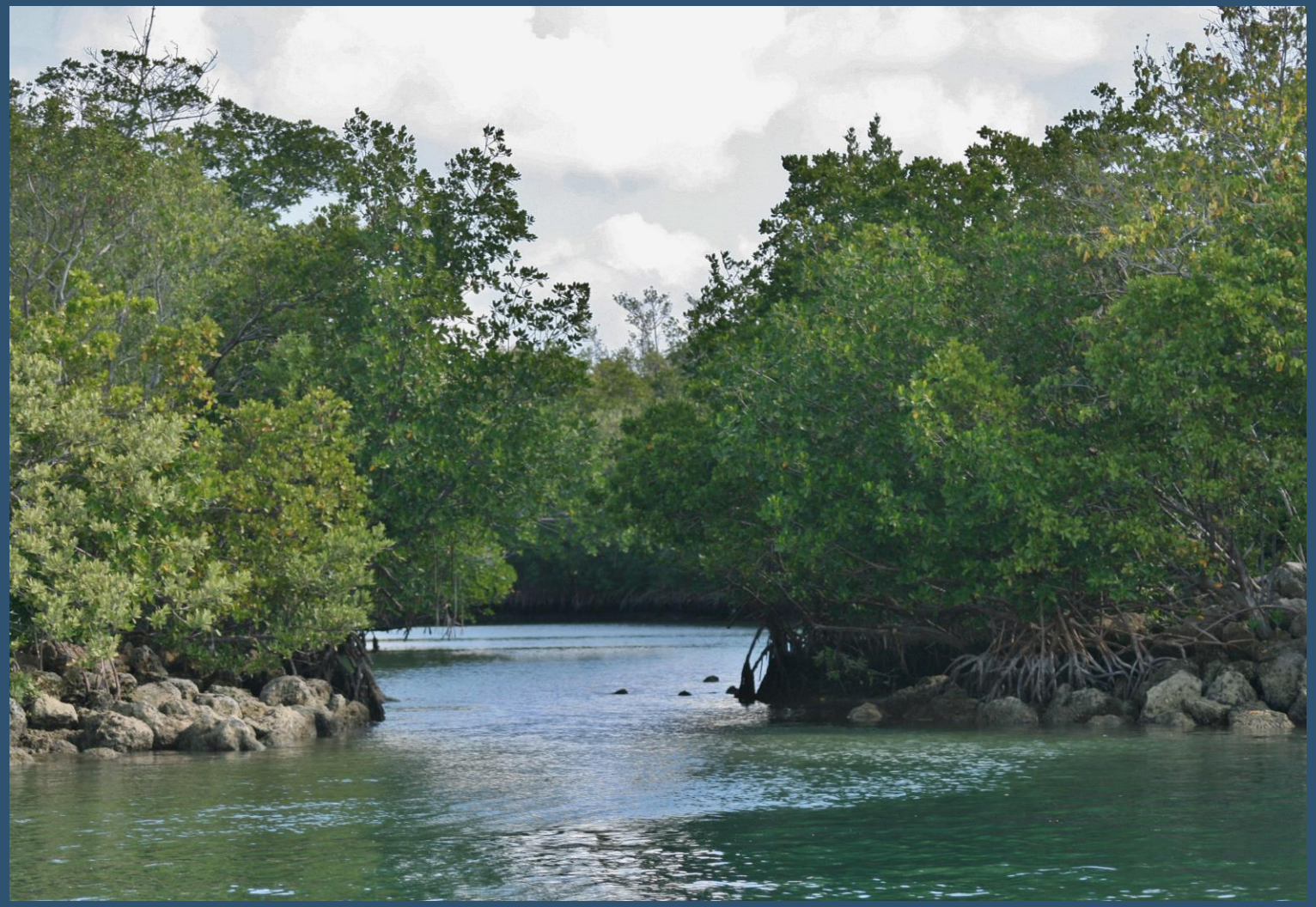
16

projects submitted totaling **$32,501,002.**

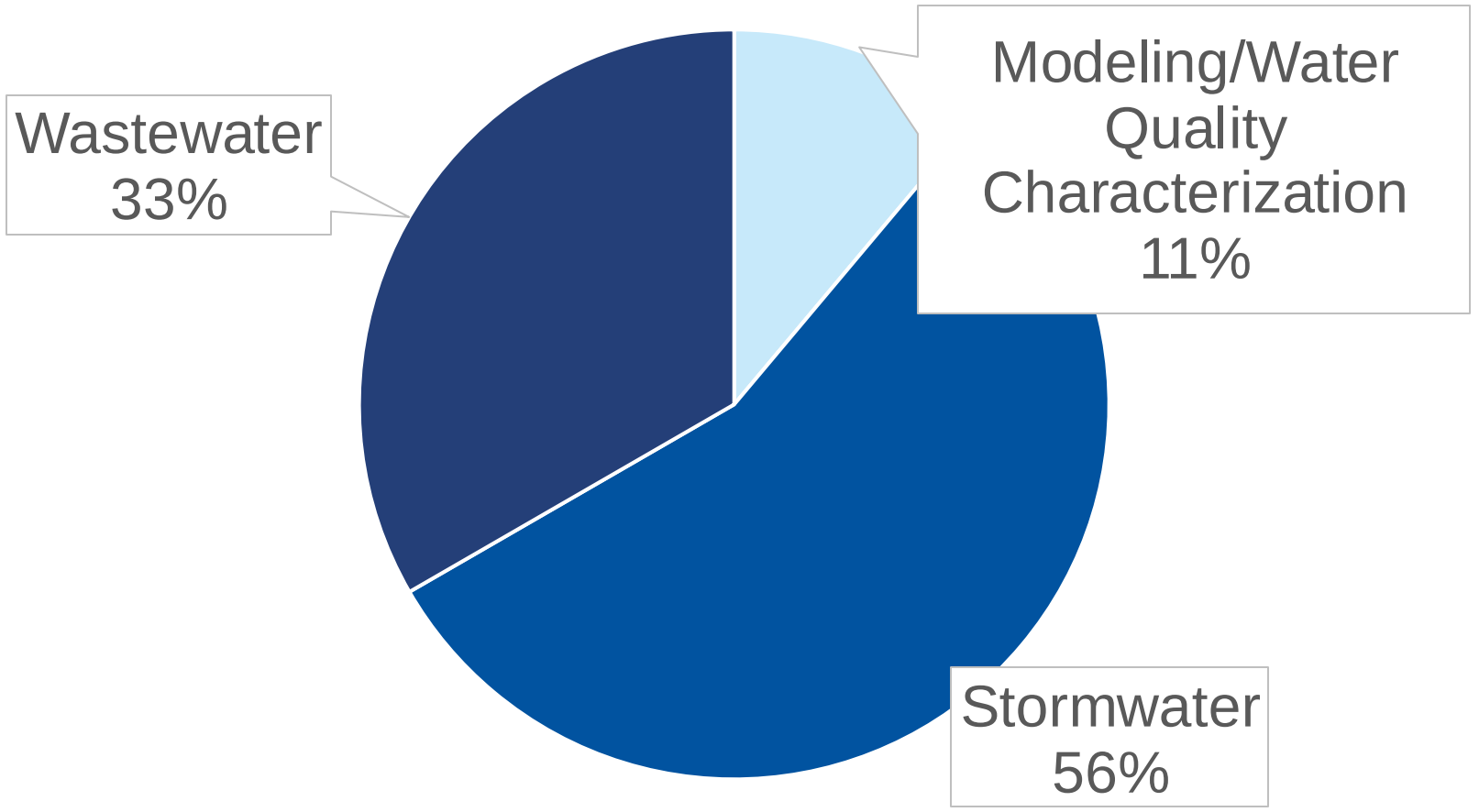
Proposed Total Nutrients Removed:

4,061 pounds of total nitrogen eliminated annually.

700 pounds of total phosphorous eliminated Annually.



BISCAYNE BAY WATER QUALITY IMPROVEMENT GRANT: FY 2023-24



BISCAYNE BAY WATER QUALITY IMPROVEMENT GRANT: FY 2023-24

Project Number	Partner	Project Name	DEP FY 2023-24 Funding Award
1	Miami-Dade County – RER & WASD	Phase 4: Biscayne Bay Water Quality Characterization and Pollution Reduction	$6,700,000
2	Miami-Dade County – WASD	Tropical Heights Connect 2 Protect Sewer Extension Project	$3,300,000
3	Bal Harbour Village	Pumping Resilience in Bal Harbour Village's Stormwater Management Project	$3,500,000
4	Town of Cutler Bay	The Cutler Bay Bel Aire Water Quality Improvement Project	$2,000,000
5	North Bay Village	Harbor Island Outfall Improvement Project	$2,000,000
6	Indian Creek Village	Indian Creek Village Septic to Sewer Conversion Project	$2,000,000
7	Miami River Fund, LLC	Stormwater Management of Miami River Basin Project	$500,000
Total:			**$20,000,000**

Protecting Florida Together:
https://ProtectingFloridaTogether.gov/state-action/grants-submissions

THANK YOU

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