

Coral Protection and Restoration Program 2024-2029 Strategic Plan

Office of Resilience and Coastal Protection
Florida Department of Environmental Protection

Coral Protection and Restoration Program
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1. INTRODUCTION:

Florida’s Coral Reef (FCR) stretches over 350 miles from the Dry Tortugas to the St. Lucie Inlet in Martin County. It’s the only barrier coral reef in the continental United States and is home to over forty species of reef-building corals that provide shelter, food and breeding sites for millions of plants and animals. The reefs provide habitat for species that are valuable to commercial and recreational fisheries, serve as a new frontier for biomedical research, attract tourists who bolster the economy, and protect coastlines from storms and flooding. As a major economic driver in South Florida, FCR offers aesthetic and recreational opportunities supporting a \$6 billion tourism economy and 71,000 local jobs. Further, FCR is South Florida’s first line of defense against heavy storms and waves. The U.S. Geological Survey’s new report “Rigorously Valuing the Role of U.S. Coral Reefs in Coastal Hazard Risk Reduction” shows that FCR annually provides more than \$675 million in flood protection benefits to people, property, and jobs, increasing to over \$1 billion during severe storm events (Storlazzi et al., 2019).

Increasingly, the future of FCR is being threatened by disease, pollution, poor water quality, warming ocean temperatures, ocean acidification and many other threats. Globally, many coral reefs, including Florida’s, have declined precipitously in the past several decades.

In 2020, the **Coral Protection and Restoration Program (CPR)** was established within the Department of Environmental Protection’s (DEP) Office of Resilience and Coastal Protection (ORCP) to support the holistic management of Florida’s Coral Reef.

2. VISION:

The vision of the Coral Protection and Restoration Program is that Florida’s Coral Reef is holistically protected and restored ensuring resilient coral reef ecosystem functions and services.

3. MISSION:

The mission of the Coral Protection and Restoration Program is to holistically protect and restore Florida’s Coral Reef (FCR) by:

- Effectively administering state and federal funding for FCR priorities.
- Providing leadership for Florida’s regional coral priorities including:
 - Emergency and general disturbance response including coral disease and thermal stress responses.
 - Restoration of the FCR ecosystem.
 - Protection and recovery of FCR through enhanced regional water quality, with a focus on Biscayne Bay.
- Guiding regional, state and national coral reef authorities, policies and procedures to ensure consistency and effectiveness of reef management actions.

4. STRATEGIC PRIORITY AREAS:

- A. **Coral Protection and Restoration Program Capacity:** Ensure appropriate CPR staff and leadership capacity to support FCR wide priorities.
- B. **Funding Administration:** Effectively secure and administer state, federal and private funding to address state supported FCR priorities.
- C. **Holistic Resilience-Based Management of Florida's Coral Reef:** Use science-based decision making to guide and support regional, state and national coral reef authorities, policies and procedures to ensure consistency and effectiveness of reef management actions.
- D. **Protection and Restoration of Florida's Coral Reef:** Support implementation of regional disturbance response, water quality and ecosystem restoration related priorities including the Florida's Coral Reef Restoration and Recovery (FCR3) Initiative.
- E. **Coordination and Information Sharing:** Participate in regular coral reef-related meetings to ensure efficient information sharing, consistent FCR branding and maintenance of key partnerships.

5. OBJECTIVES AND STRATEGIES (2024-2029):

- A. **Coral Protection and Restoration Program Capacity:** Ensure appropriate CPR staff and leadership capacity to accomplish CPR priorities.

Objective 1.1: Acquire, sustain and enhance appropriate operational and programmatic capacity, funding sources and technical resources.

Strategies:

- 1.1.1 Maintain CPR budget and general operations (as they exist at the start of state fiscal year 2024/2025) to ensure programmatic stability and, where appropriate, grow the CPR Program.
 - Existing staff: 1 Program Administrator, 1 Program Manager, 1 Operations and Budget Manager, 1 Coral Protection Projects Coordinator, 1 Coral Restoration Projects Coordinator, 1 Grant Coordinator, 1 Program Assistant, 1 Grant Assistant, and 1 National Coral Reef Management Fellow.
 - Existing facilities: CPR offices in Dania Beach, located at Nova Southeastern University's Oceanographic Campus, including office space, furnishings, office equipment, supplies and an information technology network for 7 staff (7 offices). Satellite office located at the South Florida Water Management District in West Palm Beach, including office space, furnishings, office equipment, supplies and information technology network for 2 staff.
 - Existing fleet: 2 vehicles (1 SUV, 1 truck) and 1 dive vessel.

- 1.1.2 Maintain, and where appropriate, grow agreements with contracting entities (e.g., Florida Sea Grant) to meet staffing needs.
- 1.1.3 Develop and implement (with leadership approval) an annual professional development and training plan for CPR staff.
- 1.1.4 Establish and maintain a dive and boating program to support program objectives. Divers and boaters will comprise of qualified members of the CPR Team, including contract staff.
- 1.1.5 Continue support for the National Coral Reef Management Fellowship as primary contact for Fellowship discussions with NOAA and NSU, including mentoring and/or supervising.

B. Funding Administration: Effectively secure and administer state, federal, and private funding to address state supported FCR priorities.

Objective 2.1: In accordance with applicable laws, administer state and federal funding to implement priority reef management and research objectives.

Strategies:

- 2.1.1 Administer annual and multi-year funds to support projects, with an emphasis on resilience, water quality, coral propagation and restoration research.
- 2.1.2 Administer grant funds to support collaborative, interdisciplinary research; water quality improvement; and propagation and restoration planning, capacity and infrastructure.

Objective 2.2: Identify and implement innovative solutions for sustainable coral reef protection and restoration funding.

Strategies:

- 2.2.1 Coordinate with Friends of Our Florida Reefs to fund CPR priorities.
- 2.2.2 Build public and private partnerships with local businesses, universities and non-governmental organizations to achieve CPR priorities.

C. Holistic Resilience-Based Management of Florida’s Coral Reef: Use science-based decision making to guide and support regional, state and national coral reef authorities, policies and procedures to ensure consistency and effectiveness of reef management actions.

Objective 3.1: Contribute to the management of FCR as a holistic system.

Strategies:

3.1.1 Continue support to resource managers across FCR habitats:

- Martin, Palm Beach, Broward, Miami-Dade and Monroe County staff.
- DEP ORCP's Southeast Region, including the Coral Reef Conservation Program (CRCP), Biscayne Bay Aquatic Preserves (AP), Florida Keys National Marine Sanctuary (FKNMS) co-managed by the National Oceanic and Atmospheric Administration (NOAA) and DEP's Florida Keys APs.
- DEP Florida State Parks, including John Pennekamp Coral Reef State Park and Dr. Von D. Mizell-Eula Johnson State Park.
- Florida Fish and Wildlife Conservation Commission (FWC) including the Fish and Wildlife Research Institute.
- The National Park Service in Biscayne Bay and Dry Tortugas National Parks.

3.1.2 Continue support for reef-wide data management and development of data decision support systems and products.

Objective 3.2: Provide leadership and support for regional and national partnerships related to FCR.

Strategies:

- 3.2.1 CPR Administrator will serve as the Governor's appointed point of contact for the United States Coral Reef Task Force (USCRTF) and U.S. All Islands Coral Reef Committee (AIC).
- 3.2.2 Ensure adequate Florida representation in USCRTF Steering Committee and working group meetings, including co-leadership of the Restoration Working Group.
- 3.2.3 Ensure state of Florida comments and priorities are included in the development and implementation of the National Coral Reef Resilience Strategy and Florida-specific Action Plan(s).
- 3.2.4 With leadership approval, attend out of state and international coral reef meetings to seek collaborative and innovative solutions addressing reef protection and restoration priorities.

Objective 3.3: Support strengthened governance by synthesizing and communicating research to inform elected officials and decision makers about the importance of, and threats to, FCR.

Strategies:

- 3.3.1 Provide briefings to leadership in DEP, FWC, Executive Office of the Governor and Florida legislature as requested. Support Florida’s Chief Resilience Officer and Chief Science Officer on coral-related information requests.
- 3.3.2 Provide briefings for federal agencies and congressional representatives, as requested.
- 3.3.3 Provide briefings for the Treasure Coast and South Florida Regional Planning Councils and associated local commissions, as requested.

Objective 3.4: *Coordinate with local, state and federal agencies to improve communication and compliance on cross-reef and cross-jurisdictional coral reef regulatory issues, with a focus on coral reef ecosystem restoration and reef-related water quality.*

Strategies:

- 3.4.1 Support local and county programs in Martin, Palm Beach, Broward, Miami-Dade and Monroe counties.
- 3.4.2 Support state programs, including the DEP Beaches, Inlets, and Ports Program, DEP Division of Environmental Assessment and Restoration, DEP Southeast District and FWC Division of Marine Fisheries Management.
- 3.4.3 Support federal programs including NOAA National Marine Fisheries Service, NOAA Protected Resources Division, NOAA Habitat Conservation Division and Environmental Protection Agency (EPA) Region 4.

D. Disturbance Response, Restoration and Protection of Florida’s Coral Reef: Lead and/or coordinate implementation of FCR-wide disturbance response, ecosystem restoration, and water quality related priorities including the FCR3 Initiative.

Objective 4.1: *Support, and when appropriate, lead disturbance response efforts across FCR.*

- 4.1.1 Serve as DEP representative(s) on Florida’s Coral Reef Resilience Program (FCRRP), including leadership bodies (e.g., Executive Coordination Team and Steering Committee) and Team (e.g., Restoration and Water Quality) to support unified response to and recovery from reef disturbances.
- 4.1.2 Continue to provide coordination capacity and support for FCRRP meetings, workshops, and priority actions.

Objective 4.2: *Lead development and implementation of FCR3 Initiative in coordination with ORCP, Fish and Wildlife Research Institute (FWRI), and the State Office of Resilience.*

Strategies:

- 4.2.1 Lead coordination of strategy planning and development of FCR3 products.
- 4.2.2 Achieve FCR3 Phase 1 priorities by supporting planning, data management, and building and maintaining coral husbandry capacity and infrastructure in Florida.
- 4.2.3 Support development of FCR Tier 1 (reef-wide) strategy, Tier 2 (jurisdictional management area) plan, and Tier 3 (site-specific) plans for coral restoration.
- 4.2.4 Support development of decision support tools for restoration site selection including shoreline protection projects.
- 4.2.5 Support the development of curriculum and training for land-based and in-water husbandry and propagation techniques of corals and reef-associated organisms.
- 4.2.6 Support innovative research and development to optimize coral reproductive success, genetic diversity and resilience, including propagation techniques for land-based, mass-scale production.
- 4.2.7 Implement priorities identified in *Florida's Coral Reef Restoration Priorities (2021-2026)*.

Objective 4.3: *Enhance water quality actions across FCR through targeted research, coordination across monitoring programs, and the reduction of land-based sources of pollution.*

Strategies:

- 4.3.1 Serve as a DEP representative to the Florida's Coral Reef Coordination Team (FCRCT) and provide coordination and capacity to support alignment of FCR water quality and restoration-related actions with Everglades ecosystem restoration projects.
- 4.3.2 Support research to evaluate and establish coral reef-specific biological benchmarks for key nutrients, turbidity, bacteria and known pollutants of concern.
- 4.3.3 Coordinate with partners to create a comprehensive unified water quality monitoring network across FCR. Support efforts to ensure water quality data are consistent, comparable, and able to inform management action(s).
- 4.3.4 Support efforts to display reef-related water quality data in a transparent and publicly accessible map (e.g., ProtectingFLTogether.gov).
- 4.3.5 Support ORCP SE Region's implementation of the Southeast Florida Coral Reef Initiative, Biscayne Bay Task Force, Government Cut Inlet Contributing Area watershed management planning and FKNMS' Water Quality Protection Program recommendations to improve water quality.

Objective 4.4: *Leverage research partner capacity to support reef protection and recovery objectives.*

Strategies:

- 4.4.1 Maintain and build partnerships with local, state, federal and private organizations to support Florida’s coral priorities, including research, monitoring, propagation and restoration of coral ecosystems.
- 4.4.2 Provide annual recommendations for federal grant programs to support FCR recovery priorities and objectives.

E. Coordination and Information Sharing: Participate in regular coral reef-related meetings to ensure efficient information sharing, consistent FCR branding and maintenance of key partnerships.

Objective 5.1: Regularly calibrate and align CPR’s priorities with state partners.

Strategies:

- 5.1.1 Attend meetings with key state partners, including but not limited to DEP ORCP Southeast Region, John Pennekamp Coral Reef State Park, and FWC managers on research and restoration priorities. Identify and prioritize gaps, where needed.
- 5.1.2 Coordinate with other DEP programs and state agencies on coral-related legislative budget requests and funding strategies for consensus priority actions.

Objective 5.2: Promote CPR and FCR messaging to partners and the public to ensure accurate and timely messaging of coral reef issues.

Strategies:

- 5.2.1 Maintain and update the DEP website with CPR program content.
- 5.2.2 Support updates to FCR website content and functionality.
- 5.2.3 Submit social media posts to promote CPR programs and products.
- 5.2.4 Coordinate with partners, including museums and aquariums in Florida, on FCR-related displays to align messaging.
- 5.2.5 Coordinate with Friends of Our Florida Reefs to amplify CPR content.

6. APPENDICES

Appendix I: List of Acronyms

AIC – All Islands Coral Reef Committee

AP – Aquatic Preserve(s)

CPR – Coral Protection and Restoration Program

CRCP – Coral Reef Conservation Program

DEP – Florida Department of Environmental Protection

EPA – Environmental Protection Agency

FCR – Florida’s Coral Reef

FCR3 – Florida’s Coral Reef Restoration and Recovery Initiative

FCRCT – Florida’s Coral Reef Coordination Team

FCRRP – Florida’s Coral Reef Resilience Program

FKNMS – Florida Keys National Marine Sanctuary

FWC – Florida Fish and Wildlife Conservation Commission

FWRI – Fish and Wildlife Research Institute

NOAA – National Oceanic and Atmospheric Administration

NSU – Nova Southeastern University

ORCP – Office of Resilience and Coastal Protection

USCRTF – United States Coral Reef Task Force

Appendix II: Literature Cited

Storlazzi, C.D., Reguero, B.G., Cole, A.D., Lowe, E., Shope, J.B., Gibbs, A.E., Nickel, B.A., McCall, R.T., van Dongeren, A.R., and Beck, M.W., 2019, Rigorously valuing the role of U.S. coral reefs in coastal hazard risk reduction: U.S. Geological Survey Open-File Report 2019–1027, 42 p., <https://doi.org/10.3133/ofr20191027>.