

Florida's Coral Reef Coordination Team (FCRCT)

June 28, 2023

DRAFT Meeting Summary

1. Welcome and Introductions

Wes Brooks, FCRCT Chair, called the hybrid meeting to order at 1:03PM. Wes opened the meeting saying that he is excited about this team and how it represents a new consensus about the importance of Florida's coral reef within the South Florida Ecosystem. He stated that we have a really unique opportunity to set some really important goals, not just for Florida's coral reef recovery, but also for Everglades restoration. In addition, we actually have resources starting to flow into this work and into the system in general. Wes highlighted some of the Framework for Freedom budget that the governor just signed into law: there's \$1.6 billion in state funding for Everglades restoration and water quality projects across the state. \$950 million for land conservation and \$322 million for the resilient Florida program that aims to help deal especially with storm water infrastructure in the state. \$100 million dollars for the new Indian River Lagoon Protection Program that's also going to help reduce nutrient loading in that very important body of water at the northern end of Florida's coral reef. And then, the highest level of funding in state history for projects on Florida's coral reef, greater than \$20 million assigned directly to spending on the reef itself. And then there's some other pots of money that will lead to some other indirect benefits to the reef. That includes \$9.5 million dollars for a new governor's initiative, the Florida's Coral Restoration Recovery Initiative, that aims to help set some new foundations, technological workforce, just having the sheer capability to produce new coral specimens for outplanting, getting that ready with the aim of restoring 25% of the reef by 2050. Wes commented that it is a really exciting, audacious goal but that's where we were about 30 years ago with Everglades restoration and it's exciting to see these two important restoration projects taking place here in southeast Florida.

Wes then turned it over to Erik Stabenau, Vice Chair, for opening remarks from the federal side. Erik added that what's happening right now is a phenomenal acceleration of the state-federal partnership on Everglades restoration. This idea of understanding our water quality monitoring program and getting at the efforts to make sure the monitoring are sufficient and appropriate and well targeted to detect the types of changes and impacts that we would expect out of the restoration program for the overall coral reef ecosystems. And that includes everything all the way up to the shoreline and mangrove fringe out to the reef and it includes not just quantities of water and distribution of water but the nutrient related loading that we're dealing with. Erik commented that this is a really great opportunity to make our environment better along the coastline that can only be done with this type of state and federal partnership and these types of forums where we're getting input from so many high quality partners, bringing minds together to figure out how to do this right.

2. Office of Everglades Restoration Initiatives (OERI) Update

Wes introduced Adam Gelber of OERI for introductory remarks. Adam said as a reminder, the FCRCT serves as an advisory role to the South Florida Ecosystem Restoration Working Group and Science Coordination Group. The theme is progress and we'll report back to the Task Force at the next meeting, which is being planned for November in Washington DC. Adam stated that he appreciates all the time and dedication to this important issue of those that are attending and participating and staying involved.

Allyn Childress of OERI provided an overview of the process for virtual participation including the public comment period later in the meeting. Allyn also recognized that Working Group member Karen Bohnsack from NOAA was participating online.

Wes Brooks, Chair, recognized the members that were in attendance:

VOTING MEMBERS	ATTENDANCE
Wes Brooks , PhD, Chair Florida's Chief Resilience Officer	√
Erik Stabenau , Vice Chair NPS South Florida Natural Resources Center (SFNRC)	√
Sarah Fangman , Superintendent Florida Keys National Marine Sanctuary	√
Jennifer Feltner , Refuge Biologist USFWS, Florida Keys National Wildlife Refuge Complex	√
Wade Lehmann USEPA, Oceans and Estuarine Management Section	√
Gil McRae , Director FWC's Fish and Wildlife Research Institute	√
Nicole (Nikki) Morgan , PhD FDEP - Division of Environmental Assessment and Restoration	√
Christopher "CJ" Sweetman , PhD, Federal Fisheries Section Leader FWC-Division of Marine Fisheries Management	√
Joanna Walczak FDEP Office of Resilience and Coastal Protection	√
Dana Wusinich-Mendez NOAA's Coral Reef Conservation Program	√
NON-VOTING MEMBERS	
Cassandra Armstrong , Section Administrator SFWMD - Coastal Ecosystems	√
Angela Delaney , Manager Broward County's Marine Resources Environmental Program	√
Deb Drum , Director; Katelyn Armstrong , alternate, in attendance Palm Beach County ERM	√
Laura Eldredge , Chief of the Restoration and Enhancement Section Miami-Dade County DERM	√
Ian Enochs , PhD, Coral Program Lead NOAA-Atlantic Oceanic & Meteorological Laboratory	√
Elizabeth Kelly , PhD, Coordinator Martin County Environmental Programs	-
Christina (Chris) Kellogg , PhD USGS - St. Pete Coastal and Marine Science Center	-
Shelly Krueger Monroe County, SeaGrant, UF/IFAS Extension	√
Gina Ralph , PhD, Lead Scientist U.S. Army Corps of Engineers	√
Adam Gelber , Director USDOJ Office of Everglades Restoration Initiatives (OERI)	√

3. Meeting Summary Approval

The summary from the March 13, 2023, meeting was presented for approval. Sarah Fangman made a motion and Erik Stabenau seconded. Meeting summary approved.

4. Member Updates

Jen Feltner introduced herself as the refuge biologist at the Florida Keys National Wildlife Refuge Complex and the new representative for the refuge on the team. Fish and Wildlife has a dive team that is looking for projects so that could be a resource that they could offer in the future towards this effort.

Sarah Fangman, FKNMS, provided some updates on their effort to revisit the management of the entire sanctuary called the Restoration Blueprint effort. They have received a lot of public comments and input and they are currently in discussions with state and federal colleagues taking all of the input received and determining collectively upon a final set of proposed regulations and potential changes to how the Sanctuary is managed. Another big project in the Florida Keys is Mission Iconic Reefs, an ambitious effort to try to return 7 iconic reef sites in the Florida Keys to historic or higher levels of coral cover. The Bipartisan Infrastructure Law provided some funding for projects that support recovery and resilience and some of the partners in Mission Iconic, specifically Mote Marine Lab and the Coral Restoration Foundation, were recipients of collectively about \$9 million. They have outplanted about 30,000 corals so far as a part of mission iconic reefs at those 7 sites. They are paying very close attention to weather right now because it's been really hot and they are already starting to see stress. This isn't new, but it seems to be quite concerning this year. The agencies have been working together to develop protocols to address some of the stresses that come from high temperatures. So, while she is very excited about the progress made with that ambitious effort for restoration of some of these reefs, there are continued challenges and the agencies are working with the practitioners to develop best practices to address those continued challenges. She also mentioned funding opportunities through NOAA, a climate resilience regional challenge from their office of coastal management. A funding opportunity of \$575 million is looking for projects to help build resilience in coastal communities to extreme weather and other impacts from climate change, including sea level rise and drought.

Wade Lehmann from the EPA provided an update including an RFP closing in July that has \$8 to 9 million with a project cap at about \$650,000 per project. The EPA is proceeding with REMAP, which is a water quality monitoring effort for the entirety of the Everglades. It's quite relevant to Florida Bay as well as some of the other coastal waters and is set to kick off this fall. He stated that hopefully the weather cooperates so they can get out there and get that done. He noted a couple of other avenues where EPA has provided additional funds to their National Estuary programs, both the Indian River Lagoon and the Coastal and Heartland on the east and west coasts and that a lot of that money is going towards resilience and coastal issues as well.

Gill McRae with the FWC is the director of the Fish and Wildlife Research Institute, which is the research division within FWC. They have been conducting monitoring on Florida's coral reef for nearly 30 years. Those long-term programs continue both fixed and randomized monitoring as well as some specialized work tied to stony coral tissue loss disease. They continue to provide that foundational monitoring data that will inform how the reef is doing going forward either through natural recovery, or in response to restoration activities. Gil also highlighted that they continue to apply funding to coral work from Hurricane Irma fishery disaster funding. There was coral damage during that hurricane; that funding has

begun to be applied to build out coral, rescue coral housing, and ultimately propagation infrastructure development with partners in Florida and elsewhere around the country. The new state sponsored coral reef resiliency restoration effort is to continue to expand that propagation infrastructure to support restoration and build capacity and expertise in this general area.

Nicki Morgan with DEP provided an update on recent legislation and water quality monitoring funding. Research and water quality monitoring programs that would be monitored within the Indian River Lagoon BMAP could be funded through that project. It also created a statewide water quality improvement grant that is a statewide funding source. Projects don't have to be in a BMAP for that and the portal for proposals will be open in July. They have also started new legislation that does not allow for new developments on one acre or less within a BMAP to have conventional septic systems; if sewer is available, those new developments will have to be connected to sewer systems and if sewer is not available, then they will have to use advanced treatment septic system. That law becomes applicable July 1st this year.

CJ Sweetman, with FWC, is the federal fisheries section leader for the Division of Marine Fisheries Management and also sits on the Gulf of Mexico Fishery Management Council. CJ's role as a fisheries manager is to ensure that we have sustainable fish and invertebrate populations for Florida and state and federal waters for generations to enjoy and is really excited about being part of this group that recognizes the connectivity between water quality issues, things that are going on in the Everglades, and how that translates up into the food web. One of CJ's main roles is ensuring that fisheries are in a sustainable position and this team can make some great progress to highlighting that connectivity in the way we manage our ecosystems. They are actively working with the FKNMS and FDEP on the Florida Keys restoration blueprint and making progress on that towards the final rule. They are also working on standardized protocols for coral nurseries, transport, and outplanting. On May 4th, Governor DeSantis as part of the national defense of reauthorization act designated 2 members from the state of Florida as non-voting members to the US Coral Reef Task Force: Jessica McCauley, director for FWC's Division Marine Fisheries Management and Dr. Tom Fraser, who is the vice-chair of the Gulf of Mexico Fishery Management Council. CJ stated that's great representation from the state of Florida, people that are directly connected to our fisheries and our coral reef ecosystem.

Joanna Walczak from DEP's Office of Resilience and Coastal Protection explained that her program administers the funding CJ mentioned and they have over \$21 million going towards coral reef protection and restoration efforts this year, of which a recurring \$8 million goes to support efforts like stony coral tissue loss disease response including research intervention, restoration, coral rescue, etc. Water quality priorities are part of that, including supporting ongoing water quality monitoring in the northern part of the reef. This year they received over \$11 million in proposals for a pot of \$8 million, a very competitive year with some really strong projects. The \$9.5 million new Florida's coral reef restoration and recovery initiative grant that they are calling FCR 3 is the governor's new joint collaborative initiative between DEP, FWC, and Wes's office of resilience that will move toward establishing, expanding, and maintaining state propagation and grow up facilities, developing and implementing strategic and site specific restoration plans as specifically focused on the northern reefs. They want to expand the mission iconic reef concept to the northern reefs to help protect and restore the entirety of Florida's coral reef. Joanna mentioned a state website where all their funding opportunities are available and that it will be updated and open August 31st. Joanna also mentioned that

the US Coral Reef Task Force is working on creation of a national resilience strategy for coral reefs and that she is the state's representative and point of contact for all coral reef issues here in Florida.

Dana Wusinich-Mendez with NOAA's Coral Reef Conservation Program stated that they have kicked off support for the development of a watershed management plan. Their approach to addressing water quality issues in their 7 coral reef states and territories has been to support delineation of watersheds that are key contributors to water quality and important coral reef areas. In Florida, the approach has been to delineate the 9 inlet contributing areas associated with the 9 inlets that feed into the coral reef ecosystem in southeast Florida. A watershed management plan was developed for the Boynton inlet contributing area and the second one selected for this process was Government Cut. They had a team of consultants come down in May and had some great discussions with DEP and Miami-Dade County and they will be working over the coming year to agree on the geographic scope and focus for that watershed management plan that they hope will lead to a roadmap for increased action to make water quality improvements in the region. Their coral reef fellowship program cycle kicks off this week and they are hoping to place a new coral reef management fellow in Florida in January to support the state's efforts. In terms of funding opportunities, she shared the resilience challenge weblink (<https://coast.noaa.gov/funding/ira/resilience-challenge>). They are getting the new round of state and territory cooperative agreements out the door; Florida will be first out of the gate with a July 1st start date. Most of the other jurisdictions start their cooperative agreements in October. Their authorizing legislation, the Coral Reef Conservation Act, was reauthorized last year and it calls for some new funding opportunities. They are working to develop these new grant programs so that when federal funding is appropriated to support them, they will be ready to implement those. She also offered to share more information on the development of their national coral resilience strategy with anyone interested.

Shelly Krueger is representing Monroe County on this team and she is the Florida Seagrass Agent in Monroe County for the University of Florida. She is also on several other related committees, the most relevant one to this group being the steering committee for the water quality protection program through the FKNMS. She is also the chair of the Gulf of Mexico Fishery Management Council's Coral Advisory Panel, is heavily involved in the stony coral tissue disease response, and is co-lead for the communication team on that issue.

Cassandra Armstrong is the section administrator for the coastal ecosystem section at the SFWMD and they are looking for opportunities for water quality improvement and better freshwater delivery to our coastal environments. No funding opportunity information at this time.

Angela Delaney is the Marine Resource program manager at Broward County and they have a lot of programs aimed at conserving and protecting our offshore reefs. They have also have an artificial reef program aimed at relieving the pressure of the usage of the natural reefs. In addition, their environmental lab participates in DEP's Water Quality Monitoring Program and they continue to partner with the agencies in the disease response monitoring that occurs every year. In addition, they are helping or supporting and aiding in the development of restoration planning for the ecosystem.

Katelyn Armstrong is the reef program manager with Palm Beach County. They handle a lot of projects similar to Angela's, including artificial reefs and mooring buoys, for the same reasons. They also conduct natural reef monitoring and restoration and have funding this year from DEP to get involved in more restoration out on the natural reef.

Laura Eldredge with Miami-Dade County mentioned that they are conducting Coral Disease Reconnaissance Surveys, Artificial Reef annual surveys, and assisting FWC with Goliath grouper surveys, among some other projects. They are expanding their offshore buoy program and trying to add 12 more. They are also updating brochures to make sure they have the proper public outreach. Their South Florida water quality monitoring program within the county successfully completed a 40% expansion of water quality sites which gets them to almost a 140 water quality sites that they are sampling every single month. They are continuing to move forward with their reasonable assurance plan. They have received an internal allocation that's provided funding to replace and update water quality instrumentation which will help with the capacity to increase water quality sampling.

Ian Enochs, with NOAA/AOML, mentioned their water quality cruise throughout the keys that will be out on the water in July getting to about 90 different CTD stations and 46 underway stations. They will be spinning up some mission iconic reefs related climate monitoring, which is highly applicable to the team's discussions. They just finished up the development of a robotic system for water quality and nutrient application. He recently had a paper come on water quality in the Port of Miami and corals that have been able to persist in that environment despite all the things that they're dealing with.

Gina Ralph with the USACE mentioned the upcoming RECOVER SCG-sponsored workshop that is looking to identify gaps, identify overlaps, and look for leveraging opportunities in order to update CERP's monitoring and assessment plan. The workshop is July 19-20 in West Palm Beach at the South Florida Water Management District.

5. South Florida Ecosystem Restoration (SFER) Effort and Central and Southern Florida (C&SF) Project Operations

Eva Velez, chief of the ecosystem branch of the Jacksonville District with the US Army Corps of Engineers, provided an overview of the SFER projects and C&SF operations with potential influence on Florida's Coral Reef.

6. Water Quality Monitoring Matrix

Joanna Walczak of FDEP provided an overview of the matrix developed thus far from member input.

7. Development of a Monitoring Framework

The team had an extensive discussion on the draft water quality monitoring framework. Regarding the basic approach, the team was reminded that their efforts need to stay focused on Everglades restoration/coral reef health. Monitoring is conducted in part to inform the restoration effort. The complexities of designing a monitoring program were discussed as well as a need to incorporate lessons learned here in the Everglades, the US Coral Reef Task Force, etc. There were questions regarding the efficiency in getting this done. Shelly Krueger also added that the team should look to lessons learned of the Florida Keys Water Quality Protection Program (WQPP) Steering Committee as they are talking about the same things.

Wade mentioned that the team needs to determine next steps: what happens once a change is detected, what are the thresholds to initiate reaction/response, and what happens next. Need to know what levels of concern we are monitoring for.

Erik added that the team needs to identify “management levers”: when a change is detected, what levers are available for response. We may need to be patient through small changes but still be ready if a response is needed. Laura added that we need to connect water quality ideals and response, as well as operational access to data. Timely access is also important. The team considered the difference between developing an ideal resource-unconstrained model vs. what we can actually do. Shelly mentioned the team should be aware of new technologies and perhaps invite presenters on the latest innovations in datasets, remote sensing, etc.

Nikki asked if we know what measurements equate to “good” water quality; what are the targets to ensure reef health? Wade responded that it was a good question; we may need to broaden parameters outside of standard water quality monitoring to include those that are more responsive. Ian stated that currently we do not have a good understanding and that we need more parameterization work and understanding of keystone species. Important temporal issues and seasonal fluctuations; monitoring programs need to dial that in as targets are driven by that especially if we are looking for causes.

Joanna added that we could narrow the playing field to focus on Everglades restoration projects while keeping an eye on broader management questions regarding coral reef health. Nikki agreed and said that Step 2 could be further narrowed.

Regarding Step 2 (Step 2: Design a monitoring program to detect changes in water quality along the coastal marine environment attributable to Everglades restoration and freshwater management system-wide changes), it was discussed that as we restore flow, look to see where water is going ahead of the redistribution of flows; mass volume type layout, including Lower East Coast features, East Coast Buffer, etc. There were questions as to how to monitor water quality from a coral reef perspective. Dana mentioned that one of the programs on the matrix was developed to do that for the ECA region. Linkage to land based sources of pollution, watershed management, Everglades/regional as well as local influence. Look at that geographic scope regarding how far out to go in coastal/marine environments. Start with the southern coastal system out to the reef tract, and tailor from there.

It was noted that as projects get implemented, there are parallel effort to update operating plans (COP and others), water management operations, both CERP and related efforts. Altered water flows in Lake Worth Lagoon have impact and there are LOSOM impacts on the resource. Deb stated that it is a challenge for estuarine habitats especially those that don’t get a lot of flushing. Elizabeth stated that they are looking at identifying where nutrients are coming from. Laura mentioned regarding BBCW, it might not be a future change as they have seen rebounds already. Monitoring should look at that connection, primarily looking at species able to move across that connection. Have seen successes for some species.

Q: Given different hydrological changes predicted in different parts of the system, should we be designing project-level monitoring that is consistent across subregions or region-wide monitoring that is able to capture anticipated project-level changes? Wade responded that we have to do some of both. Project or location specific for some, broad for others. Wes noted that this team won’t get into project level but could advise the relevant agencies.

Q: Should we limit this framework to just water quality or look to link where possible with biological or ecological monitoring? CJ suggested that we include other parameters, that a multi-faceted framework is needed. Should include biological and ecological monitoring including long-term ramifications of

improved WQ and flow to the reef. Erik said that from big fish to macroalgae, there are lots of parameters to consider. Dana said it would be important to conduct both ecological and biological monitoring, but that we should get consensus on the questions we want answered. Lots of long-term datasets that can answer different questions. Elizabeth suggested a staged approach, start with water quality and then expand to ecological/biological.

Erik suggested that we can narrow down as we consider management levers, connections to monitoring and if they are sufficient to meet our needs. Laura suggested looking at the end result of existing programs and whether those questions align with our objectives. We don't need a full evaluation if the end user/outputs are of value to our efforts.

Public Comment

None. We invited Working Group member Karen Bohnsack to provide any comments. She stated that she was interested in hearing the conversation about the framework today and there was a lot of good discussion, a lot of really good points were brought up to think about, and that she is looking forward to helping.

Next Steps, Assignments, and Closing Comments

We reminded everyone of the tentative meetings scheduled for September 7th (in-person) and Nov 29th (virtual). All are scheduled from 1-4pm. These may change and he would keep everyone updated. An update of this team's activities will be provided to the Working Group and Science Coordination Group at their next meeting.

Adjourn

Note: The video recording and handouts from the meeting are available at:

<https://www.evergladesrestoration.gov/fl-coral-reef-coordination-team/june-28-2023-coral-reef-restoration-team-meeting-xbjzs-5tggg>