FLORIDA KEYS NATIONAL MARINE SANCTUARY
Water Quality Protection Program Steering Committee Meeting

March 7, 2022

DRAFT MINUTES

Steering Committee Members Present
Wade Lehmann, US Environmental Protection Agency (EPA), Region 4 (Chair)
Jon Iglehart, Florida Department of Environmental Protection (DEP) (Co-Chair)
Sarah Fangman, Florida Keys National Marine Sanctuary (FKNMS)
Tylan Dean, National Park Service (NPS)
Shelley Trulock, U.S. Army Corps of Engineers (USACE)
Scott Rogers, Department of Economic Opportunity (DEO)
Gil McRae, Florida Fish and Wildlife Conservation Commission (FWC)
Sue Heim, Key Largo Wastewater Treatment District (KLWTD)
Kerry Shelby, Florida Keys Aquaduct Authority (FKAA)
Craig Cates, Monroe County Board of County Commissioners
Teri Johnston, City of Key West
George Garrett, City of Marathon
David Webb, Village of Islamorada
Patrick Rice, FKNMS Sanctuary Advisory Council (SAC)
Sandy Walters, Sandra Walters Consultants, Inc. (SWC)
Chris Bergh, Florida Keys Program, The Nature Conservancy (TNC)
Shelly Krueger, Florida Sea Grant/IFAS Extension Monroe County
Patience Cohn, Marine Industries Association of South Florida (MIASF)

Summary of Resolutions

- Motion 1 (passed): Craig Cates made the motion to approve the agenda; Shelly Krueger seconded. The agenda was approved with no changes.
- Motion 2 (passed): Sarah Fangman made a motion to approve the November 15, 2021 meeting meetings. Patience seconded the motion. Sue Heim requested the minutes be updated to correct an error in her affiliation (KLWTD, not FKAA). The correction was noted and motion passed with no objections.

I. Introduction and Opening Remarks

Jon Iglehart, South District Director, DEP, called the meeting to order and welcomed everyone. Wade Lehmann, Ocean and Estuarine Section Chief, EPA Region 4, and Mr. Iglehart are the meeting co-chairs.

Steering committee members in attendance were recognized.

Karen Bohnsack introduced the virtual meeting format and instructions for attendee participation. The presentations and materials associated with the meeting will be available on the Steering Committee page of the Water Quality Protection Program website http://ocean.floridamarine.org/FKNMS_WQPP/.

Mr. Iglehart gave the opening remarks on behalf of DEP. Brian Cumbie has taken over for Gus Rios as the new head of the DEP South District office in Marathon, and will also be the new DEP South District representative on the Management Committee. He is familiar with the Keys and has worked in the region for some time. Jennifer Carpenter is on the call today; she will replace Jon Iglehart in the next year; she is also speaking to the Florida Keys Ecosystem Connectivity Team next week.

Mr. Lehmann gave the opening remarks on behalf of EPA. Thanks for being here and for providing input for the EPA South Florida Program request for applicants (RFA). Equity and resilience are a big focus and will be part of the RFA moving forward. Infrastructure funding is also being incorporated; we expect this to amount to $3M extra per year for the next five years.

Agenda and Minutes
Mr. Iglehart reviewed the agenda and minutes and requested edits or a vote to approve from the Steering Committee. Craig Cates made the motion to approve the agenda; Shelley Krueger seconded. The agenda was approved with no changes. Sue Heim asked for a change to her agency name from FKAA to KLWTD in the November 2021 Minutes. Sarah Fangman made the motion to approve the minutes; Patience Cohn seconded. The minutes were approved with the above changes.

II. Resilience Action Plan for Florida's Coral Reef

Chris Bergh, TNC, gave an overview of the Florida Reef Resilience Program's newly released Resilience Action Plan for Florida's Coral Reef (RAP), including the water quality initiatives for reef managers, policy makers and stakeholders. This document is a product of the Florida Reef Resilience Program (FRRP) and is the successor to the previous Climate Change Action Plan for Florida's Coral Reef. The RAP is intended to provide guidance for managing the variety of threats faced by our ecologically and economically valuable coral reefs. The plan consists of three goals, each of which focus on different actors/audiences.

Goal 1: Enable resilience-based management of Florida's Coral Reef, is directed to reef managers. Objectives include abating threats to coral reefs, enhancing reef ecosystem condition with disease interventions and restoration, and conducting research to support threat abatement and restoration. This goal includes actions related to water quality such as modernizing wastewater infrastructure, reducing marine debris impacts on reefs, reducing greenhouse gas emissions, and maintaining monitoring programs.

Goal 2: Support public policy that creates the enabling conditions for reef recovery, is directed to policy makers. Objectives include incorporating economic values of Florida's Coral Reef into decision making, educating Florida's leaders on coral reef-related issues and policy priorities, and enhancing sustainable funding for coral reef management, including water quality infrastructure funding.

Goal 3: Enable stakeholders to support the future of the reef and those who depend on it, is directed to private stakeholders. Objectives include supporting individual reef users in becoming champions for coral reefs, and promoting businesses and institution's efforts to protect, restore, and sustainably use reefs.

This document is a body of work suggested by reef managers to protect and restore Florida's Coral Reef while supporting private and commercial uses that benefit individuals, communities, the State of Florida, and the nation. This is not a regulatory document, and is meant to complement other plans and efforts related to Florida's Coral Reef.

Questions & Answers/Discussion:

- Sarah Fangman: Thank you for your leadership, it is helpful to have a set of recommendations that is endorsed by everyone who participated in this. It will be important to look at this as we develop other priorities.
- Jon Iglehart: What was the basis for determining the economic value of reefs?
    - We have clear values with fishing and tourism and coastal protection. The economic studies that have been done have specific values for all of Florida's reefs, not just Monroe County. All of these were considered; there are also harder to define values such as biodiversity, aesthetic and cultural values. The sanctuary's science publication website has a fact sheet about the economic impact of the reefs from various studies. You can also look at TNC's Mapping Ocean Wealth website, which visualizes in quantitative terms the values the ocean provides for us.
- David Webb: Any effort or plans to assess the impacts of commercial trapping on the reefs?
    - Management agencies as a whole are aware of the impacts of trap fishing on habitats. More significant concern is when traps become derelict. There is a trap reduction effort underway, as well as efforts to design less destructive traps. Areas of the sanctuary are off limits to intentional trapping. It's a significant impact on the resources.
- Patrick Rice: Thanks for your hard work in coordinating this effort. Is this presentation available to reference later on? Anything in here about baseline water quality?
    - Contact Chris for a copy of the presentation; it will also be posted online. There's no specific fully designed water quality monitoring study called out in this plan. This plan reiterates the need to continue to monitor water quality to support decision making.

III. Water Watch Sponge Restoration Aquaculture

Shelly Krueger, Florida Sea Grant, provided an update on the objectives and outcomes from the EPA-funded Water Watch Sponge Restoration Aquaculture project and a summary of future work. Florida Keys Water Watch (FKWW) began in 2014 as a volunteer water quality monitoring program in residential canals, and was expanded in 2018 to include sponge aquaculture. Sponges are very efficient filter feeders that remove phytoplankton, bacteria and viruses from the water; a basketball sized sponge can filter 300 gallons of water per hour, or 7,000 gallons per day. This research project focused on 2 questions: a) How do three sponge species impact the nitrogen cycle? and b) Can sponge gardening support offshore nurseries?

The experiment measured nitrogen fluxes associated with glove, loggerhead and sheepswool sponges. The sponges were cut, allowed to heal for 30 days, and placed into continuous flow chambers at the College of the Florida Keys. For each species, changes in N_2, nitrate, nitrite and ammonium were measured over time. The results showed that sponges are a source of dissolved inorganic nitrogen. Historically, FKNMS is a nutrient limited system, so it makes sense that sponges would play a role in making nitrogen more bioavailable in the water column. For sponge gardening, citizen scientists were trained to investigate the feasibility of sponge gardening in residential canals. Three treatments were tested, including affixing sponges on manila rope, aquaculture mesh, and within chum boxes held vertically off of docks and seawalls. Preliminary results show high mortality; the presence of sponges on the seawalls already was determined to be the best indication of survival. High rains and low flow were most responsible for mortality. New EPA funding was recently awarded to continue sponge aquaculture research. The new project will produce a sponge ID guide and investigate how long it takes sponges to become reproductive following propagation. A new FL Master Naturalist Marine Habitat Restoration course was recently created, which includes sponge, seagrass, coral reef and artificial reef modules. If interested in taking the class or becoming an instructor, please contact Shelly.

Questions & Answers/Discussion:

- Craig Cates: Is sponging limited in the Keys or should it be?

    - There is still an active commercial sponge fishery. Of all the sponges in the Florida Keys, only about 2% are the types that can be harvested for commercial purposes (sheepswool, yellow glove, basket, and wire sponges). Sponge restoration is happening in areas closed to commercial sponging.
- Gill McRae: Sponges are analogous to oysters in south Florida and are likely more important to the ecosystem than many other things we spend time on. Commend you for raising the profile on this. Sponge work is relatively easy to do, but need good water quality in place for them to survive. It's an important issue, and work on this and building the citizen restoration component should continue.
- Patrick Rice: Amazing work. Interested in other potential ways of propagating sponges? At CFK they blended a fire sponge and poured it into the water and observed them colonizing on the calcium carbonate substrate filters. These did well but were in well-aerated water. Patrick and Shelly will follow-up offline about whether this could be applied elsewhere.
- Patience Cohn: Does water flow and quality in canals affect sponges?
    - Yes, water quality is important. Biggest indication of treatment success was if sponges were already growing on the seawalls.
- Sue Helm: Will canal restoration affect your work?
    - No, treatments are not in canals planned for restoration.

IV. Monroe County Marina Pumpout Initiative

Michael Roberts, Monroe County, provided an overview of Monroe County's progress and next steps for the Marina Pumpout Outfitting Program (MPOOP). MPOOP was launched in June 2021 with the goal of assisting marinas with installing pumpout facilities via education and grant funding. Only 30% of marinas were estimated to have onsite pumpout facilities at that time, although Monroe County code requires marinas with 10 or more slips to have fixed pumpout infrastructure, signage, etc. In December 2021 courtesy notices were sent to 25 facilities in proximity to existing anchorages. Only nine responded, and of those only two were positive. The big issue is that many facilities do not or cannot support vessels that require MSDs under state law. Most of the 200+ marinas in the Keys are in shallow water or have controlling depths that largely prevent vessels with MSDs from accessing them; other facilities are day use or dry storage. Monroe County will be looking into whether they need to revise the county policies, or if portable facilities may make more sense for smaller marinas with only a few slips available to MSD-type vessels.

Questions & Answers/Discussion:

- Patience Cohn: Can this be amended to include use of the pumpout boat, especially in areas where there are multiple adjacent facilities?
    - We do have pumpout boats contracted to serve anchorages, but the current contract does not allow them to use that funding to pumpout vessels in marinas. This is being considered for the future.
    - Code requires new facilities to include pumpout infrastructure; there is no requirement to update existing facilities when conducing dock repairs, etc.
- Jon Iglehart: How long would it take to modify the code to allow use of a mobile cart vs. a fixed system?
    - Once the language is drafted, it will take 9 months to a year to get through a code revision. One of the tricky things is allowing enough flexibility for smaller marinas to have a mobile system while requiring larger marinas to have a fixed system.
- Jon Iglehart noted there may be an opportunity through the state lands program to support this. State submerged land lease renewals occur every 5 years, and this can potentially be included.

V. Canal Restoration Project Updates

Rhonda Haag, Monroe County, and Greg Corning (WOOD) provided an update on the county's ongoing canal restoration progress and resilience initiatives.

- The canal restoration program received FY 20/21 EPA grant funding to conduct outreach, monitor canal water quality, develop Phase II of the Florida Keys Sargassum Master Plan, and pilot seaweed barrier technology. One public meeting has been held to inform the public about the canal restoration program, and another will be March 24. The Sargassum Master Plan Phase II Draft was completed, including modeling of sargassum distribution as well as options for management and inshore and offshore disposal. Permit applications have been submitted for a physical weed gate barrier, which is being investigated as an alternative to air curtains which have high operations and maintenance (O&M) costs. Water quality monitoring for dissolved oxygen was completed for all 311 canals in unincorporated Monroe County.
- Canal restoration is now included in the county's Comprehensive Plan, which provides a framework and accountability for implementing canal restoration (failure to meet goals results in rate of growth ordinance [ROGO] reductions of 20%). In total, 96 canals were identified for restoration at an estimated cost of $560M. The county is investigating if water quality could be improved in some canals without full restoration to reduce costs.
- Various restoration techniques are being applied in canals across the Keys, including injection wells, culverts, air curtain/weed gates, organic muck removal, permanent weed barriers, and backfilling. Multiple projects are currently underway and at various stages from design and permitting to construction. The county funds restoration costs, but residents must be willing to support the effort as well by paying for O&M costs. Injection wells are a new technology that involves a vertical culvert and a passive system that uses the tidal gradient to move water and increase water turnover in the canal.
- Moving forward, the county is working to keep this program active and spend money in a timely manner, implement water quality monitoring pre-and post-construction, pursue grant funding for canal restoration, and continue to work with residents to set up public meetings and discuss potential assessments for O&M.

Peter Frezza, Village of Islamorada, provided an update on canal restoration in the Village of Islamorada. There are 63 canals in the Village of Islamorada; canal selection and ranking was completed this year and the estimated price tag for restoration is $320M. Various technologies will be used, such as backfilling, organic removal, weed gates, injection wells, and culverts, although air curtains are the only technology implemented in the Village of Islamorada to date. There is a canal water quality monitoring program in place; semi-annual water quality and benthic vegetation monitoring has occurred in 5 canals since 2015, and bimonthly monitoring of dissolved oxygen was implemented this year in all 63 canals. This data will be used as a baseline to judge restoration success.

Greg Corning, WOOD, provided an update on canal restoration progress in the City of Marathon. Marathon has 54 canals which recently underwent a similar ranking process. The technologies identified include backfilling, organic removal, air curtain, injection well, and culvert, and are estimated to cost $120M.

Questions & Answers/Discussion:

- Chris Bergh: How do these injection wells work? Are they affected by sea level rise?
    - The injection wells have a positive hydrological gradient which creates flushing. The well includes a fixed diameter pipe to 60', which is open to 120 feet in the limestone rock. The water line is higher in the canal versus the well due to additional friction in the well. As long as the Keys remain above water, the gradient will remain. As sea level goes

up, that could provide more pressure to drive infiltration, but ground water also goes up, so this will equilibrate.

- Jon Iglehart: DEP has an annual $100k appropriation that needs to be spent before June 30th each year. This short timeline has made it difficult to fund research-type projects, so instead this has been directed at canal restoration projects that can be implemented before the deadline. Considering the maturity of the canal restoration program, does this body support continued use of this funding for these canal projects?
    - Craig Cates supports continued funding of the canal projects. These canal restoration efforts are connected to nearshore water quality, sponge restoration and reef restoration. It's important to continue efforts to improve nearshore water quality.
    - Rhonda Haag noted that this state funding supports design efforts when stewardship funding is delayed and is important to continue to push these projects forward.
- Sarah Fangman: What kind of monitoring is done after these projects are implemented? Is there currently post-project monitoring?
    - In Monroe County, there is no post-restoration monitoring. This was done previously but ended with the conclusion of the FIU study. All canals have been sampled for dissolved oxygen, but nothing specific is in place for restored canals.
    - Islamorada will not move forward with restoration without a monitoring program; this is important to ensure the restoration works and they will continue to monitor into the future.
- Chris Bergh: How does the injection well technology work on the Key Largo Bayside where the tidal range is so minute?
    - Water level in the well is expected to be about a foot below the water level in the bay. Thinking we will see continuous infiltration, but at a lower rate. Will have a higher cumulative volume over the course of a day.

Jon Iglehart acknowledged that John Hunt and Gus Rios started this program and both have recently retired. John served on the Management Committee and came to the table prepared and with ideas and concepts to improve the program and the environment. Wish him the best in retirement.

Break

VI. EPA South Florida Geographic Initiative Funding

Steve Blackburn, EPA, provided an overview of the special study topics that received EPA South Florida Geographic Initiative funds in 2021, and reviewed the draft Management Committee priority topics recommended for 2022 funding. Between 2012-2018, funding for the South Florida Program was around $2M, mostly for the Florida Keys Program. This allowed $900k for monitoring programs and funding for 3-4 special studies per year. In 2019, the geographic scope of the program was expanded to include Charlotte Harbor, Florida Bay, Biscayne Bay and Indian River Lagoon. Now, we are averaging ~15 special studies projects per year at an average cost of $350k per project. In FY22 the program is projected to receive $7M plus an additional $3.2M in infrastructure funds. Currently there are 47 active projects funded at ~$11.7M. Most of these are in FKNMS, followed by Biscayne Bay, Florida's Coral Reef and Indian River Lagoon.

Priorities that were funding in FY 21 included: Water Quality Connectivity from Southern Florida to the Florida Keys (3 projects), Sponge Restoration Techniques (1 project), Water Quality in the Key West Harbor and the Adjacent Marine Ecosystem (1 project), Florida Reef Tract Coral Health (1 project), and Impact of Contaminants of Emerging Concern on South Florida Aquatic Ecosystems (1 project). There

were no proposals for the following priorities: Stormwater Pollutant Reduction Projects, Non-Municipal Wastewater Sources, Public Education and Outreach.

The following priorities have been recommended by the WQPP Management Committee for FY22. More detailed descriptions are available on the WQPP website:

- Aquatic Habitat Restoration in South Florida
- Improve Water Quality in South Florida Residential Canals
- Wastewater and Stormwater Shallow Injection Well Potential Impacts
- Water Reuse
- Florida Keys Water Quality Monitoring Program Evaluation
- Transport of Fertilizers, Pesticides, and Herbicides to Groundwater
- Florida Keys Nearshore Water Quality Monitoring
- Water Quality Monitoring at Coral Reef Restoration Sites

Questions & Answers/Comments/Discussion:

- Teri Johnston: Requested baseline monitoring of Key West harbor while cruise ships were not in port. On Thursday night, the Key West City Commission will meet to review an ordinance that requires water quality monitoring in the harbor and a funding source for that monitoring What is the status of implementing a water quality program for the harbor in Key West?
    - A project is in the works for Key West Harbor. Patrick Rice, CFK, was awarded money from EPA for water quality monitoring in the Key West shipping channel and harbor. They have partnered with FIU on this project and are working on the QA/QC plan to ensure methods are meeting standards. This is required before the EPA award can be finalized. The project will entail deploying water quality datasondes at 14 sites along the ship channel. There are a few sondes out now that are collecting turbidity data; this will be increased to include more devices and parameters including dissolved oxygen, phytoplankton concentration, etc. Want to create an array to show connectivity between the harbor and ship channel, and to detect if stressors reach Eastern Dry Rocks. They will also deploy an AUV with similar probes immediately before and after ships come to port.
- Chris Bergh: Glad EPA was able to include Key West Harbor in the RFP. How are we going to pay for water quality monitoring in this area long term? Harbor pilots charge cruise lines for their services. These rates are regulated in some ways, but could we include the cost of monitoring in those rates? This may be a sustainable suggestion in which the cruise ships provide most of the revenue to monitor their impact. The other option is Key West taxpayers. Also, there's an existing study on shallow injection wells in Marathon. Getting the results of the first would be beneficial for the second study. What is the status of the current study and when would the new study start?
    - There were several complementary proposals that were received in response to the FY21 EPA RFA. Only one was able to be funded but there are additional studies that would enhance the work currently being done by Penn State.
    - George Garrett clarified that the shallow injection well study needs a geochemical investigation to complement the current geophysical project. This concept will help investigate shallow well issues in the mainland and the Keys, although perhaps they should be separated (we are concerned about nearshore impacts in the Keys, but we also need to understand potential freshwater impacts which would affect the mainland).
- Sandy Walters: Attended the Florida Shoreline and Beaches Preservation Association meeting in February, during which there was a presentation on the hardbottom community along the Broward County shoreline and the location of the edge of that habitat. Historically, studies on the location of hardbottom habitat in Florida have been single events/snapshots associated with permitting for beach restoration projects, but it was apparent from this presentation that the hardbottom boundary changes over time. No one knows why and there has not been a study with a consistent method applied across southeast Florida (excluding the Keys) to allow data on these

hardbottom communities to be compared. Propose a study of the whole southeast Florida hardbottom community or setting up long term monitoring of the hardbottom community along the mainland of southeast Florida. This is not directly related to the Keys, but could be included as part of the EPA South Florida Program Priorities.
    - Chris Bergh indicated support for this recommendation, which aligns with a recommendation from the Southeast Florida Regional Climate Change Compact working group. There are biological communities affected by coastal projects such as beach nourishment, and a better understanding of those communities through time would help balance their conservation with these projects' impacts.
- George Garrett: Water reuse is a good topic; there is a need to better understand efficiencies and costs associated with this. The technology is pretty well understood. There are a few bills in the legislature right now that might require reuse. Moving beyond advance wastewater treatment (AWT) to potable reuse could solve many different problems; this could be beneficial to southeast Florida and help address concerns about pharmaceutical contaminants.
    - Chris Bergh: Water reuse is important but may be complicated by water infrastructure challenges in the Keys. Our collection system and long network of pipes and pumps is expensive, and we would need a similar system to return clean water where it needs to go. It may be faster and more effective to get good at water reuse infrastructure on the mainland where systems are more compact.
    - George Garrett and Jon Iglehart countered that it may be easier in the Keys to implement water reuse
- Sue Heim: Key Largo Wastewater Treatment District is creating a water reuse program, which should be in place in the next 3 months. This is funded with stewardship funds and will entail a pump into the deep injection well and a truck fill station. This is reclaimed water intended for use by landscapers (currently without charge since it is grant funded). They will need to monitor who takes this water, how much, and where it goes. They still treat to current standards. Others in Monroe County are also interested in reuse, including Ocean Reef.

VII. Florida Keys Water Quality Improvement Program

Shelly Trulock, USACE, updated the Committee on the Florida Keys Water Quality Improvement Program (FKWQIP), including the status of funding and reimbursements to date. In 2000, Congress passed a law allowing USACE to provide technical and financial assistance to carry out stormwater and wastewater treatment projects to improve water quality in FKNMS. The program is authorized to spend $100M with a 65% federal cost share; projects would need to be constructed first, then reimbursed. To date, just under $69M has been reimbursed. Money is still available to support efforts in Key Largo, Islamorada and Marathon. USACE can reimburse $6M - $10M per year, and FY22 funding will depend on the work plan appropriations.

Questions & Answers/Comments/Discussion:

- Pete Frezza asked for an update on the status of the amendments to the Project Partnership Agreements (PPAs)?
    - To modify the PPA, we must first determine if those changes are integral to the project. The integral determination report has been completed for Islamorada, and they are working through the comments with general counsel for the amendment. The amendments for Marathon and Key Largo will follow the same process. Reimbursements for FY22 are not tied to the PPAs, but the sooner those are revised the more flexibility the municipalities will having in spending that money on additional projects (such as canals vs. only those that are allowed in the existing scope of the agreement).

VIII. DEP Water Quality Protection and Restoration Funding

Joanna Walczak, DEP, gave an overview of water quality improvement efforts in Biscayne Bay and potential new legislative funding for the Keys. DEP's water quality goals include: unifying the network of reef water quality monitoring programs, informing regional and local management, researching reef-related water quality indicators, and implementing and tracking the success of management actions to reduce land-based sources of pollution. Current, recurring $7M in funding for Resilient Coastlines and Waste are being used to mitigate the impacts of coral disease and continue regional offshore water quality monitoring for the northern reefs. A new $20M Biscayne Bay Water Quality Improvement Grant will additionally support septic to sewer conversions, stormwater infrastructure upgrades, and water quality monitoring and modeling. Miami is a large, urbanized area, but to be most effective, this funding is being directed specifically to projects within the Miami and Little River areas where there is a clear pattern of water quality impairments.

There is currently additional funding proposed in a Florida Keys Stewardship Act grant. This would support land acquisition within the Florida Keys Area of Critical State Concern, and facilitate execution of financial agreements with local governments in the Florida Keys to promote the protection or restoration of Florida Bay, the Florida Keys, and nearshore marine ecosystems, including coral reefs. If this passes, DEP could not use these funds for wastewater management projects or programs.

Questions & Answers/Comments/Discussion:

- None

IX. Water Quality Protection Program Report to Congress: 2022 Update

Maria Guardado, FKNMS WQPP Intern, provided an overview of the proposed framework for the updated WQPP Report to Congress, and led the Steering Committee in a discussion about key content to highlight. The WQPP legislation requires the Steering Committee to biennially issue a report to Congress that summarizes the program's progress, reviews modifications to the program and its recommended actions, and provides recommendations for future implementation of the program. Past reports have been inconsistent and have not followed the established timeline. The goal is to have an updated report to Congress completed this year, and to establish a standard reporting framework to enable more frequent updates in the future. The updated report aims to: keep the WQPP purpose and audience at the forefront, present dense information in an accessible way, and keep a template-like structure to make reporting easier.

Questions & Answers/Comments/Discussion:

- Jon Iglehart noted that a bill from Senator Rubio (the South Florida Ecosystem Enhancement Act) may cause funding for the South Florida Program to end up elsewhere. A good report to Congress is timely; we may consider focusing the next WQPP meeting on completing this report. Everyone on the Steering Committee should review the report carefully.
- Chris Bergh: Supports developing these reports as mandated; visualizations of where we are (e.g., red, yellow, green) are important. Template is great to make sure we're reporting on time in the future. We risk being forgotten if we don't do these reports.
- Gil: Streamlining our reporting structure and being more direct with messaging is important. The template will help make the report easier to read and update. The report should emphasize and include an explanation about how water quality issues in the keys are different and unique. Keys concerns are different from elsewhere; we have unique needs that are not necessarily addressed by the current water quality improvement systems. We also need to get support for issues in south Florida to protect water quality locally.

- Chris Bergh: Who do we send this report to? Should send it to everyone, but follow up with Florida members or members of committees that impact funding.
    - Florida Keys/EPA liaison is a position that is not filled currently and typically leads the charge on this report. The release of the last report was rushed in 2013 because funding for the program was being zeroed out. Historically, this report went to local legislators. Local partners got the report out to important figures. We have tracks we can utilize through the EPA to Congress, but releasing it as an EPA document could take another year. How do we go outside of those main channels and get the message out more broadly?
    - Becky Allenbach, EPA: Can pose this issue with her group at the EPA Headquarters office.
    - Chris Bergh: In addition to obvious members on our area, there are also members around the county on relevant committees. Local municipalities can task their lobbyists with this document.
- Karen clarified that what was presented today is the framework and high-level look at this document. The specific content still needs to be fleshed out, and Maria will be working until May to help coordinate this effort. It is important for the Steering Committee to review the discussion questions and provide feedback about what's missing, what important accomplishments we should highlight, etc.

X. Public Comment

Ed Russo, Florida Keys Environmental Coalition and Reef Relief Board of Directors
Mr. Russo thanked the Water Quality Protection Program for the work they're doing and especially the list of priorities identified for EPA funding. Wastewater improvements and potential reuse for potable needs are important. He is happy to support this and would like to offer help in getting the public to support this too. Mr. Russo also highlighted the efforts being undertaken by Dr. Rice with the water quality study in Key West. The initial funding for this is one thing, but long-term funding is also important. As a member of the Board of Pilot Commissioners, he'd be happy to add this to the agenda and follow-up on this as a mechanism for funding this moving forward.

Gerald Ward, Citizen, Old Town Key West
In the early 70s, USEPA initiated in-person water quality monitoring and evaluation of Monroe County's canals. Mr. Ward noted that the increased funding over the recent years, as noted in agenda item #6 is impressive. In November 2021, the Steering Committee updated the Bylaws which include the four areas required for implementation of the WQPP (corrective actions, special studies, monitoring, and education and outreach). Regarding corrective actions, Mr. Ward requested the Management Committee do some work before the next meeting on a number of items. First, for decades the Department of Transportation (DOT) has had more stable funding through their 5-year program. The Management Committee should participate in their yearly meetings and add water quality improvements to US 1 for the Fills in Islamorada to the 5-year program. We also have over 40 bridges that need water quality improvements. These are direct stormwater discharge points that need to be addressed, similar to what we've done with wastewater. Mr. Ward requested more time to provide additional comments regarding Key West and the Lignumvitae Key Aquatic Preserve Management Plan. The Lignumvitae Key Aquatic Preserve Management Plan was sent to the Acquisition and Restoration Council. The Management Committee needs to review it and make comments on the monitoring plan. The monitoring plan is useless and data has been lost in the past because it was not sent to the DEP data repository. Regarding the Key West port, Key West is one of 15 port authorities by statute, which gives them authority to take care of problems. Maintenance costs are often the last thing government agencies deal with (as was reported during the canal updates, maintenance costs for canal restoration falls to property owners). Mr. Ward suggested the Navy should give up the facilities that were dug too deep (40 feet); they did not do necessary maintenance

to clear the sediments. The City/Port of Key West has the authority to get grants and can charge a per capita fee for passengers. Let's get the job done. Worrying about things and not doing maintenance is worse than what we're doing today.

- See the attached written comments submitted to the Steering Committee by Mr. Gerald Ward.

David Dunn, Key West Committee for Safer Cleaner Ships
Mr. Dunn thanked the committee for including large vessels as a priority in last year's funding opportunity; one project was funded successfully as a result. Would like to remind the Committee that monitoring sites were reduced in the channel and harbor after 2011, which coincided with larger and larger cruise ships arriving in Key West (including those 1000+ feet long with 28' draft). Large ships briefly stopped during the pandemic, but these are now returning. The Key West commission is working on this and may vote to reduce ships at their dock, but that will not affect Pier B. The Committee for Safer Cleaner Ships does not expect this will result in an overall reduction in large vessel traffic or ship size. They have been monitoring plumes of silt created by ships and drift patterns to adjacent reefs, but request the WQPP add/prioritize more permanent monitoring stations in the harbor and channel to capture the effect of ships entering these shallow areas.

XI. Management Committee Updates

Jon Iglehart reminded the Steering Committee that each member can have a representative on the Management Committee. This provides an opportunity to highlight issues that should come before the Steering Committee.

Karen Bohnsack, FKNMS, provided a status report and requested feedback on behalf of the Management Committee about WQPP planning and organization.

- Members were requested to review their seat's contact information and send updates.
- During the November 2021 meeting, the Steering Committee approved the updated Bylaws. This document now needs signatures and will be circulated over the next few months.
- Planning for an evaluation of the Water Quality Monitoring Program is still underway; ability to execute this will be contingent on funding support.
- Karen requested feedback on opportunities to improve the WQPP in the future, including:
    - Interest in scheduling water quality-related informational science seminars.
    - Other feedback about how to best engage the WQPP in emerging water quality related issues – including guidelines or thresholds for consideration when evaluating if something should be brought before the Steering Committee.

Questions & Answers/Comments/Discussion:

- Jon Iglehart noted support for the idea of science seminars. Historically the WQPP had 2-day meetings with one day focused on science and project updates, and one day on business. The virtual world offers an opportunity to engage more regularly.
- Patrick Rice suggested a model similar to conferences where there is a lot of science presented. A book of abstracts or a newsletter format might be helpful to provide more information and background about ongoing science.
- Sue Heim suggested further sectioning out these meetings to avoid information overload – possibly on a trial basis at first. Proposed a science/environment session, then a government and finance session.
- Chris Bergh: Also likes the idea of science seminars, especially if they could be made available to the general public and were advertised in advance. Many of the Steering Committee members stay informed, but many others in the community believe that despite water quality being the big problem, no one is doing anything about it. Sharing information more broadly would help dispel that mistaken impression.

- Shelly Krueger: Supports the idea of science seminars for the EPA funded projects especially, so the Steering Committee can get more in-depth information.
- Jon Iglehart and Chris Bergh agreed that field trips in conjunction with meetings should be something we try to return to in the future. One of the best meetings included a field trip to Big Pine to look at climate driven tidal changes

XII. Steering Committee Member Updates

Sandy Walters, SWC
Supportive of field trips and science seminars. Regarding the comment from Gerald Ward about DOT projects: the way DOT funding works for roadway projects is if an improvement project is proposed that does not change the footprint of the roadway, stormwater improvements are not required as part of that project. Many projects here are resurfacing over the same footprint because there is no funding to complete additional stormwater improvements. With the recent federal infrastructure bill that just passed, there may be an opportunity to try and change that policy or otherwise include stormwater as part of our water quality standards; the Committee should weigh in on this. For another point, Dr. Fourqurean has shown that habitats show changes in water quality before we can detect changes in the water quality itself. Monitoring habitats and the composition of those habitats will tell us what is going on with water quality, even if it cannot be detected. We should call our program: water quality and habitat monitoring instead of just water quality monitoring.

Allison Higgins, City of Key West
The Key West Action Committee is continuing to look across the various water quality plans and priorities to hone in on what the City of Key West can do to support these as a local municipality. This includes the WQPP priorities list, the Resilience Action Plan, NOAA's Florida Marine Debris Plan, etc.

Sue Heim, KLWTD
The Key Largo Wastewater Treatment District is looking into issues related to providing treated effluent, to determine what happens to that effluent. There is a concern that the chemicals used in the effluent treatment process could affect the commercial vehicles holding tanks. As more people start using reuse water, the treatment volume will increase, which may increase the need to buy more chemicals. KLWTD is not looking at charging any money to people taking the reuse, but there may be added cost to the municipalities.

Meeting Wrap-Up and Adjourn
Jon Iglehart thanked everyone for participating in the meeting and reviewed accomplishments and next steps. He noted an interest in receiving an update on coral reef water quality restoration prior to the next meeting; this could possibly be a pilot science seminar to see what sort of participation we get.

The meeting adjourned at 1:11 PM.

Additional Documents for Distribution
The following were referenced and provided for circulation to the Steering Committee during the meeting:

1. Written Public Comment: Gerald Ward (Attached).

FKWQPP STEERING COMMITTEE MTG PUBLIC COMMENT 7 MARCH 2022

GERALD M. WARD TRUMAN & WHITEHEAD OLD TOWN KEY WEST (561/863-1215)

US EPA IN REALITY ESTABLISHED IN THE FIRST HALF OF THE 1970S A GOOD WATER QUALITY MONITORING AND EVALUATION PROGRAM. OBVIOUSLY GOT USEPA OUT OF IN-PERSON MONITORING WORK BUT, AGENDA ITEM VI BY THE CO-CHAIR TODAY SAYS THE FEDERAL MONIES

THIS COMMITTEE ON 15 NOVEMBER AS THE STEERING COMMITTEE DID WHAT NEEDS TO BE AT THE HEAD OF EACH FUTURE AGENDA FOUR WATER QUALITY ISSUES FOR DEVELOPMENT AND IMPLEMENTATION:

1) CORRECTIVE ACTIONS

2) MONITORING

3) RESEARCH/SPECIAL STUDIES

4) PUBLIC EDUCATION/OUTREACH

TO MAKE THIS MEETING PROFITABLE THE MANAGEMENT COMMITTTEE NEEDS TO BE DIRECTED TO ACCOMPLISH SOME WORK BETWEEN NOW AND THE NEXT MEETING. FOR NUMBER 1) (CORRECTIVE ACTIONS)

1) FDOT HAS FOR DECADES ONE OF THE MOST STABLE FUNDING SOURCES IN FLORIDA. THE FIVE YEAR PROJECT PROGRAM. GET A PROJECT ON THAT PROGRAM (A YEARLY FDOT EVENT) AND AUTHORIZED BY THE LEGISLATURE EACH YEAR AND FDOT EMPLOYEES PLAN, PERMIT (AS NEEDED) AND THEN CONSTRUCT.

MONROE COUNTY HAS POOR RELATIONS IN RELATION TO TRAFFIC OPERATIONS (NORMAL DAY-TO-DAY MAINTENANCE). OUR SHERIFF HAS TAKEN THE LEAD IN SUCH FOR MONROE COUNTY, BUT OFTEN GOTTEN LAUGHED AT. GIVEN THE LARGE AMOUNT OF DOLLAR REVENUE CONTRIBUTIONS TO THE STATE TREASURY COMPARED TO MONEY BACK, IT IS TIME TO FOCUS ON POSITIVE RETURNS. STATE ROAD FIVE (WITH SUCCESS ON MONROE COUNTY SEWAGE COLLECTION & TREATMENT) IS NON-POINT SOURCES OR STORM WATER TREATMENT.

A FIRST PRIORITY OF THE STEERING COMMITTEE OUGHT TO BE THE “FILLS” THE CONNECTIONS TO THE FLORIDA KEYS BRIDGES. THINK ABOUT HOW MANY FDOT ROADWAY SECTIONS ON THE VARIOUS FILLS ARE CONSTRUCTED WITH STORMWATER QUALITY AS A EASY PROJECT, THE VILLAGE OF ISLAMORADA GOT DISCUSTED WITH THOSE IN THE WEST END OF THEIR TOWN AND THE HAVE ESTALISHED AUTHORIZED TO TAKE THE LEAD IN THESE FILLS FOR MODIFICATION, OPERATION AND SOME MAINTENANCE. AS ISLAMORDA HELPS DIRECT. THE FDOT SIX CAN RECONSTRUCT STATE ROAD FIVE (US 1) WITH MODERN WATER QUALITY FEATURES.
FOR THE NEXT STEERING COMMITTEE MEETING ADDITIONAL “FILLS” FDOT RESCONSTRUCTION PROJECTS NEED TO BE DISCUSSED.

2) ANOTHER ISSUES FOR NUMBER 2) (MONITORING) IS THAT THE FDEP (RESILENCE PUT OUT A LONG DELAYED "MANAGEMENT PLAN UPDATE" FOR THE LIGNUMVITAE AQUATIC PRESERVE WHICH DESCRIBED SOME MONITORING THAT HAS "FAILED" AND MAY BE CONTINUED WITHOUT PROPER MONTORING CONSTRUCTION. THAT PLAN (IF ACCEPTED BY THE "ACQUISITION AND RESTORATION COUNCIL" WITHOUT FURTHER MODIFICATION) WILL BE HEARD AT THE FDEP "GOLD BUILDING" IN TALLAHASSE 10 JUNE 2022 AT 0900. FKWQPP MANAGEMENT COMMITTEE NEEDS TO REVIEW THE DRAFT PLAN AND MAKE COMMENTS.

3) THE CITY OF KEY WEST RAISED A "MONITORING" ISSUE, BUT REALLY IS A "CORRECTIVE ACTION" ISSUE FOR THE PORT OF KEY WEST. THE US NAVY DUG MOST OF THE PORT FACILITIES, LAST IN THE WW II, WHICH THE CITY OBTAINED AFTER THE NAVY LEFT IN 1974. THE CITY OF KEY WEST HAS OBTAINED VERY STRONG AUTHORITIES TO MANAGE THE PORT FACILITIES AS A DEEP WATER PORT OF THE STATE OF FLORIDA (311-315 FLORIDA STATUTES). NOT ONLY DOES THE PORT HAVE (AND DOES IMPLMENT A PASSENGER FACILITY CHARGE), SO IT HAS FULL AUTHORITIES TO MAINATAIN THE PORT OF KEY WEST BASINS AND CHANNELS INCLUDING NORMAL MAINTENCE OF THE "SEDIMENTS" THAN NEITHER THE NAVY OR THE PORT HAS SEEN TO ACCOMPLISH IN THE LAST EIGHTY YEARS.

4) LASTLY, FOR NUMBER 4) OF THE BYLAWS, I RECOMMEND THAT THE PRESENTATIONS BE DONE IN ADVANCE. EACH OF THE PRESENTATIONS (INCLUDING NEW PLANS) WOULD HAVE BEEN MUCH MORE VALUABLE