

**FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL WORKING GROUP:
Florida Keys and South Florida Ecosystem Connectivity Team**

Meeting #5

Tuesday, November 16, 2021

10:00 AM – 12:00 PM

meet.google.com/ryz-boiq-kpv

Or Dial: 443-819-0246; PIN: 476-784-890#

Attendees: Erinn Muller, Karen Bohnsack, Chris Bergh, Jerry Lorenz, Emma Haydocy, Cara Capp, Shelly Krueger, Jolly Benson, Amelia Moura, Kelly Cox, Steven Blackburn, Chris Kavanagh, Nick Parr, Gus Rios, Luke McEachron, Mike Goldberg, Adam Gelber, Suzy Roebing, Steve Friedman and Steve Davis.

Absent: Matt Semcheski, Joe Weatherby, Gina Ralph, and Christopher Madden. 23 participants total.

Working Group Website: <https://floridakeys.noaa.gov/review/workgroups.html>

Action Items:

- Steve Blackburn will email report of impacts of submarine groundwater discharge on seagrass in Florida Bay from Georgia Southern PI John Carroll.
- Ask Chris Madden, the SFWMD representative to this group, to talk about MFL. Jerry will follow-up and see if he can speak at our next working group meeting in January.
- Consider resolution regarding MFL and whether it can be adjusted.
- Chris Kavanagh will provide his slides that can go into the shared [Google Drive folder](#), and it can be posted to the working group website.
- For ideas for what to follow next year, please send suggestions to Jerry, Karen, and Cara for ideas and requests for 2022.
- Would like to see information about the sewer outfalls in Miami and Broward counties in 2022 and continue receiving information on impacts from sea level rise, including peat collapse.

AGENDA

10:00 AM Call to Order by Jerry Lorenz at 10:01 and roll call.

Began with an overview of the working groups' efforts since Spring 2021 and taking action on action items. In 2021, the working group initiated a SAC resolution on the Lake Okeechobee System Operation Manual (LOSOM) and submitted comments to the Army Corps through the FKNMS Superintendent to optimize freshwater flow southward into the Everglades and Florida Bay. Army Corps hosting a webinar w/ LOSOM optimization today at 3 pm and Cara put the link in the chat. Second resolution urging Miami commissioners to deny new proposed 800 acre

development outside of the urban development boundary (UDB), which would have severe and significant impacts to the Sanctuary, Biscayne Bay, and Florida Bay. After resolution by SAC, Monroe County, Islamorada, and City of Key West passed similar resolutions about concerns due to upstream development. Miami commissioners are still considering the application and sent it on to state agencies for review. SFWMD and FDEP sent concerns about the proposal and impacts to BBSEER. There is now a record of opposition to the development; voting will be the end of this year or early 2022. Can still send comments as individuals expressing concerns.

NPR used recording from our team to put together a short spot from Cara and Kelly about opposition to new development outside of the UDB. Link to NPR story:

<https://soundcloud.com/wlrn/731-am-keys-oppose-planned-development-in-south-dade?in=wlrn/sets/wednesday-october-20-2021&si=85e15b72c08042d697ddbeac891f2feb>

Chris Kavanagh Presentation: Florida Bay Status and Condition Update -- Overview of Everglades National Park (ENP) water quality by Chris Kavanagh, marine ecologist with NPS, providing input on Florida Bay (FB) and water management implications. Everglades National Park has 17 fixed marine monitoring stations put in place in 1980s after first seagrass die offs in Florida Bay for water quality monitoring. FB has zones – western, central, southern, and eastern, central transition zone, and eastern transition zone, and they also track Taylor River creek (3-4 km inland) for salinity. Conditions can be highly variable between zones. 30-40 practical salinity units (psu) is euhaline (35 psu is average ocean salinity). Above 40 psu is hypersaline. The center of the bay consistently hypersaline for extended periods. Between 30 psu to 15 psu is polyhaline, which is considered an estuarine condition. For the past 10 years, there has been consistent hyper-salinity in zones within FB. NPS staff collects grab samples across 50 basins at 77 sites every other month for: temperature, salinity, turbidity, pH, organic matter, dissolved oxygen, chlorophyll a, and nutrients since 2017 -- and samples sometimes sent to FWRI for phytoplankton.

Tropical Storm Eta (November 2020) provided copious rain amounts that had a significant effect for several months up to the dry season of May 2021, and decreased salinities during the time-period prior to May 2021. Recurring cyanobacterial blooms (2016-2020) of *Synechococcus* in central FB likely associated with seagrass die-offs. There was no bloom initiation in 2021, which has been present for over the past 5 years prior.

January 2018 following Hurricane Irma in September 2017, FB exhibited high turbidity in eastern and western zones, which has been persistent even into February 2021, especially in western portion of FB.

In 2015 there was a very large turtle grass *Thalassia testudinum* die-off especially in central zone. The seagrass die-off was combined with Hurricane Irma, which disturbed the bay bottom, suspended sediments, moved large amount of sediment, and left bare sediments exposed. This in turn caused nutrients that can flux from the sediments that were previously sequestered in the sediments in addition to the organic material supplied by the dying seagrasses. All of these events cause a vicious cycle of poor water quality. Cape Sable had 12

miles of beach with waist high dead seagrass blades that decayed and moved back into FB. Shoal grass *Halodule wrightii* emerged and rebounded following seagrass die-off in May 2015, and recruited well by May 2017; unfortunately, Hurricane Irma really set back this recovery.

Everglades National Park recreational saltwater fishing has some good news: CPUE (catch per unit effort) for recreational saltwater fishing (primarily snook, tarpon, snapper, seatrout, red drum) saw increased snook and red drum catches. Have seen some declines in CPUE for grey/mangrove snapper *Lutjanus griseus*.

Wading bird nesting and foraging. Following Hurricane Irma, counted 112,000 nests (e.g., wood storks, ibis), which is 10x higher than the average number of nests since the 1930s. In 2020, staff counted 81,000 nests, second highest in decades of monitoring and the success of the fledglings was around 90%.

Chris Cavanagh outlined the COP (Combined Operational Plan) integrated water control plan that defines operations and alters water deliveries to Everglades National Park through the modified water deliveries and the C-111 Miami Dade Projects, this supersedes Everglades Restoration (ERTP) for operations in the WCA-3A (non-CERP). Primarily to shift water from Western Shark River Slough to the NE Shark River Slough and restores flows to Taylor Slough. Primary constraints are flood controls for the 8.5 square mile area and the agricultural area east of the C-111 canal. COP has 5 major objectives to improve quantity, timing, location, and volume in the Everglades National Park (ENP). Projected to increase freshwater flow into ENP by 28%, 36,000-acre feet per year to the eastern FB, mostly through the Eastern Panhandle. Some areas will benefit the Cape Sable seaside sparrow, while others areas will be negatively impacted.

Northeastern Florida Bay Sub-Region Minimum Flow Level (MFL) put into place in September 2015 (MFL Rule 40E-8.221 F.A.C.). An exceedance of the MFL criteria occurs if the average salinity is over 30 psu over 30 or more consecutive days at the Taylor River salinity monitoring station. Multiple events (of 30 day or more day periods) in the same calendar year are considered a single exceedance, and a violation occurs when the exceedance happens during two consecutive years more than once in a 10-year period. The lack of flow of freshwater is directly implicated in large scale seagrass die-offs. An exceedance is projected to occur if the 5 creek flow into NE Florida Bay drops below 105,000 acre-feet during a 365-day period (running sum). In 2015, the flow did drop below 105,000 acre-feet while the seagrass die off was actively occurring.

Potential next action item is to propose a revision of that minimum flow level (MFL) in order to protect FB. How do you change a MFL? It is a South Florida Water Management District (SFWMD) level action in the Florida administrative code ruling from water management district review. Believe it was reviewed prior to 2006, and another review in 2014, which are described on the SFWMD website. The most recent review noted that certain models were not functional for a comparative analysis with previous studies from 2006. There have been many changes in the system since 2006 including changes in weather patterns/conditions/baselines in the

intervening times have altered amongst many parameters. The 2014 review did not use some of the earlier models and the newer models were likely not sufficient to analyze the same information. The information is reviewed about every 5 years. Chris Madden is likely the key staff person regarding MFLs. Tiffany Troxler is doing research. Manatee Creek has been restored (2008) and there is now a big tidal exchange from Biscayne Bay into Long Sound.

Georgia Southern received EPA funds to study ENP last year (2020) and these will likely be available next year too. Steve Blackburn will share the PI for that project in an email, entitled "Impacts of submarine groundwater discharge on seagrass in Florida Bay" with PI John Carroll.

Should consider action on updating the MFL in ENP. Having a warning system to prevent the lower end flows, once this happens there is no water available, so need to think in advance to adjust and ideally avoid these low flow situations. Peat collapse is something to keep in mind as a climate change impact; this may change nutrients, pH and other dynamics that may affect Florida Bay and FKNMS.

What is happening with the ENP new management plan and the rezoning of FB, wondering if have a status report on implementation of rezoning FB, pole and troll only zones? About 50% of fishers would say it helped and maybe half would say saw no difference; many fishers were satisfied with that. It has been implemented, not sure about enforcement; applies to about 25% of FB.

Public Comment: none

Member Updates:

Everglades Coalition, bringing back the in person conference January 6-8 at Hawks Cay on Duck Key. Cara Capp has more information, <https://www.evergladescoalition.org/conference>

Gus Rios is retiring from FDEP and he will be missed very much! He will likely return in some capacity as an informed and knowledgeable citizen.

Great YouTube video of the super colony, short documentary of positive impacts to wading birds.

<https://www.youtube.com/watch?v=6yOmWhU-fEo>

For ideas for what to follow next year, please send suggestions to Jerry, Karen, and Cara for ideas and requests for 2022.

Karen updates from FKNMS has two notices: the WQPP has an intern starting to help with communication efforts for FKNMS WQPP Biennial Report to Congress, her name is Maria and she will be working with Karen. Would like to highlight some of the activities of this group, and will be reaching out to working group members for information. Keep an eye out for the new FKNMS SAC recruitment opening in a couple of weeks.

2022: Useful for updates on mainland sewer outfall legislations and status of progress to minimize flows of millions of gallons of untreated sewage from Broward and Miami-Dade. Plus sea level updates on ENP and peat loss.

Recent video from Mayor Cava 2025 on the outfall discharges and an article in the Miami Herald about accepted \$400 billion, Adam Gelber will find the links and share w/ the group (link below). Kelly Cox very knowledgeable about the sewer outfalls.

<https://www.miamiherald.com/opinion/op-ed/article255841796.html>

Next steps for minimum flows: see action items.

Meeting adjourned by Jerry Lorenz at 11:46 am.