

Florida Keys and South Florida Ecosystem Connectivity Team Meeting
Tuesday, May 16, 2023 at 10:00am via Google Meet

- Membership update: Jolly Benson has relocated away from the Keys, Will Benson will replace him as a new member of the FKNMS Eco-Connectivity Team. Welcome, Will!
- Members and advisors present at roll call: Karen Bohnsack, Jerry Lorenz, Cara Capp, Suzy Roebing, Emma Haydocy, Matt Semcheski, Will Benson, Kelly Cox, Tylan Dean, Steve Blackburn, Gina Ralph, Luke McEachron, Paul Julian. Adam Gelber indicated he would join late.

10:10am Jerry introduces the first topic and speakers - Dr. James Beerens and Sean Sculley from SFWMD to discuss **Florida Bay MFL** described as “minimum flow that is necessary to maintain salinity.” Jerry additionally shares background to set the stage for the presentation:

- Problem with existing rule is there is very little that can be done once an exceedance or violation happens - there is just no freshwater in the system to be rerouted or even if there was water, no means to flow it to Florida Bay. Today the team wants to learn about MFLs generally, specifically about the MFL for Florida Bay, and how we can better protect the Bay from salinity crisis in the future.

Sean Sculley begins presentation with rules and procedures on MFL:

- MFL is defined as the minimum flows or water levels adopted by the SFWMD Governing Board and Florida Statutes to protect a resource from “significant harm” - AKA the level of harm that an ecosystem would take many years to recover from. When any MFL is established, there has to be a technical document to justify the volume of the flow.
 - MFL can: protect the resource from competing consumptive use permits being given that would lead to exceedances and violations
 - MFL cannot: account for sea level rise, climate change
- Process and documents
 - Annually, SFWMD submits a list of priority water bodies to FDEP, and the approved priority list is included in SFWMD’s annual report on March 1st.
 - Florida Bay MFL status is updated every five years in the SFWMD Lower East Coast Water Supply Plan.
- Florida Bay MFL was established in December 2006
 - An exceedance will occur when salinity over 30 or more consecutive days exceeds 30 parts per thousand at the Taylor River salinity monitoring station.
 - A violation is when two consecutive exceedances occur more often than once in ten years. Under existing system conditions, violations of the MFL are not anticipated to occur. If an exceedance is expected, a recovery plan must be in place. Thus, SFWMD will continue to monitor conditions and monitoring outputs.

James Beerens continues presentation on interpretation of the MFL:

- MFL allows for holding water for the environment when there is demand for more consumptive use permits. It is a valuable tool for environmental protection.
- Since the MFL went in place in 2006, these are the exceedances:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Observed Events of When the 30-Day Moving Average at the Taylor River Salinity Monitoring Station was Above 30

Beginning and Ending Dates	Duration of Exceedance, days	Violation and/or Exceedance?
5/21/2008 – 7/4/2008	45	Exceedance.
8/1/2008 – 8/28/2008	28	No exceedance (<30d)
4/19/2009 – 6/15/2009	58	Exceedance.
5/30/2011 – 7/25/2011	57	Exceedance.
6/24/2014 – 7/12/2014	19	No exceedance (<30d)
5/2/2015 – 5/13/2015	19	No exceedance (<30d)
7/9/2015 – 9/10/2015	64	Exceedance.
5/26/2017 – 6/25/2017	31	Exceedance.
4/24/2020 – 6/11/2020	49	Exceedance.

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- Thus far, none of these exceedances has led to a violation.

Team questions and discussions:

- Jerry asks about what course of action is available when there is an exceedance?
 - Response: most relevant course of action is related to permitting consumptive use that would impact the resource. Another course of action is planning in the five year water supply plan to ensure no exceedances are expected. Currently, Florida Bay remains in “prevention” strategy versus “recovery” since no exceedances are expected.
- SFWMD presenters share - and Jerry confirms - that monitoring data shows that Everglades restoration projects are already having a positive impact on salinity in Florida Bay to lower the chance of exceedance.
- Cara asks about which restoration projects coming online soon will be most beneficial to the salinity in Florida Bay.
 - Sean response: LOSOM and sending more water south from Lake Okeechobee is significant. From there, getting the S-333 N online and making modifications to Tamiami Trail - projects that will open up the flow way into ENP - are important.
 - Jerry notes that both BBSEER and Southern Everglades Study will impact water flowing into Taylor Slough and thus salinity.

- Adam asks for a comparison between water flow into Florida Bay versus, say, the Caloosahatchee or other significant water resources in South Florida.
 - James response: Caloosahatchee is in “recovery” versus “prevention,” so it is difficult to compare. Won’t see significant benefits for Caloosahatchee until the new reservoir comes online.
 - Sean response: though the MFLs for Florida Bay and Caloosahatchee are substantively different, the process and approach are the same - based in science and developed with stakeholder input.
- Jerry asks about the potential to review/adjust MLF considering sea level rise.
 - James notes that it is difficult to regulate around sea level rise because it is an uncontrollable factor - unlike consumptive use permitting which SFWMD has direct control over. Limitations to what the statute for MFL allows.
 - Sean notes that SFWMD Chief Resilience Officer is actively working to understand sea level rise impacting the system and how we can respond.

11:00am Jerry introduces second speaker - Dr. Emily Hall, Senior Scientist from Mote Marine Laboratory to discuss **red tide in the Florida Keys**. Emily runs the ocean acidification program and chemical and physical ecology program.

- Typically Tampa to Charlotte Harbor is the epicenter of red tide, though we do sometimes see red tide through the panhandle and on the east coast as far north as the Carolinas. It travels fairly quickly from the Gulf Stream and red tide originating near Tampa can travel to West Palm Beach in just a few days.

- History of red tide in keys
- Tampa Bay to Charlotte Harbor = epicenter
- Loop current and WFS (nutrient upwelling)

Liu, Y., R. H. Weisberg, J. M. Lenns, L. Zheng, K. Hubbard, and J. J. Walsh (2016), Offshore forcing on the “pressure point” of the West Florida Shelf: Anomalous upwelling and its influence on harmful algal blooms, *J. Geophys. Res. Oceans*, 121, 5501–5515, doi:10.1002/2016JC013938.

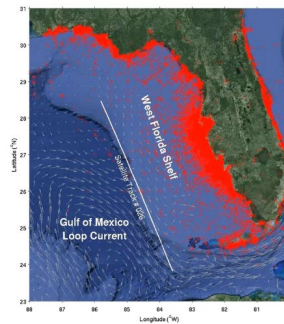


Figure 1. Locations of HAB observations of harmful algal blooms (red dots) recorded in the Florida coastal region during 1993–2011. The map shows the Gulf of Mexico Loop Current in blue and the West Florida Shelf in green. The map also shows the locations of HAB observations (red dots) along the Florida coast.



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- Work that Mote is doing on red tide: working collaboratively with FWC to do red tide monitoring from Tampa Bay to the Florida Keys - monthly data collection regularly, as well as specific event responses when warranted after storms or other events.
- Website for weekly map with most recent red tide monitoring data:
 - http://ocgweb.marine.usf.edu/hab_tracking/wfcom_hab.html

- Typically red tide begins in late September or early October, which unfortunately coincides with the peak hurricane season. Last year, bloom began offshore Lee County and conditions were exacerbated by Hurricane Ian, and furthered by conditions the following January/February/March - at which point red tide began to show up in the Florida Keys in recent weeks.
 - Typically, strong winds keep red tide away from the Florida Keys. This year, weaker winds have failed to push away the red tide as it usually does.
 - We can't predict what will happen this upcoming year or future years.
 - We are entering an El Nino year with more rainy afternoons expected, which is a factor to consider when anticipating red tide threats this upcoming year.

Team questions and discussions:

- Paul Julian asks about blue/green algae versus red tide - is that showing up in the monitoring data?
 - It could be - Mote does send volunteers out to further investigate when monitoring does show presence but the current Mote/FWC program does not specifically monitor for blue/green algae (funding/capacity limits are a factor).
- Will Benson shares an observation that when red tide was coming down to the Keys, some of the sites tested missed where the bloom was (Will notes he and other guides had direct experience with fish kills indicative of red tide bloom presence). Will asks how to get guides more involved - is there a hotline or reporting system when guides can alert monitoring scientists about seen hotspots? Guides want to help improve data.
 - Emily will connect with Will and share more information about outreach and education tools currently available such as the beach monitoring program.
- Emily shares that there is a special phone adaptor camera that links to an app that can help identify red tide blooms. Emily will email more information to the team members.

11:20am Karen invites public comment - none.

11:20am Jerry invites the team to bring updates to the group.

- Steve Blackburn shares that the Request for Applicants (RFA) for grant funding through EPA's South Florida Program will be coming out soon, he will share with Karen when it comes out to pass along to the team. These funds support research and monitoring activities in the south Florida ecosystem, including the Florida Keys, Florida Bay, the Caloosahatchee, etc.
- Cara and Adam share info about the upcoming South Florida Ecosystem Restoration Task Force meeting happening June 1st in Naples. Adam says the agenda will be available in the next few days. This will be an opportunity to engage with state and federal agency leaders. Adam confirms virtual access will also be available.

- Karen shares that the next SAC meeting is set for Tuesday 6/20 and will happen in-person and virtually. Buoys, channel markers, signage will be a major discussion.
- Discussion of potential future agenda items:
 - Kelly Cox suggests discussion on boater education programs, potentially from ENP to understand their program. Tylan says ENP would be happy to share.

11:35 Jerry thanks all presenters and adjourns the meeting.