

**Caloosahatchee River and Estuary and Everglades West Coast
Basin Management Action Plans (BMAPs) Annual Meeting
Webinar Summary**

Friday, March 17, 2023

10:00 am – 11:57 am

Participants

Charles Avery, Citizen	Megan Jacoby, SFWMD
Christian Avila, SFWMD	Emily Johnson, SFWMD
Bill Baker, MacVicar Consulting	Johnny Jones, DEP
Evelyn Becerra, DEP	David Kaplan, UF
Karen Bliss, Charlotte County	Kerry Kates, FFVA
Abigail Bridges, DEP	Brooke Keck, DEP
Robert Burleson, ATM	Lee Killinger, Florida Crystals
Paloma Carton de Grammont, UF	Ken Kniel, Citizen
Stacy Cecil, DEP	Natalie Kraft, FPL
Carolyn Ciarlariello, DEP	Lisa Kreiger, Lee County
Brad Cornell, Audubon	Jacob Landfield, SFWMD
Kelly Cox, Audubon	Kristin Larson, SFWMD
Casey Darling Kniffin, FL Oceanographic Survey	Ivette Leiva, FDOT
Tedd Darnell, USFWS	Jonathan Madden, SFWMD
Sara Davis, DEP	Amanda McDonald, SFWMD
Rebecca Elliott, FDACS	Nikki Morgan, DEP
Kate English, Pavese Law Firm	Stacey Ollis, SFWMD
Yesenia Escribano, FDACS	Steffany Olson, SFWMD
Julie Espy, SAS	Charise Parker, Sea and Shoreline
Leilani Farrell, RES	Melanie Parker, SFWMD
Veronica Fasselt, USEPA	Ximena Pernett, RES
Jessica Fetgatter, DEP	Mark Perry, Florida Oceanographic Survey
Kim Fikoski, SFWMD	Jason Pim, Sharkinetics
Brett Fitzgerald, Angler Action Foundation	Nicolas Pisarello, ATM
Jake Fojtik, FFBF	Kellie Ralston, Bonefish & Tarpon Trust
David Frady, DEP	Jennifer Reynolds, SFWMD
Marcy Frick, Tetra Tech	Steven Rodriguez, SDPA
Aubrey Frye, SFWMD	Maria Romero, Lee County
Cristina Gauthier, SFWMD	Darren Rumbold, FGCU
Roxanne Groover, FOWA	Robin Serne, Calusa Waterkeeper
Chris Guth, Federico and Associates	Brent Setchell, FDOT
Sam Hankinson, DEP	Kim Shugar, DEP
Maddy Hart, FDACS	Jerry Smith, Citizen
Janet Hearn, ATM	Mailin Sotolongo- Lopez, DEP
Jennifer Hecker, CHNEP	Janelle Strong, DEP
Robert Himschoot, Crews Environmental	Jennifer Thera, FDACS
Moir Homann, DEP	Richard Thompson, City of Fort Myers
Luke Hudson, DEP	Nikki Tinsley, Citizen
Jeff Iudicello, SFWMD	Diana Turner, DEP

Connie Vanassche, Citizen
Kamaria Waddy, DEP
Rhonda Watkins, Collier County

Ken Weaver, DEP
Jessica Wilson, Conservancy of SW FL
Manuel Zamorano, SFWMD

The webinar recording and supporting materials are posted to the Florida Department of Environmental Protection (DEP) file transfer protocol (FTP) site at
http://publicfiles.dep.state.fl.us/DEAR/BMAP/Caloosahatchee/Meetings/2023_03_17_Annual_Meeting/

Questions and Answers

Question on the DEP presentation: Two coupled models, a watershed model (Hydrological Simulation Program – FORTRAN [HSPF]) linked to a hydrodynamic model (Environmental Fluid Dynamics Code [EFDC]) were used to determine the total maximum daily load (TMDL) and necessary load reduction (DEP, 2009). For a number of years now, measured loads reported by South Florida Water Management District (SFWMD) and others) have been below the targeted load generated by the models, i.e., the TMDL appears to have been achieved. Yet, problems remain – when will the models to assess the true assimilative capacity be updated?

Answer from Marcy Frick, Tetra Tech: The models were updated in 2017 and were used in the BMAP update that was adopted in early 2020. In addition to the modeling, DEP does track the measured loads reported by the water management district. Nikki talked about that quite a bit last year with the 5-Year Review on the BMAP, and we have seen that loads in the watershed are increasing. We have not achieved the TMDL yet or those allowable loads and more work definitely needs to be done. We will talk when Nikki presents next about some of the trends we are seeing and then later in the meeting about how we are going to move forward looking at loading.

Answer from Nikki Morgan, DEP: I think I understand why the question thinks that the TMDL has been achieved and that has to do with the TMDL document that also includes Lake Okeechobee loading. The BMAP separates those out so that Caloosahatchee stakeholders are not responsible for Lake Okeechobee's BMAP being met.

Question the SFWMD presentation: Do you have any idea how much money has been spent so far on these projects?

Answer from Stacey Ollis, SFWMD: I do not believe we have the total number summarized but we have the individual project costs outlined in our 2023 South Florida Environmental Report (SFER). They are broken down in summary tables by project. I would direct folks to take a look at that and it is in Chapter 8D of the final report. [Note: Stacey followed up later that the overall summary of expenditures for the construction projects are provided in SFER Chapter 8A in Table 8A-3.]

Question on the DEP presentation: When you show a project has estimated specific phosphorus and nitrogen load reductions, do you automatically credit those load reductions when the project is completed or do you use the actual data comparing starting loads to post project loads?

Answer from Nikki Morgan, DEP: That depends on the project type. Some of the projects have known efficiencies due to all different kinds of studies or how well say biosorption activated media (BAM) works to remove nitrogen and phosphorus. Once the construction is done and we have the specifications on the engineering of those kinds of projects, we can attribute those efficiencies to those projects very quickly. For other types of projects that are larger hydrologic restoration or reservoirs, those we require actual data comparing pre and post to develop efficiencies specific to those projects. So, it really depends on the project type to how quickly those reductions can be created for the completed project.

Question on the DEP presentation: What is the process for comparing the estimated load reductions from project implementation versus observed loads. Basically, it causes updates to the BMAP and target TMDL on a 5-year cycle, is that right?

Answer from Nikki Morgan, DEP: For some of the projects, we are using the modeled loading to then take the efficiencies off of for some of the older projects. Since the loading from the model is still technically an estimate, even though it is a fairly specific model to the BMAP, that is where you would get those estimated reductions. For ones where we do have a pre and post, those are not really estimated reductions, those are pretty well known. I am not sure I understand versus observed loads and the cycle. The five-year cycle is based on legislative requirements so every five years we do the reviews in order to keep tracking progress through the BMAP.

Answer from Marcy Frick, Tetra Tech: This question was asked before you presented the targeted restoration area (TRA) so you can see we do, on an annual basis, track what is happening with loading and concentrations to see where we need to continue doing work. We do have to review the BMAP by statute, as Nikki mentioned, every five years. If we determine in what we did like last year that there are recommendations to update the BMAP, we will do that to help continue progress towards meeting the TMDLs.

Question on the DEP presentation: What is being done to remedy the majority of the basin having insufficient data?

Answer from Nikki Morgan, DEP: With the BMAP update happening in 2020, it expanded into those basins that show insufficient data. Monitoring has not started around the same time for those basins so 2018/2019/2020. Most of those basins are being monitored but they do not have a five year average that we can use to do the TRA yet. Most of those have monitoring on at least a monthly timescale, a lot are twice every month. Around the BMAP update time, we should have enough data for most of those basins. There are two or three that do not have adequate monitoring that we are still working on getting those stations setup but, for most of them, you will continue to see those come up and go from gray to some sort of color in the TRA maps as we collect data.

Question on the DEP presentation: Lakes Park is a borrow pit, how did it become a waterbody identification number (WBID)?

Answer from Evelyn Becerra, DEP: I am not sure if there have been any updates to that particular WBID but if you do have any suggestions, you can contact the Watershed Assessment Section, which is the group that makes those boundary edits.

Question on the DEP presentation: Are you going to include any TMDLs in Collier County in the Everglades West Coast BMAP?

Answer from Diana Turner, DEP: We will be looking into that. I do not recall what TMDLs might be in Collier County at the moment that we could include. That is definitely something that as part of the update we will look into to see what other TMDLs might be around.

Question on the DEP presentation: Have DEP, the Florida Department of Agriculture and Consumer Services (FDACS), or stakeholders considered stopping application of biosolids (Class AA and B)?

Answer from Diana Turner, DEP: I can get back to you on that one. I know there are a couple of bills out there this session that talk about biosolids but I can find out some more information and get back to you on that one.

Question on the FDACS presentation: Are there any agricultural operations enrolled in Collier County?

Answer from Jennifer Thera, FDACS: Yes, we did look it up while David was talking and we have 142,000 acres of agriculture that are in Collier County. Of those, 100,000 are enrolled and are made up of 86 notices of intent (NOIs). There is approximately for Collier County that is unenrolled, around 700 is not agriculture and 600 is not enrollable. If you want more information, they can contact me and I can give them more information.

Question on the FDACS presentation: We have no BMAPs in Collier County, but all of our estuaries are impaired for nutrients. We also do not have numeric nutrient criteria in our canals, so we will likely never have BMAPs for nutrients in our upstream fresh waters. So, there will not be a regulatory requirements for agriculture to enroll. Can FDACS encourage agriculture upstream of our impaired estuaries to enroll without a BMAP?

Answer from Jennifer Thera, FDACS: We cannot force them but they voluntarily enroll in our program because they understand the benefits of the best management practice (BMP) program.

Question on the FDACS presentation: Once they are enrolled, do you monitor if they are actually implementing the specific BMPs?

Answer from Jennifer Thera, FDACS: Yes, they have the implementation verification (IV) site visits. Every two years we will go out and visit the site and make sure that they are doing everything correctly and implementing everything that they need to be doing. If not, then we give them corrective measures to make sure that everything is working correctly.

Question on the DEP presentation: I understand the process, just need additional time to review and think through. Will there be more updates to stakeholders as this new method process moves forward?

Answer from Marcy Frick, Tetra Tech: Definitely. We will continue to be working with you all on this.

Question on the DEP presentation: The 2017 Caloosahatchee model revision went through significant stakeholder input and review, and the revision came about largely because stakeholders found problems with the 2009 model. Now, DEP proposes to reallocate loads based on a new model that stakeholders have not had an opportunity to review. As you move forward with updating the BMAP, stakeholders must have the opportunity to review the model and ask questions about how the loads were calculated. My understanding is that Linear Reservoir is a hydrologic model and does not have a water quality component. Therefore, a critical piece is how the flows were converted to loads. Linear Reservoir may indeed provide a better representation of loading than the 2017 HSPF model, but DEP cannot expect stakeholders to accept additional load reduction responsibility without an opportunity to do a detailed review of the model. Weren't loads calculated using Linear Reservoir?

Answer from Marcy Frick, Tetra Tech: We are not proposing to switch models. The process that Nikki just outlined is still based on the HSPF model it is just using proportions of the 2017 HSPF modeled loads to the more current measured loads and using that as a way to adjust the current model. I do not believe we are talking about factoring in the Linear Reservoir model. If that is a tool we should be looking at, we can discuss that further.

Answer from Nikki Morgan, DEP: This question makes me think that the person is saying that the SFER loads are determined by the Linear Reservoir model and I do not believe they are. It is loading

based on the structural monitoring.

Answer from Marcy Frick, Tetra Tech: Where we are mostly seeing the increase in loading is in the East and West subwatersheds, and I believe those are measured. Some of the tidal loading is from a model, and has always been from a model, so that has not changed.

Answer from Stacey Ollis, SFWMD: In the SFER in Chapter 8D, it does give an overview of how we do the calculations for the Caloosahatchee Watershed. You are correct, for the Tidal basin area, we do use the Linear Reservoir model to calculate the freshwater runoff from the Tidal basin. That is based on rainfall data on a daily basis. For further information on the model flows and loads, loads that we use for the Tidal Caloosahatchee, can be found in Chapter 8D with more information. [Note: Stacey provided additional detail about the model after the meeting. The Linear Reservoir model (Wan and Konyha 2015) calculates freshwater runoff from the Tidal Basin based on rainfall data on a daily basis. For each water year, the modeled flow is summarized into monthly flows which are multiplied by monthly observed water total nitrogen (TN) and total phosphorus (TP) concentrations in the tributaries to estimate the annual TN and TP loads. Further details on modeled flows and loads used for the Tidal Caloosahatchee Basin can be found in the SFER Ch. 8D (see Table 8D-11). Citation: Wan, Y., and K. Konyha. 2015. A simple hydrologic model for rapid prediction of runoff from ungauged coastal catchments. *Journal of Hydrology* 28:571-583.]

Answer from Marcy Frick, Tetra Tech: If there are concerns this, we can discuss it further. We are not seeing much of a difference, as Nikki showed, between HSPF and the current SFER load for Tidal. Where we are really seeing it is in the East and West subwatersheds where that is based on measured data.

Answer from Nikki Morgan, DEP: I also wanted to comment on the fact that stakeholders would have to accept a model that they have not had the time to go over. I absolutely agree with that – we would not be trying to have a new model this quickly, which is why we are not trying to update any of the modeling for the 2025 BMAP. Instead, using this measured data.

Question on the DEP presentation: With observed loading so much higher than estimates, can it be said that presumed compliance is not effectively reducing loading?

Answer from Nikki Morgan, DEP: It is one of those things where we definitely do not have a known reason for why loading is higher than what was modeled. I do believe that compliance is reducing loading but, unfortunately, the loading is still higher than what BMPs are capable of fully pulling out of the water. Agricultural enrollment is helping to reduce some of that loading but it is still more than expected happening to begin with.