

Indian River Lagoon (IRL) Basin Management Action Plans (BMAPs)
Florida Department of Environmental Protection (DEP) Webinar Summary

Thursday, November 13, 2020

10:00 am

Participants

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Lori Morris, SJRWMD
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Judy Orcutt, Citizen
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Robert Potts, E Sciences
Thomas Price, NASA
Kellie Ralston, ASA Fishing
Jeff Ratliff, Cape Canaveral
Kelly Reiss, Citizen
Sandra Reller, Titusville

Scott Reynolds, Indian River County
Will Rice, Indian River County
Ted Saltos, DEP
Doug Scheidt, NASA
Matthew Scriptor, Ecological Associates
Jimmy Sellers, Ecological Associates
Matt Shelton, TetraTech
George Simons, Carter Associates
Lorae Simpson, Florida Ocean
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Kalan Taylor, University of Florida
Jane Thompson, AECOM
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Amy Tracy, Hydro Solutions
Jose Vega, St. Lucie County
Charlie Venuto, Citizen
Rachel Vitek, E Sciences
Pam Wade, SFWMD
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Kalina Warren, DEP
Robert Watkins, Citizen
Laurel Webb, MSE Group
Arjuna Weragoda, Vero Beach
Benita Whalen, Dispersed Water
Katie Williams, Cummins Ceder Berg
Gary Wilson, Citizen
John Windsor, FIT
Louiza Wise, Northeastern University
Kelly Young, Volusia County

1. Opening Remarks

Tiffany Busby welcomed everyone and reviewed how the webinar software works. She noted that the meeting was being recorded. She also introduced DEP staff Sara Davis, Stacy Cecil, and Ted Saltos.

Tiffany added that after the meeting DEP would send out a follow up email with related meeting materials. These include today's presentation, a recording of the presentation, and a summary of the questions and answers.

2. Seagrass Analysis

Question: I live in Titusville, about 65 miles north of Sebastian inlet. The water here is so dark that you can't see the bottom in one foot of water. It is rare to catch any kind of fish here. It has been that way since June or July. There is virtually no seagrass here. Is anything being done in this area?

Answer: The North IRL BMAP includes Titusville and the BMAP provisions apply to that area. Also, there is an annual report posted online that describes the projects and where the projects are located; the latest report can be found at <https://floridadep.gov/dear/water-quality-restoration/content/statewide-annual-report>.

Question: Why was 1.5 meters used for compliance depth?

Answer: The lagoon is typically shallow except for the Intracoastal Waterway (ICW). The depth of 10.5 feet is close to the edge of the depth extent where seagrass can grow, so it is a good median value for the deeper seagrass. **Additional comments noted:** The BMAPs don't have a 1.5 meter compliance depth; the compliance depth is variable and dependent on the project zone at which you are looking. For the North IRL Project Zone A, the median depth limit is about 1.5 meters because that is the median of depth of all the points observed in the compliance set of the project zone.

Question: If we continue to not meet the seagrass targets will DEP move to a more predictable measurement method? There are too many factors that can affect seagrass growth and establishment. Not just the parameters we are currently reducing. Slide 21 is a prime example. Seagrass is not an effective measurement for compliance as we as stakeholders have been reducing loading for many years yet have failed to have any growth in new seagrass.

Answer: Currently, there are no plans to change the compliance measure, but DEP can't predict how the total maximum daily loads (TMDLs) might change in the future. Things do change, so it is possible it could change but there are no plans to do so right now.

Question: What effect did Hurricane Andrew (1992) have on the northern Indian River? We had only a breeze from it. We did have Hurricane Erin in 1995. It negatively affected seagrass beds for several years.

Answer: We would have to look at the different hurricanes and data to review the effects of any specific storm event. The dataset includes years with hurricanes and some without, so years with storms and without storms are represented.

Question: What is misleading about using areal extent of seagrass coverage that might be fixed by using a median or log normal transformation for a numerical analysis?

Answer: This is more a question of the additional information we would need to have to use the coverage.

Questions (2): The bathymetry is driving the analysis, when was the last time the bathymetry updated? What is the vertical precision? The depth of water in the lagoon is getting deeper with sea level rise, which is not considered by using the same bathymetry layer for all years.

Answer: The bathymetry is from 1996/1997 and the NVAD-88 elevations were used for the depth plots. The current bathymetry is what we have available to use. If there were enough resources to update the bathymetry, DEP would use that if it existed. The IRL is such a large

area, it would likely take a joint effort to undertake the creation of a new bathymetry dataset.

Question: What is a "point" with respect to the step 1 graph? I guess I'm asking if the points or grids are consistent year to year with the analysis?

Answer: A point is a simple measure of depth overlapped with where the seagrass bed occurs. DEP performs the same analysis every time. There is a point from the bathymetry dataset that has not changed. The seagrass maps change to reflect where the seagrass occurs but not the bathymetry.

Question: Big thanks to Stacy by the way. Those compliance targets are always difficult to explain to our Council and the general public and I think that was the best explanation I've seen by DEP to date.

Answer: Comment noted.

Question: Is water temperature recorded during the surveys?

Answer: Yes, water temperature is recorded.

3. Survey Feedback

Question: Is there any way for stakeholders to suggest policy changes for grants? Specifically, for our Public Works we can never get a grant to buy a street sweeper and match with our labor, but a street sweeper for us is orders of magnitude more efficient than things like baffle boxes or storm water parks that we have no problem getting grants for. Basically, just stating that it would be nice if grants allowed nutrient removal cost efficiency \$/lb TN/year. Can follow up with an email if this question isn't appropriate for this meeting. Meant to say, it would be nice if \$/lb TN/year was the primary scoring metric for municipalities applying for grants. Street sweepers get rejected because they fall under 'maintenance.' Or that is what I've been told by DEP, Lagoon Council, St. Johns River Water Management District (SJRWMD), etc.

Answer: The cost per pound is a consideration for certain funding opportunities. I think funding for equipment may not be available because it's for maintenance required by the municipal separate storm sewer system (MS4) permit, but I don't want to speak for Division of Watershed Restoration Assistance (DWRA).

Question: What is the policy for disposal of aquatic harvesting? For aquatic harvesting, we need the sliding scale for credits based on the distance the harvested material is placed from the shoreline.

Answer: There is a sliding scale based on distance cited in the DEP IRL aquatic harvesting guidance document. Disposal of the harvested materials right on the banks does not receive credit but disposal farther away from the IRL waterbodies can receive some credit on a case-by-case basis.

Question: What are impediments to accelerating the timetable to achieve TMDLs? What needs to be done to accelerate the timetable? What are impediments to accelerating the timetable to achieve TMDLs? What needs to be done to accelerate the timetable?

Answer: This was a question that DEP asked the stakeholders on the survey. The responses

often mentioned funding as a limiting factor. Also, there are certain entities that are limited by the area to build projects.

Question: Can stakeholders review the revised scope prior to DEP executing work?

Answer: Yes, we do plan to discuss the scope with stakeholders. We are at the beginning of the process, so the method of sharing has not yet been determined.

Question: Is SWIL modeling only used in the IRL or is it used in other BMAPs in Florida?

Answer: The SWIL Model was developed specifically for the IRL basins. The data that are used are specific to the IRL.

Question: For the BMAP reduction goals, do they take into account new sources? That is, with new development, the nutrient load is likely to grow.

Answer: There is a section in each BMAP in Chapter 4 that is called "Future Growth" that discusses these issues and how growth may affect our ability to meet the TMDLs. That is part of the adaptive management process that is taken into consideration with how we incorporate management strategies for each BMAP iteration.

4. Allocations & Reductions

Question: I have fished the Lagoon for 20 years and have seen the deterioration of the water quality and sea grass loss through the years. Brevard County has a plan to improve Lagoon water quality which is in the 4th year, this plan spending more funds on de-mucking to restore the Lagoon. If I am not mistaken, I think you are advocating de-mucking projects should not be a priority until the source causing muck accumulation is not removed first. I would appreciate hearing DEP confirmation of this. Thank you.

Answer: There is a clause in the muck guidance that all avenues of reducing muck accumulation from land sources need to be addressed prior to muck removal. It's better to prevent muck accumulation than depending on muck removal, which is expensive if it can be prevented. Muck removal projects do have their place in addressing nutrient loads. **Additional comments noted:** The muck flux is high enough that cutting all other sources to 0 is not sufficient. Brevard is targeting the dredging of organic muck that can be from decaying blooms, drift algae and seagrass, etc., not siliceous sediments coming from upland.

Question: When did dredging begin in Sebastian Inlet State Park, and when was it completed?

Answer: The project records submitted to DEP indicate this project started in 2019; the BMAP Program staff does not yet have a completion date on file. **Additional comments noted:** DEP & U.S. Army Corps of Engineers (ACOE) authorized the dredging at Sebastian Inlet State Park.

Question: Where can we find the IRL Muck Guidance?

Answer: We have a new page I'll mention later, but you can download several guidance documents here. <https://floridadep.gov/dear/water-quality-restoration/content/statewide-best-management-practice-bmp-efficiencies>.

Question: Do you have established credit calculation method for vegetative filter strips? Does it specify filter strip widths for associated credits?

Answer: Yes, there is a BMAP credit method for vegetative filter strips. It is listed in the "Green Infrastructure" category. We will have to check how the BMPTrains model calculates the benefits of filter strips and how width is considered. In BMPTrains, it looks like the width is a minimum of 10 feet and a maximum of 350 feet, when the reduction curve tops out. They also need to have the length, storage depth, width of feeder area, soil storage capacity (in inches) and the slope of the buffer width as well as the media type underlaying the filter strip.

Question: With downstream monitoring locations being used to verify reductions for non-verifiable projects, will that approach also be used to verify functionality of the Agriculture and Water Control Districts best management practices (BMPs) being used to cover their TMDL required reductions?

Answer: For agricultural BMPs, there are new verification requirements where inspections will be conducted every 2 years. There are also requirements to update the BMP manuals and to confirm the reductions we estimate are based on the best available science. We can also use the monitoring network to understand the loads and the reductions that are observed in some areas, which would include any of these BMPs in the area.

Question: Does the Department have average costs per pound removed for Nitrogen and Phosphorus projects from all the data that has been collected over the numerous years? That would help identify potential costs over the next years of the BMAP cycle for stakeholders.

Answer: Statewide, cost information is submitted by stakeholders. However, sometimes the costs of the project include other aspects of the project that are not specific to water quality. DEP is looking into and working out how to provide that information, but there is not currently a simple way to do that math. All the project information is provided in the statewide report which you can download and look at the project and cost information for yourself. Just keep in mind that there may be other project features that are included in the costs that were not water quality related.

Question: What did Town of Indian River do to obtain 100 % reduction?

Answer: They have an extensive swale network with very high removal efficiencies. The list of projects for each entity will also be listed in the BMAP. Note that the presented reductions are relative to their required reductions.

Questions (2): 1. Are there any projects to remove dead zones, such as bridges, canals? 2. I would like to be informed on the topic brought up by Mark - Dead Zones - Bridges and Culverts. Can you keep me in the loop?

Answer: We will need to follow up on this question. DEP doesn't recall any projects specific to bridges. DEP will follow up on this question and include other interested parties (e.g., Jane Thompson).

Questions (2): 1. Roughly you said about 1/3 reduction of total nitrogen (TN) and total phosphorus (TP) to date. However, there has been no increase in seagrass in this period. As a fisherman I relate to seagrass growth as indicator of improvement to water quality in the Lagoon. I think the general public (taxpayers) relate better to seagrass improvement as a basis of the Lagoon restoration. 2. The project list indicates that so many cities and towns and the counties are near or over 50 % of targets. Yet the Central Indian River and North have had persistent algal blooms since July. First brown, now green, which is ongoing. As compliance increased, so did

persistent algal blooms. Are the project effectiveness data accurate?

Answer: The project reductions are related specifically to addressing the TMDL reductions. The relationship of the reductions to meet the seagrass depth targets are established in the TMDLs. It is possible that there is a lag time between the implementation of a project and when the nutrient reductions result in favorable conditions.

Question: How are projects with biosorption activated media (BAM) calculated for credit? What is considered sufficient data?

Answer: It depends on the type of BAM and whether the efficiencies are already recognized as an approved type by DEP. If it is not already an approved type, DEP needs additional information on what nutrient reduction efficiencies the BAM type achieved. DEP will accept any kind of BAM if there is supporting information about the BAM, so we know what efficiency to apply. When BAM is used in conjunction with a structural BMP or in a treatment train, DEP can credit the non-BAM portion of the project while awaiting supporting information about the efficiencies specific to the BAM being used. In terms of sufficient data, it does depend on the kind of project. Generally, it is more than a few months of data, but DEP doesn't need a decade of data either. Making sure that representative conditions (such as rainfall) are captured is important.

Question: Can seagrass analysis be used to assess success of projects to reduce nutrients?

Answer: It is an indirect relationship between seagrass and a specific project. However, the reduction of nutrients may improve water quality conditions and therefore improve conditions for seagrass growth.

Question: How are reductions determined for a project and compared to predicted reductions associated with formulation of the project? How are reductions determined for a project? How are reductions determined for a project where there is insufficient or no measured data?

Answer: It depends on the type of project. The DEP BMP Efficiencies document that provides guidance describes how different kinds of projects are credited. Some projects are credited based on their starting load from the load estimation tool based on the SWIL Model. Then efficiencies are applied. Some projects have other approaches, such as street sweeping, based on the weights collected. Other projects are based on measured data—so it does depend on the project. Where there are measured data, we look at the data from the monitoring network or the project sampling. The document I mentioned about the efficiencies can be found here:

<https://floridadep.gov/dear/water-quality-restoration/content/statewide-best-management-practice-bmp-efficiencies>. The methods are based on studies and Florida-specific values.

5. Timeline and Milestones.

Question: Why is there not a TMDL target calculated/set for the South IRL (SIRL) project zone?

Answer: The southern portion doesn't currently have a nutrient impairment, so TMDL targets have not been established for that area.

6. Adjourn

The meeting adjourned at 12:05 pm.