

**North Indian River Lagoon, Banana River Lagoon, and Central Indian River Lagoon
Basin Management Action Plans (BMAPs) Meeting**

Wednesday, March 11, 2020

2:00 PM

Melbourne City Hall Council Chamber
900 E. Strawbridge Avenue
Melbourne, FL 32901

Attendees

Tim Ayers, Citizen
Virginia Barker, City of Melbourne
Terri Breeden, Brevard County Natural
Resources
Vincent Burke, IRL
Tiffany Busby, Wildwood Consulting
Alvares Carvina, BCNRMD
Chris Caschera, Wildwood Consulting
Jacob Catchpole, Citizen
Stacy Cecil, DEP
Danossa Chambers, City of Vero Beach
Eric Charest, Indian River County
Sara Davis, DEP
Doug Durham, NASA
Yesenia Escribano, FDACS
Pattie Gertanbach, E Sciences
Ricardo Gil, Mead 2 Hunt Inc.
James Glass, FFRA
Karla Guerrero, United States Air Force
Lauren Hall, SJRWMD
Tyna Lynn Hilton, City of Edgewater
Danielle Huffner, Applied Ecology Inc.
Chuck Jacoby, SJRWMD
Mike Johannsen, IRNA
Abby Johnson, SJRWMD
Vo Kariuki, City of Rockledge
Molly Klinepeter, IRL
Kathy LaMartina, SFWMD
Zachary Leibowitz, Applied Ecology Inc.

Kenneth Ludwa, BSE Consultants
Kelsey Mack, City of Cocoa Beach
Leslie Maloney, Citizen
Mark Mathes, City of Fellsmere
Bach McClure, Brevard County
Victoria Messina, Messina and Associates
Matt Mitts, City of Vero Beach
Richard Mutterback, City of Vero Beach
Edward Northey, FDOT District 5
Keegan O'Brien, MSE
Judy Orcutt, Clean Water Coalition
Maria Paituvi, E Sciences
Nico Pisurello, ATM
Ken Poole, City of Rockledge
Robert Potts, E Sciences Inc.
Thomas Price, KSC
Jeff Ratliff, City of Cape Canaveral
Nicolas Rayas, City of Fellsmere
Sandra Relle, City of Titusville
Gary Ritter, Florida Farm Bureau
Ted Saltos, DEP
Matt Scriptor, Ecological Associates Inc.
Dave Sinton, Town of Melbourne Village
James Sloan, Brevard County Water Control
District
Robbyn Spratt, Brevard County
Dani Straub, City of Melbourne
Jose Vega, St. Lucie County
Kaylene Wheeler, IRL NEP

Welcome and Opening Remarks

Tiffany Busby welcomed everyone to the Indian River Lagoon (IRL) public meeting and outlined the agenda for the day for all three BMAPs associated with the IRL (The Banana River Lagoon [BRL], Central Indian River Lagoon [CIRL], and North Indian River Lagoon [NIRL]). Tiffany thanked Dani Straub and the City of Melbourne for the use of their meeting room. Contact information for the Florida Department of Environmental Protection (DEP) coordinators

was provided in the PowerPoint. Tiffany mentioned that the DEP GovDelivery system for meeting announcements now allows stakeholders to manage their subscriptions on the DEP website.

Tiffany presented a map of the three BMAPs in the IRL. Background information was given to the stakeholders on the current requirements associated with the IRL. She explained that DEP implemented total maximum daily loads (TMDLs) that were adopted in 2009 and were based on restoring seagrasses in the lagoon. Tiffany stated that the 2009 TMDLs were used in the 2013 BMAP and, because of the geographic diversity of the IRL, the area was divided up into the BRL, CIRL, and NIRL. Tiffany explained that in 2013 the seagrasses were in better shape than they are now. She stated that currently the NIRL Zone Project A and CIRL have no allocations assigned, but BRL B and north NIRL do. Tiffany informed stakeholders that some proposed changes include possible revisions pertaining to the current IRL BMAP boundaries. Tiffany mentioned a new model, the Spatial Watershed Iterative Loading (SWIL) Model, will help revise the current BMAPs in place. Tiffany stressed that this new model brings in better information on the hydrology, land use, and other data associated with the IRL.

Tiffany stated that the next steps taken in 2020 will include one-on-one follow-ups with stakeholders. She added that a public meeting is proposed in the July 2020 timeframe and that the plan is to update all three BMAPs by the end of this year. Tiffany emphasized that stakeholder projects will be assessed and updated with the SWIL Model to include them in the 2020 revised BMAP.

Dave Sinton asked if the draft allocations have been published yet. Sara responded no and that today's meeting will review the timeline for the allocations.

Tiffany introduced the new DEP staff working on the IRL team including Stacy Cecil, DEP Coordinator for the BRL and NIRL, and Ted Saltos, DEP Coordinator for CIRL. Tiffany also reminded stakeholders that Sara Davis, DEP Environmental Manager, is still overseeing all three of the IRL BMAPs.

Indian River Lagoon (IRL) BMAPs 2020 Update

Ted gave a general overview of the proposed 2020 IRL BMAPs components, including modeling and allocations based on the SWIL Model, refinements to BMAP boundaries, revisions to the monitoring network, and updates to the milestones that will lead to meeting newly allocated BMAP requirements.

Ted explained that the SWIL Model was discussed in more detail in prior webinar meetings. He stated that the allocations for the CIRL and BRL A will be developed with refinements made to BRL B and NIRL allocations based on feedback. Ted introduced the basinwide sources approach to the stakeholders and stated that this approach was incorporated in the recent Northern Everglades BMAPs. Ted added that using this approach in the IRL will allow for a tailored and managed strategy to address individual source categories of nutrient loading in the IRL basin.

Ted stated that the SWIL modeling and allocations were discussed during the January and December 2019 webinars with collaboration from stakeholders. He added that as part of that process, the SWIL Model uses updated soil, rainfall, and land use data and incorporates data with greater spatial and temporal resolution, which allows for more accurate load estimates. He explained that SWIL is a Python-based spatial model utilizing a geographic information system

(GIS) platform and is used to explore customized scenarios on the effects of different loading sources on the lagoon.

Ted explained that the SWIL Model calculates the loading of total phosphorus (TP) and total nitrogen (TN), and that information is converted to load per acre per year across a spatial grid. He added that loads from the SWIL Model will be multiplied by the percent reduction indicated in the TMDL rule for that segment area. Ted showed the stakeholders a slide summarizing the percent reductions that can be found in 62.304.520, Florida Administrative Code. Ted then reintroduced the approach taken with the water control districts (WCDs) within the three BMAPs. This approach is like that in the Caloosahatchee and St. Lucie BMAPs. Because WCDs have limited control over the lands within their jurisdiction but do have control over their canals and rights-of-way, DEP will require each WCD to commit to a list of activities performed on their canals and rights-of-ways in lieu of a numerical allocation. Required activities will be derived from primary land use types found within the WCD jurisdiction. These activities will be reviewed by DEP and agreed upon in advance with each WCD. Ted provided an example of certain levels of urban or agricultural land use DEP would set as a threshold to require public education efforts or agricultural producer enrollment assistance. He reminded stakeholders that, in addition to the WCD activities, there may be other structural or non-structural BMPs to reduce loading that are reported to DEP and listed in the Statewide Annual Report (STAR).

Ted also presented information on wastewater treatment facilities (WWTFs) stating that there may be more stringent requirements implemented in the updated BMAPs.

Ted then showed boundary refinements from the SWIL that were based on the hydrologic connectivity of each part of the basin. He explained that the SWIL would be used to delineate the updated BMAP boundaries, as discussed in previous webinars.

Ted presented the feedback from stakeholders based on a December 2019 poll on how to track project reductions. He stated that approximately 20 % recommended the use of TMDL segment groups while 40 % preferred project zones and 40 % BMAP boundaries. Ted pointed out that the most popular choices were project zones or using the BMAP boundaries. Ted stated that DEP has recommended using 4 project zones for the CIRL (Zone A, Zone SEB [Sebastian River], Zone B, and Zone SIRL [South Indian River Lagoon]), and two project zones (Zone A and Zone B) for the NIRL. He added that BRL would no longer use project zones to track project reductions but would consider the BMAP boundary as a whole.

Ted presented that a review of the BMAPs monitoring networks is being done in collaboration with the St. Johns River Water Management District (SJRWMD) to look at any necessary changes to include in the updated BMAPs. Ted added that with this process, it is possible new stations would be added to the networks to track water quality improvements throughout the basin.

Ted stated that DEP will develop load reduction milestones for the IRL BMAPs to guide progress towards the required reductions. In the 2013 BMAP, a 5-year reduction goal was set for TN and TP to meet 15 % of the total required reductions. For the updates to the BMAPs, the SWIL Model will be used to develop feasible milestones set at 5 years (2025) and 10 years (2030) after the 2020 updates.

Dave Sinton asked about the area in the SIRC that is no longer in the BMAP area, based on the new boundary. He asked to see the map of new location boundaries and asked about the legend. Ted said the green boundaries are based on the 2013 BMAP boundaries and blue-hatched areas are adjustments based on the SWIL Model. Sara Davis mentioned that the SIRC was not modeled originally when the TMDLs were done, and the SWIL captures the area relevant to loading coming into the lagoon.

Virginia Barker asked about the spatial approach for the BRL and why the project zones were not being used. Virginia stated that she questions whether the BRL behaves as if it is one basin. Ted replied that individual project zones were not used, in part, because of the large amount of natural lands in the BRL compared to the other two IRL areas. Virginia stated her concern was assigning more load reductions for urban areas when much of the loading is coming from the natural lands. Tiffany added that having the BRL as one zone provides the most flexibility to put projects where they make the most sense geographically, and this may aid in the reduction of loading overall. Tiffany added that the BRL has a long residence time which makes it particularly sensitive to external loads. Sara agreed with Virginia that the BRL is the most difficult to determine the best approach, whether we used project zones or not, so the most flexible option seems to be the best option. Since this set of BMAPs is not an endpoint, we can come back to this later and adjust the approach, if needed.

Matt Mitts asked about how far along the DEP was with the proposed 2020 timeline (March-June) allocation discussion process and when the allocations would be assigned. Ted replied that draft allocations will be done within the next month. Matt asked why the WCDs will have no numeric allocations. Ted replied that the WCDs are not receiving required reductions as a number. However, it is required for the WCDs to commit to activities which will contribute to reductions. Ted added the WCDs have been cooperative with a similar approach done in the new St. Lucie BMAP. Matt also asked about proposed state legislative changes to the septic system requirements affecting this BMAP. Sara replied that DEP is still discussing any actions that may come out of the legislative session, but another tentative public meeting in July can address those issues once the session is complete.

Leslie Maloney asked if the WCDs included mostly agricultural lands. Ted replied that it depends—many have mostly agricultural lands, but some have substantial urban lands as well. Leslie stated she was confused why the WCDs are not given a numeric allocation and how their lands are monitored for loading and how often. Ted responded that the WCDs must submit annual plans to DEP with updates on their activities in addition to reporting projects annually. The strategy came from an adjustment to the original approach which allocated their whole boundary area including lands over which they did not have direct control. This approach focuses on the types of activities that the WCDs can conduct that help to reduce nutrients. DEP moved to this approach in the St. Lucie with a positive response and cooperation from the WCDs. Sara reiterated that the WCDs don't have control over all the lands in their boundary. DEP wants them to focus on the things they are able to do to assist with load reductions. Under this approach, WCDs and other entities report every year on their activities whether they have a numeric allocation or not. This provides requirements for the WCDs and we have discussed possible approaches with each of the WCDs in the CIRC over the past year. The approach has not been finalized, but DEP has discussed the St. Lucie activity-based approach and their individual activities with them. Sara added that canals and rights-of-way of the WCD areas are fairly small, even though the canals are conveying loading from a larger area. We are trying to

stop the conveyance of the loads which are largely coming from areas outside the WCD control. This approach seems to be the most appropriate given the small area the WCDs are managing.

Vincent Burke suggested it would be best if there were qualitative and quantitative numbers assigned to the WCDs; a report doesn't seem sufficient. Sara asked if Vincent was suggesting monitoring of the WCDs. Vincent replied that there should be a large amount of data measuring the results in a similar fashion to the WWTFs, who are a small part of the overall load but measure their loads and report them. It doesn't make sense that the large land areas and their loads are being asked to submit a report but not required to quantify their loading. Sara responded that there is variability in how the different WCDs are monitored and different opportunities for monitoring those inputs. DEP looks at the measurement of WCDs loads like the stormwater loading from a city or a town. If there is a particular urban stormwater BMP, like a wet detention pond, we can quantify the estimated benefit from that pond even if the pond is not directly measured. We are not asking the WCDs what they are going to do and leaving it at that. Just because WCDs do not have a numeric allocation, we are still expecting a certain level of the benefits from their activities and scrutinizing those to make sure we are seeing benefits.

Vincent commented that the individual sources of loading varies, so how does the basinwide sources approach work. Ted replied that the approach is better described as dividing up the loading into categories such as agricultural nonpoint sources, WWTFs, septic systems, and urban stormwater. Sara asked if Vincent has reviewed the St. Lucie BMAP. She explained the St. Lucie BMAP provides an extra level of requirements that are not the responsibility of a single entity. Across the BMAPs, we want to do a better job at addressing all the source categories, including those sources that are outside the responsibility of a single entity. If you read the St. Lucie BMAP and you have questions, please let us know, because we expect a similar approach to be used in these BMAPs.

Vincent asked if it is true that the Florida Legislature allocated some additional funding to the SJRWMD for water quality testing and where those resources will be used in the IRL. Chuck Jacoby responded that the SJRWMD has been asked to provide a range of inputs on monitoring efforts they could potentially do if resources were available. If additional resources are provided, the most likely activities include some additional work on harmful algal blooms like blue-green algae blooms in the St. Johns River and work on some of the other types of algae we see in the IRL, as well as some work on how biosolids interact with the environment. There is a long list of potential activities from all the water management districts that could potentially be funded. For the IRL region, the number of monitoring changes proposed is relatively small.

Vincent also asked about nutrient loading and setting effluent limits. Ted replied that they expect to categorize this based on volumetric discharge and set these limits on domestic treatment facilities. He added that above and beyond the permit requirement can be credited as a BMAP project.

Tiffany added that the high volume and rapid rate of disposal where the load is not fully attenuated before it reaches the lagoon is more of a concern. Low volume or non-rapid infiltration areas have much slower rates and are thus less of a concern.

Vincent added to the discussion that Florida is adding more people to the state every day and that, because of this, there is a higher amount of wastewater needing treatment. He expressed his concern about the technological limitations of additional treatment capacity. The DEP staff noted

his concern and added that DEP will continue to work with WWTFs and utilities to confront the issue of future growth. Tiffany replied that DEP acknowledges that the WWTFs are dealing with population growth and, in some areas, septic system phase outs which result in more flow to WWTFs.

Dani asked about WWTF 5-year permits and when they would be changed to meet any new wastewater provisions. Sara replied that new permits are issued based on the permit cycle and that the DEP district offices work with the permittees to establish a compliance schedule with any new concentration limits in the permit.

Virginia stated she wanted to back up Vincent's concerns. She noted that we have quantified data for our point source loading. Then for stormwater, even though we use assumptions about how well those projects perform, we have decades of data on how those projects perform from TMDL grants, §319 grants, and other required monitoring, so those assumptions are based on the summary of a lot of data and should be good estimates. For some other BMPs, however, there are less data and no hard science on which to base those assumptions. Virginia stated that she didn't have a suggestion for a better way to address WCDs, but the concerns she shares are questions about the assumptions for the WCDs and what is DEP doing to improve those assumptions.

Dave asked about the weir on Crane Creek and if the SWIL considers how flows differ during heavy rainfall. Sara replied that, in general, when a model is created rainfall and hydrology are looked at and would be included in the SWIL if the weir directs water to different areas.

Virginia added that the Crane Creek weir is new, so it was excluded from the hydrologic factors in the SWIL Model. However, Sara stated that DEP can sort out the reduction credits associated with any new weirs or hydrologic changes. Ted said that the St. Lucie Estuary has a similar situation with the release of water from Lake Okeechobee to the C-44 Canal. He added that accounting for any new, external sources of loading is a top priority. DEP can also use monitoring to account for external sources of loading.

Leslie stated she was confused about how we know what activities are working and how you move forward without that. Tiffany mentioned that there is not direct monitoring of the reductions on every project currently within in the IRL, but we do have numbers and a basis of data on the efficiencies of different kinds of BMPs if we don't have actual data from a project site. We also use water quality monitoring data to see how water quality is changing. We have so many projects that it is not possible to monitor each one. So, we do use data to measure projects and conditions. She added that most projects and their reductions are estimated based on research from other stormwater projects and these data are used to define the credits, so that not every project needs to have monitoring data. Tiffany mentioned that we do have a recourse with the WCDs if they are nonresponsive, we could assign quantitative allocations to them in the future, but it may not make that much difference in our expectations in what we ask them to do.

Gary Ritter asked about the increase in the monitoring network. He asked if the gaps in data will be filled with the SJRWMD and DEP updates to the monitoring network. Sara replied that they have just started the monitoring plan review and will know more information by July and will see if more stations will be needed to fill gaps.

Virginia asked about DEP wastewater estimation approaches for estimating the load from reclaimed water. Tiffany replied that there is a process for that based on estimates of attenuation of nutrients for different disposal types. In a permit, reuse means both groundwater disposal and public access reuse to a golf course or other irrigation. She explained that, in general, rapid rate disposal systems are considered to be less attenuated where there is less time for vegetation to uptake the nutrients in the effluent compared to slower disposal methods. Virginia asked if DEP would look at these sources as part of the BMAP approach. Tiffany responded that we expect to see some consideration of these sources, based on the recently updated BMAPs. Sara added that there are projects for reusing water versus discharging that water, and DEP has a process to calculate credits for those types of projects. Additionally, DEP has an approach for looking at wastewater and their reductions and nutrient limits. Therefore, there are two different types of situations where reuse is evaluated in a BMAP and we can talk more about those in July. Tiffany has been working on the wastewater data and by July we will have some examples to share.

Proposed Allocation Approach

Stacy provided further explanation on how the load estimation tool (LET) was developed so that DEP can allocate responsibilities in the IRL BMAPs. DEP will talk individually with stakeholders and share GIS shapefiles of their areas of responsibility.

Stacy mentioned that the SWIL used an aggregate of rainfall data from 2004 to 2017 in the model and land use that was based on the SJRWMD and South Florida Water Management District (SFWMD) coverages combined with other local data. She added that 50-by-50-meter squares were assigned individual values for TN, TP, and volume, and runoff and baseflow contributions were also identified. She explained that these squares were combined with land use and project zone geometry in each BMAP to generate TN and TP loads within specific areas.

Stacy stated that the LET is used to calculate both allocations and project credits. She added that any project credits based on modeled base loads will be recalculated using the load estimation tool. She stated that this includes projects such as education efforts, detention/retention ponds, etc. Project percent efficiencies that have already been agreed to can be used in combination with the updated base loads. She stated that new projects should be submitted between March and June so that they can be clipped to the LET. Stacy added that any project credits calculated based on materials collected, like street sweeping or basin cleanouts, will remain the same because the calculation approach is not based on the modeled load.

Robert Potts asked about project credits and how the BMAP calculations relate to water management district permit requirements. Sara replied that DEP coordinators can address these FDOT project calculations in the upcoming individual meetings. Sara explained that going through their project list will help stakeholders understand which projects will need to be recalculated.

Stacy displayed a list of entities that are being considered for allocations. Stacy mentioned that if anyone is aware of any stakeholders missing from the IRL draft allocation list, they should contact her or other DEP coordinators immediately.

Stacy walked through the handout given to stakeholders detailing the revisions associated with the SWIL Model. Stacy noted that each stakeholder who is part of the IRL BMAP should receive an individual shapefile within the revised BMAP boundaries in the coming weeks. She then

explained the handout, stating that first, there would be a removal of any regional project areas. She gave an example in the southwest corner of the CIRL where no allocations would be assigned. Stacy explained that the Florida Department of Transportation (FDOT) and Turnpike Authority will be given their own allocations for their rights-of-ways and those loads will be removed from other stakeholders' areas. She added that the WCD canals and rights-of-ways will be removed next, so that these loads aren't assigned to other stakeholders. The agricultural allocations will be separated out next. Stacy stated that no entities would have allocations attributed to their natural lands, so those are removed next. She explained that municipalities and federal agencies will have their areas next, and the remaining areas will be assigned to each county.

Stacy provided an example calculation for required reductions. The total required reduction is equivalent to the total load of a TMDL segment group, including those loads from natural lands, multiplied by the segment group percent reduction. The anthropogenic load from each entity is then used to determine each entity's percent contribution to the total anthropogenic load within the segment group. The total required reduction for the segment group is then multiplied by each entity's percent contribution to determine load responsibilities within a segment group. If the entity has loads from multiple segment groups within the same project zone and/or BMAP, the load responsibility is summed to determine each entity's required reduction.

Stacy provided an example slide with sample SWIL starting loads for each IRL BMAP.

Robbyn Spratt asked about how mosquito impoundments were classified in the land use types in the model. Sara replied that natural lands may include mosquito impoundments, but they would need to confirm that. Robbyn also asked about whether cross mitigation was allowed. Sara stated that a credit trade could be done if it met the water quality credit trading rule that applies statewide.

Stacy reminded stakeholders that they should receive individual shapefiles in the next few weeks so they can review them before meeting with the DEP.

Next Steps

Ted mentioned the remaining next steps that DEP is taking, including finishing draft calculations for allocations and recalculated project credits so that conversations can be held with individual stakeholders, collecting new project information, finalizing WCD activities, and updating monitoring networks as needed.

Ted then presented the next steps that all stakeholders can anticipate. Ted asked stakeholders to provide their availability in the next few weeks for the individual meetings. He added that June 30, 2020 is the deadline for any new projects to be submitted to DEP to be included in the revised BMAPs. He added that seagrass analysis will be done by the end of the year. Ted reminded stakeholders that DEP will hold additional public meetings in 2020 with the next meeting tentatively scheduled in July.

A slide with DEP coordinator contact information was shown.

Questions, Comments, Discussion

Sara reminded participants that stakeholders with new projects that can reduce loading should submit them to DEP no later than June 30, 2020.

Virginia asked about how far along DEP was in constructing the milestones for the revised BMAP. Sara mentioned that DEP wants to set 5-year TN and TP milestones in coordination with stakeholders and would like to recalculate project credits before finalizing the milestones.

Virginia asked about how Brevard County's partnership with other local communities would affect their entity's credits and load reductions. Sara stated that the DEP would like to work with the county and municipalities to setup a better way to represent these partnerships in terms of BMAP credits. Tiffany mentioned the best way to report that could be talked about when DEP staff has their individual meeting with Brevard County and coordinated with all involved entities to allow for accurate representation in reporting.

Tiffany asked if there were any other action items or questions.

Leslie asked about whether funding was going to regional projects in the area. Sara replied that funding is going towards larger projects such as these across the state, and a separate DEP group manages funding at DEP.

Yesenia Escribano asked about how the SWIL reflected land use changes. Sara responded that specific issues like this can be discussed in the individual meeting between DEP and the stakeholder.

Gary asked how IRL NEP-funded projects will be included in the updated BMAPs and how they will be credited. Sara replied that DEP plans to discuss this with the NEP and that the DEP will coordinate with them and other entities on how to list and credit them. Kaylene Wheeler added that she had also planned to discuss the NEP projects with DEP staff.

Adjourn

The meeting adjourned at 4:06 PM.

Action Items

1. Stacy will email Robbyn Spratt about mosquito impoundments and how they relate to the allocation in the SWIL starting loads.
2. DEP will send a GovDelivery email to the stakeholders that will contain a link to the meeting materials.
3. Stakeholders will contact Stacy or Ted with availability, including specific dates and times, to meet by phone about allocations. A doodle poll will be linked in the GovDelivery announcement with a series of potential dates for stakeholders to request meeting times between March 23 – April 24, 2020.
4. Stacy and Ted will send stakeholders their allocation areas as GIS files for review so that DEP staff can meet with stakeholders individually in the coming weeks.
5. Stakeholders will send their new project information to Stacy or Ted no later than June 30, 2020.
6. Stakeholders should inform DEP immediately if any stakeholders are missing from the list of IRL responsible entities (shown the PowerPoint), so that information can be used in the allocation process.