

Caloosahatchee River and Estuary Basin Management Action Plan (BMAP) Technical Meeting Summary

*Lee County North Fort Myers Public Library
2001 N. Tamiami Trail, North Fort Myers, FL 33903
Meeting Room AB (NF)*

Attendees

Nathan Beals, Lee County	Julia Lomonico, SFWMD
Randy Burden, Ecosense Int.	Ansley Marr, SFWMD
Emily Canney, SFWMD	Linda McCarthy, Lykes
Marisa Carrozzo, Conservancy of SW FL	Kelly McNab, Conservancy
John Cassani, Calusa Waterkeeper	Kelly O'Nan, Hendry County
Roy Curry, Hendry Soil & Water Cons. District	Roland Ottolini, Lee County
Sara Davis, DEP	Ximena Pernet, SFWMD
Mark DeCiceo, Calusa Waterkeeper	Tommy Perry, Johnson Prewitt
Kate English, Pavese Law Firm	Libby Pigman, SFWMD
James Evans, City of Sanibel	Jason Pim, Calusa Waterkeeper
Kim Fikoski, SFWMD	Nicolas Pisarello, ATM
Sommer Foster, Johnson-Prewitt	Holley Rauen, Calusa Waterkeeper
Marcy Frick, Tetra Tech	Maya Robert, City of Cape Coral
Gene Gibson, CRCA/River Watch	Maria Romero, Lee County
Kyle Grandusky, GMA Water	Darren Rumbold, FGCU
Tricia Hobson, FDACS	Steve Smith, Gulf Citrus Growers
Steven Kelly, FDOT District 1	Amy Thibaut, Pavese Law Firm
Lisa Kreiger, Lee County	Richard Thompson, City of Fort Myers
Alexandra Kuchta, DEP	Andy Tilton, Johnson Engineering
Donald Lees, Calusa Waterkeeper	Rae Ann Wessel, SCCF

Welcome and Opening Remarks

Marcy Frick welcomed everyone to the Caloosahatchee River and Estuary BMAP meeting. The participants introduced themselves and the entity they represent.

Background

Sara Davis stated that the adopted BMAP includes the three waterbody identification (WBID) numbers for the estuary (3240A, 3240B, and 3240C). In early August, total maximum daily loads (TMDLs) for five impaired tributaries were also adopted. The estuary TMDL is only for total nitrogen (TN) but the tributaries TMDLs are for TN, total phosphorus (TP), and biochemical oxygen demand (BOD). The BMAP boundary is being expanded to include the tributaries. The BMAP was adopted in November 2012 for the estuary portion, and the 5-Year Review was completed in November 2017 to meet statutory requirements. The Florida Department of Environmental Protection (DEP) had already planned to update the BMAP based on the 5-Year Review recommendations but then the Governor issued Executive Order 19-12 in January 2019, which required that the BMAP be updated within one year (January 2020). The BMAP update will include the expanded boundary, new tributary TMDLs, new stakeholders, revised monitoring network, milestones for reduction targets, and new and future projects.

Allocation Calculations

Marcy reviewed the allocation approach and draft existing loads. The allocations are calculated in two parts. Part A establishes reductions for the estuary, which apply to all stakeholders in the watershed. DEP created a geographic information system (GIS) shapefile using the average of the Hydrological Simulation Program – FORTRAN (HSPF) watershed model outputs for the 2005–2014 period. The jurisdictional boundaries provided by the stakeholders were used in a series of clipping steps to determine the TN existing load assigned to each stakeholder. Marcy noted that the initial shapefiles from the clipping process were provided to the stakeholders for review. The presentation uses these shapefiles but the clipping process will be updated with the feedback received on the allocation areas.

The first step in the clipping process is to remove the water management areas (WMAs). The purpose of this step is to remove the loads from the previous land use that has now been replaced by a WMA. The WMAs clipped in this step include the C-43 reservoir, Lake Hicpochee flow equalization basin, and Nicodemus Slough. These projects and any estimated nutrient reductions will still be included in the BMAP. The total required reductions from the watershed will be determined using the base map minus the WMAs. Marcy stated that if there are other WMAs that should be removed in this step, the stakeholders should let DEP know by the end of the week. James Evans asked if Nicodemus Slough is a permanent project or a dispersed water management (DWM) project. Ansley Marr responded that it is a DWM project.

Marcy stated that the next step is to clip out the natural areas, which are saved in a separate shapefile. The loads from the natural lands are still considered in the allocation process. The third step is to clip out the agricultural areas, which are saved in a separate shapefile. Producers must enroll in best management practices (BMPs) or monitor water quality, and regional projects will be needed to address any additional load reductions. The fourth step is to clip out the Florida Department of Transportation (FDOT) roads and rights-of-way (ROW) and assign that area to FDOT. The fifth step is to clip out the water control district (WCD) canals and ROWs. Marcy noted that the WCDs will not receive a numerical allocation. Instead, DEP is working with each district to determine appropriate BMPs to address water quality within the canals and along the ROWs. The sixth step is to clip out the community development districts (CDDs), including the Lehigh Acres Municipal Services Improvement District. Each district receives its own shapefile with the allocation area. The seventh step is to clip out the cities and assign an allocation area to each city. The final step is to assign the remaining area to each county. Marcy presented a table summarizing the draft acres and TN existing load assigned to each stakeholder at the end of the clipping process.

Marcy stated that the next step will be to calculate the required reductions, which will occur after DEP updates the clipping with the recommended changes from the stakeholders. The draft TN existing load for the entire watershed, which is the attenuated load that reaches the river and estuary, is 3,953,940 pounds per year (lbs/yr). This load was multiplied by the TMDL 23 % required reduction to determine a draft total required reduction of 909,406 lbs/yr. The required reduction can be assigned to each stakeholder based on their percentage of the existing load. For instance, if a stakeholder is 5 % of the existing load, they will receive 5 % of the required reductions. This process will result in the required TN reductions for all the stakeholders to achieve the estuary TMDL.

Part B of the allocation process is to calculate the required reductions for the stakeholders in the impaired tributaries watersheds. The same clipping process will be used for each tributary to determine

both the TN and TP existing loads by stakeholder, which will be based on the unattenuated load to the impaired tributary. The TMDL percent reductions, which range from 2 % to 48 % will be applied to determine the required reductions. Stakeholders within multiple tributaries will have the required reductions added together. The TP required reductions will be assigned to the tributary stakeholders. The TN reductions for the tributaries will be compared to the TN reductions for the estuary for that stakeholder. The higher reduction will be the final TN required reduction for that stakeholder. Marcy presented the draft existing loads for each tributary. Tommy Perry noted that Nicodemus Slough was not clipped out of the C-19 loads. Marcy responded that this will be corrected in the updated clipping.

Kyle Grandusky asked what reductions the stakeholders outside the tributaries will receive. Marcy responded that all stakeholders receive a TN required reduction under Part A. Only the tributaries stakeholders will receive a TP required reduction under Part B. Darren Rumbold stated that the 23 % reduction is based on the 2009 model that many stakeholders had concerns about because it did not include several components of the system. He asked why updating the TMDL is not on the schedule. Sara responded that DEP has been working on evaluating the TMDL target. In addition to the HSPF model for the watershed, the Environmental Fluid Dynamics Code (EFDC) model was developed for the estuary. DEP must use the TMDL in rule to update the BMAP. Darren noted that the TMDL may change in the future. Sara responded that this may occur, and DEP is taking the time to make sure that an updated TMDL is acceptable. DEP must update the BMAP by January 2020 so they have to use the current TMDL. Darren stated that the TMDL needs to be updated soon before efforts go too far. He is concerned that restoration may not be achieved because color is the estuary's biggest issue. Sara responded that there are multiple factors that affect the estuary and the focus of the BMAP is on the nutrient impacts. Maya Robert asked if the higher TN reduction will be assigned. Marcy responded that for the tributary stakeholders, the higher TN reduction will be assigned since it will achieve the reductions needed for both the tributaries and the estuary. Maya noted that the focus on TN may affect the TN and TP relationship in the watershed.

John Cassani stated that there could be legacy loads in the WMAs. He asked how these loads will be included. Marcy responded that the WMAs are being removed because the land use loads are no longer there. She is not sure if there is any information on the legacy loads in the soils that could be used for the BMAP update. John noted that he also was not sure if there were any data but this load could have an impact on the groundwater. Darren stated that the handout notes that benchmarks other than the TMDL will be used to help prevent algal blooms. He asked if any of this information is being used to prevent blooms within the C-43 reservoir. Marcy responded that the South Florida Water Management District (SFWMD) is conducting a feasibility study to evaluate water quality treatment options before the reservoir, within the reservoir, and after the reservoir. Marcy reminded the stakeholders that their project information is due this Friday, August 30th, which will be used to determine project credits towards the required reductions.

Targeted Restoration Area Approach

Sara stated that DEP is using the new term "targeted restoration area" in a process to prioritize resources across all three Northern Everglades watersheds. DEP is identifying smaller basins in each watershed and gathering measured data within each basin to evaluate targeted restoration areas for TN, TP, and flow. The basins will be prioritized by comparing the water quality and flow data to benchmarks. Sara presented a draft map of the Caloosahatchee basins. She noted that DEP combined some of the HSPF model basins to create the draft delineations shown in the presentation. SFWMD also has basin

delineations and DEP is in the process of comparing the two delineations to determine the final basins. Sara noted that the basin delineations for the tidal portion are not included in the presentation but are included in the handout. Sara stated that DEP is gathering measured data in each basin for TN, TP, and flow. If there are no data or not enough data in a basin, DEP will recommend additional monitoring.

Sara reviewed the handout with the targeted restoration area approach. DEP is delineating the basins, gathering existing data, and recommending where additional monitoring is needed. Sara noted that model information can be used to help with prioritization where there are not enough measured data for the evaluation. Sara presented a map showing the monitoring stations. The BMAP monitoring stations are included as well as additional stations from the DEP Watershed Information Network (WIN) database. Sara is in the process of determining which station best represents each basin. The four basins highlighted in gray on the map do not have any monitoring stations in WIN. Marisa Carrozzo asked if the new SFWMD stations that were recently approved will be included in the expanded BMAP monitoring network. Sara responded that the map in the handout shows stations with existing data. The new stations have not been put into place yet. Part of this process is to identify additional monitoring and SFWMD has already started this effort. Sara presented the map of the flow stations and noted that six stations were added about a year ago as part of the 5-Year Review. The data from these stations can be used in the evaluation but will not have long-term data like the other five flow stations. There are also some historical flow stations that can be used as a secondary source of information in the evaluation.

Sara stated that DEP identified benchmarks to help prioritize the basins. The benchmark is not meant to achieve restoration, it is only for prioritization. The TN and TP peninsular numeric nutrient criteria (NNC) for streams will be used, and the NNC are 1.54 milligrams per liter (mg/L) for TN and 0.12 mg/L for TP. DEP evaluated whether the measured concentrations in a basin were lower, 1.5 times higher, or two times higher than the NNC as a first step. Other information, such as flow-weighted mean concentrations, unit area loads, and model information, can be used as secondary and tertiary information for the evaluation where these data are available. The measured data from the last five water years (WYs) were used (WY2014–WY2018) to calculate average TN and TP concentrations for comparison to the benchmark. Sara noted that she is still working on these calculations because the basins are under development, so she has not finalized which station data to use. Sara provide an example map for the evaluation of several basins in the tidal portion for TP concentrations. For each basin, she used the most downstream station that was still located on the tributary as the representative site. For the basin in Cape Coral, she used a series of stations along the canals and calculated a simple average, but this may be modified to a weighted average or other calculation if enough information is available. There is one example basin where the TP concentration is two times higher than the NNC benchmark and there are several example basins where the TP concentration is below the benchmark. This evaluation is not saying that the basins with concentrations below the benchmark do not need projects, just that they are a lower priority. The basin in the Fort Myers area without a color has multiple stations and Sara may reach out to the local stakeholders about which station(s) to use in the evaluation.

Once the basins have been prioritized, DEP will determine the estimated nutrient reductions from the known projects in the basin to identify which priority basins still need additional projects. All information from the evaluation will go into a summary for that basin, similar to what SFWMD provided for the Lake Okeechobee Watershed Construction Project summaries. DEP will then use these summaries in a request for information (RFI) for entities and landowners to submit project ideas. There will be separate RFIs for each of the Northern Everglades BMAPs, and the Caloosahatchee RFI will be

released in late October. There will be another stakeholder meeting before then where Sara will provide additional details about the results of the process. The purpose of the RFI is not for DEP to enter into contracts but to include project ideas in the BMAP to show options and costs to the legislature.

Sara noted that steps 8–10 in the process will occur in the future. Step 8 is an annual review of water quality compared to benchmarks, as well as a comparison to load targets for each sub-watershed. Step 9 is submitting legislative budget requests to try and obtain resources for priority areas. Step 10 is to update the model, as needed, based on data from the new monitoring. The outcomes from this process are priorities to help focus limited resources, feedback to regulatory programs to help determine when to conduct detailed permit reviews and inspections, and better tracking of water quality trends and progress towards TMDL goals. The draft BMAP will be available for review in late November/early December and the BMAP will be finalized in January 2020.

Lisa Kreiger asked if DEP received enough information from the new stakeholders to itemize projects in time for the next annual report. Sara responded that the new entities have provided some information but the submittal deadline is later this week. The project information will continue to be gathered and developed over the next few months. Lisa asked what the difference is between the RFIs and the information stakeholders are providing on future projects. Sara responded that one difference is that anyone can respond to the RFI, even entities without allocations, so the RFI process allows for additional projects beyond the usual BMAP stakeholder projects. Roland Ottolini asked if DEP will report on agricultural enrollment from the Florida Department of Agriculture and Consumer Services (FDACS) because a large area was assigned to agriculture. Sara responded that DEP has always tracked the FDACS enrollment in the BMAP, and there is information on the efficiencies of different BMPs for different commodity types to estimate reductions. FDACS is also putting together information on their cost-share projects to include in the BMAP.

James asked what the feedback loop is if the estimated project reductions are enough to meet required reductions but the benchmarks are not being achieved. Sara responded that DEP is determining the targeted restoration areas using measured data. James asked if there will be load benchmarks for each tributary. Sara responded that the process will rely on load goals at the sub-watershed level right now, because not every tributary has the data to calculate loads. Randy Burden asked if DEP is requiring monitoring for all projects. Sara responded that monitoring is not required, although some projects do have monitoring. Monitoring can be cost prohibitive and DEP would prefer that projects are implemented. Where monitoring data are available, DEP uses those data to assign credits.

John stated that the TMDL was established in 2009 and the benchmark is based on 2014–2018, so the timeline for compliance keeps moving. Sara responded that the NNC are used as the benchmark and measured data from WY2014–WY2018 are just averaged to compare to that benchmark. The TMDL is not changing as part of this approach. James asked if there is an opportunity for load benchmarks where flow monitoring data are available. Sara responded that load benchmarks could be determined in the future. James stated that it will be difficult to identify hotspots if there are not enough benchmarks. Randy stated that in his experience, he has planned projects based on an estimated concentration but then found out that the actual concentration was much lower. Sara responded that there is a good coverage of concentration data across the watershed, which is why the benchmark approach is starting with concentrations. Where there are measured loads, that information can be used as a secondary evaluation method. Darren asked why DEP did not use standard deviations to determine hotspots. Sara

responded that DEP wanted a benchmark that would stay consistent and the standard deviation would change over time as the dataset changed. The NNC were selected because they were already publicly reviewed and are ecologically significant. Darren stated that it may be confusing to the public that DEP is using the NNC for streams in an evaluation for the estuary. Sara responded that the NNC benchmarks are being used for the streams in the watershed.

Rae Ann Wessel stated that SFWMD established new monitoring stations and these will help to identify hotspots for project locations. The system is flashy between S-78 and S-79 but the source is not known. Additional information is needed to place projects and DEP should not wait to use information from these stations until there are five years of data. Sara responded that DEP can use a shorter period of record as data become available. Rae Ann asked if these stations will be mapped by the next meeting. Ansley responded that some of the stations submitted were previous synoptic monitoring stations. SFWMD is currently ground truthing those sites to ensure they are still accessible and useful. They will also make sure that the proposed sites do not overlap with other monitoring efforts. After those evaluations, they will resubmit the new recommended monitoring stations to DEP. Rae Ann noted that there seems to be an overlap in flow stations. Sara responded that one station is on S-78 and the other is on Goodno Canal.

John stated that it is his understanding that treated wastewater is exempt from the 23 % reduction in this BMAP. Sara responded that the TMDL has not changed, including requirements for wastewater facilities. The BMAP group is coordinating with the regulatory group to provide the latest data to help them with inspections and permit reviews. John asked if other BMAPs have this exemption. Sara responded that it depends on what is included in the TMDL.

BMAP Update Timeline

Sara stated that by statute DEP must prepare a 5-Year Review five years after BMAP adoption for each Northern Everglades BMAP. The Caloosahatchee BMAP review was completed in November 2017, the St. Lucie BMAP review was completed in June 2018, and the Lake Okeechobee BMAP review will be completed in December 2019. All three BMAPs will have updates that will replace the current BMAPs. Sara noted that a lot of the information has been gathered for the Caloosahatchee BMAP update but the process will have to be completed quickly. Project information is due at the end of the month and DEP will hold one-on-one meetings with stakeholders in September to discuss allocations and projects. The next BMAP meeting will be in October and the RFI will also be released in October. The draft BMAP will be released in early December for review and the BMAP will be finalized in January.

Statewide Annual Report (STAR)

Sara stated that the first STAR was only provided in portable document format (PDF) and DEP has now created a more interactive version for the new STAR. Sara noted that the process to gather information for the next STAR will start in November. Sara presented the interactive story map webpage on the DEP website. There is also a link to a troubleshooting guide and PDF document. The interactive page includes high-level information about BMAPs, TMDLs, and minimum flows and levels (MFLs). There are details about each BMAP and category of BMAP. The contacts and data tab includes an option to download a table of all adopted BMAP projects, which is helpful for project ideas.

GovDelivery Notifications

Sara stated DEP updated the way they manage their distribution lists. Each person will now manage their subscriptions by going to the link in the presentation to sign up for topics. The Caloosahatchee BMAP is part of the Northern Everglades topic. If a person was already on a list, their information was uploaded but Sara suggested that everyone check that their subscriptions are correct.

Next Steps

Sara stated that project information is due at the end of the week so that DEP can calculate project credits, which will be included as part of the RFI process. DEP will finalize the draft allocations and will meet with stakeholders in September. DEP will work to draft the BMAP and will have more details on the BMAP for the October meeting.

Questions, Comments, Discussion

Marisa stated that in step 6 of the targeted restoration approach, the NNC will be used as the benchmark to identify priority areas where more projects are needed. For step 8, DEP can complete part a, which is comparing the NNC benchmarks, but cannot complete part b, which is the loading comparison, because of the flow data gap. Sara responded that part b is for the loads at the sub-watershed level and there is available information from the measurements at the structures. This evaluation cannot be conducted at the basin level now but may be performed in the future. Marisa stated that she hopes the updated BMAP will include a priority for additional flow stations. Sara responded that step 2 of the process is to recommend additional monitoring for both flow and water quality. Darren stated that SFWMD has a model that uses U.S. Geological Survey (USGS) measured data from 2000–2003 to calculate loads in the tributaries. Sara responded that DEP can consider historical data as a second or third step for prioritization.

Adjourn

The meeting was adjourned at 3:30 pm.

Action Items

- Stakeholders should let Sara and Marcy know by August 30th if additional WMAs should be clipped out of the allocations.
- DEP will correct the clipping for C-19 to include Nicodemus Slough.
- Stakeholders should submit project information to Sara and Marcy by August 30th.