Caloosahatchee Estuary Basin Management Action Plan (BMAP)
Annual Meeting Summary

Tuesday, December 18, 2018 at 9:00 AM
SFWMD Lower West Coast Service Center,
2301 McGregor Boulevard, Fort Myers, FL
1st Floor Large Conference Room

Attendees

Chuck Anderson, Caloosahatchee Water Keeper
Nathan Beals, Lee County
Andrea Browning, LCU
Steve Canton, GEI Consultants
Jennifer Carpenter, DEP
Marisa Carrozzo, Conservancy of SW FL
John Cassani, SW FL Watershed Council
Terry Cerullo, DEP
Bonnie Jean Clancy, Sierra Club
Oliver Clarke, Citizen
Brad Cornell, Audubon
Deborah Culp, Citizen
Sara Davis, DEP
Mark DeCicco, Caloosahatchee Water Keeper
Tim Denison, Johnson Engineering
Rebecca Elliott, FDACS
Kate English, Pavese Law Firm
James Evans, City of Sanibel
RJ Ezazi, Hazen and Sawyer
Kim Fikoski, SFWMD
Phil Flood, SFWMD
Alyssa Freitag, DEP
Marcy Frick, Tetra Tech
Chad Gillis, News-Press
Kathleen Greenwood, FDACS
Chris Guth, Federico & Associates
Ron Hamel, FGCU
Noah Handley, Lykes
Janet Hearn, ATM
Melanie Hoff, Citizen
Paul Julian, DEP
Karin Karagoz, AECOM
Anura Karuna-Muni, Lee County
Kerry Kates, FFVA
Keith Kibbey, Lee County
Lisa Kreiger, Lee County
Ernesto Lasso de la Vega, LCHCD
Donald Lees, Citizen
Ansley Marr, SFWMD
Terry Nelson, Caloosahatchee Water Keeper
Yolanda Olsen, Caloosahatchee Water Keeper
Kelly O'Nan, Hendry County
Sherri Ouimet, Charlotte County
Steve Peene, ATM
Ximena Pernett, SFWMD
Harry Phillips, City of Cape Coral
Erin Rasnake, DEP
Holley Rauen, Caloosahatchee Water Keeper
Gary Ritter, Florida Farm Bureau
Maya Robert, City of Cape Coral
Randy Rogers, Caloosahatchee Water Keeper
Geoff Rosenaw, Collier County
Darren Rumbold, FGCU
Holly Schwartz, Citizen
Mary Szafraniec, Wood
Liz Taggart, Caloosahatchee Water Keeper
Kaye Vaughn, Citizen
Rhonda Watkins, Collier County
Kevin Williams, DEP

Welcome and Opening Remarks

Sara Davis, Florida Department of Environmental Protection (DEP) Environmental Manager, welcomed everyone to the Caloosahatchee BMAP annual meeting. The purpose of the meeting is to review what has occurred with the BMAP. Sara noted that the presentation and meeting notes will be posted to the DEP file transfer protocol (FTP) site after the meeting, and an email will be sent once everything is posted. The stakeholders introduced themselves and the entity they represent.

Overview of BMAP

Kevin Williams stated that the Caloosahatchee Estuary total maximum daily load (TMDL) was adopted in 2009 and includes three waterbody identification (WBID) numbers. The TMDL requires a 23 % reduction in total nitrogen (TN). The BMAP to implement the TMDL was adopted in 2012 with required reductions of 388,718 pounds per year (lbs/yr) assigned to responsible stakeholders. The BMAP is implemented in a phased approach with TN reduction activities and projects.

Statewide Annual Report (STAR)

Kevin stated that the STAR is a legislative requirement established in 2016 that tasks DEP to create one report to summarize accomplishments for all BMAPs. The reporting period for the STAR is on a calendar year, instead of by BMAP adoption date. The report must be submitted to the Legislature and Governor every year by July 1. DEP will still hold annual meetings on each BMAP. In past annual progress reports, the stakeholders had the option of providing a write up on their projects, which is not part of the STAR. DEP would like stakeholders to present those updates during the annual meetings.

STAR 2018 was submitted to the Legislature and Governor on June 29, 2018 and is posted on the DEP website. Through December 31, 2017, in the Caloosahatchee Estuary BMAP, there were 92 projects completed and 20 projects that are underway or planned. The completed projects had an estimated reduction of 230,503 lbs/yr of TN, which is about 59 % of the reductions needed to meet the TMDL. Kevin noted that information on the BMAP projects can also be found in the interactive story map on the DEP BMAP webpage. The story map summarizes BMAP information and the projects. The map shows dots in the project locations and clicking on a dot provides project details. Ongoing projects, such as education and street sweeping, will not have a point on the map. Kevin requested stakeholders review the map and confirm that all their BMAP projects are shown.

For STAR 2019, a request for project updates was sent in early November. Project updates are due by January 15, 2019 and then DEP will compile the report and submit it by the July 1, 2019 deadline.

Stakeholder Presentations

Sara stated that the STAR is a change from the previous annual report format, so it no longer includes a short write up from each stakeholder on project updates. Stakeholders should think about presenting on their projects at future annual meetings.

Lisa Kreiger stated that since Lee County took over management of the Bob Janes Preserve, they received funding to conduct a feasibility study to evaluate restoration options. This study will start in January 2019. The preserve contains the headwaters of several tributaries to the Caloosahatchee River. The Conservation 20/20 purchase agreement for a parcel (GS10) should be approved by the Lee County Commission today. The county will work with the Lehigh Acres Municipal Services Improvement District (LAMSID) on a project for this parcel, and they may be able to link this to other water quality projects in the area. Lee County is working on a study in north Fort Myers, the Florida Power and Light canal study, to evaluate potential sites for projects along several creeks. The county is also working with Fort Myers on a project for rehabilitation of the L-3 Canal. The Bayshore Creek basin project was recently approved, and the Prairie Creek project was completed in July. Lisa also noted that the South Florida Water Management District (SFWMD) gave Lee County an opportunity to use six of the

existing mesocosms for studies. John Cassani asked if the GS10 parcel is in the tidal watershed. Lisa responded that the parcel is in the watershed and will treat water going into the estuary.

Sara asked if any other stakeholders would like to provide an update. Kim Fikoski stated that she is involved in the LAMSID Initiative and Charlotte Harbor Flatwoods Initiative, so the stakeholders can contact her if they want to be placed on the distribution list.

Paul Julian provided an update on the C-43 West Basin Storage Reservoir. The reservoir is a 17,000 acre-foot above-ground storage reservoir with two pump stations, 16 miles of canals, and a footprint of about 10,000 acres. The dikes will be about 27 to 38 feet tall. The project benefits include restoration as part of the Comprehensive Everglades Restoration Plan (CERP), storage, and some ancillary water quality treatment from the storage. Paul presented construction photographs for the pump stations. The project is set up in packages. The first package was completed in June 2018 for site preparation and demolition. Package 2 is for the construction of pump station S476, which will be completed in February 2019. Package 3 is the construction of pump station S470, which will be completed in May 2022. Package 4 is for civil works and the design is in progress. The permit should be issued in the next several months pending approval. Sara added that one of the reasons DEP wanted to discuss this project is because DEP has started discussions with SFWMD to explore the possibility of adding a water quality component to this project. DEP is not willing to impact the reservoir timeline or federal funding, so the water quality component may need to be separate.

James Evans stated that he heard there are cost impacts to this project from new dam standards. He asked where the funds will come from to meet the new standards and keep on schedule. Paul responded that he has not heard about that issue, but this would be addressed as part of Package 4. He is not sure where funding would come from if additional funds are needed. James stated that the water quality component is a high priority for the City of Sanibel and they will continue to go to the Legislature on this issue. The city does not want to slow down the project construction, but they would like to see water quality treatment. He encouraged DEP to hold follow up discussions about how to include water quality to help with funding. Sara noted that DEP is open to suggestions about options for the water quality treatment. Ernesto Lasso de la Vega asked if the current treatment component includes nutrients. Paul responded that the current goal of the project is for water storage but there is some expectation that water quality would be improved because of storage. However, there is no specific water quality treatment component or target. Darren Rumbold stated that there have been discussions about water quality since 2002. This project does not help with preventing high flows because it was designed to help with minimum flows. If the reservoir tries to capture flows from Lake Okeechobee, it will fill up quickly. Paul responded that the pump stations will be completed in 2022 and then Package 4 will need to be completed. By the time the reservoir is completed, there will be other projects in the area that can help with flows from the lake.

Water Quality Review

Sara stated that the 5-Year Review included an in-depth analysis of water quality data from the BMAP monitoring network and, since completing the review, Wood has been gathering more recent data. This presentation will provide a summary of the 5-Year Review analyses and the more recent data. Mary Szafraniec added that the more recent data will be presented but the trend analysis was not updated. The 5-Year Review used data through April 2017, and Wood recently pulled any additional data that was available through September 2018 at the same estuary and tributary stations. The 5-Year Review water

quality evaluation used data from May 1, 2007 through April 20, 2017 to follow water years. The evaluation was conducted using nonparametric statistical techniques because water quality data are not normally distributed. For the Seasonal Kendall analysis, months were used as the seasons, where enough data were available. The analysis was conducted for each individual station in the tributaries, but the data were aggregated for each estuary WBID. Data with any fatal qualifiers were removed from the evaluation. Mary presented a map that showed the Tier 1 BMAP monitoring stations that were used in the 5-Year Review analysis. There were no significant trends in TN in the estuary WBIDs but all the estuary WBIDs had decreasing trends in total phosphorus (TP). Mary showed plots with the data from the 5-Year Review plus the more recent data. In the more recent data, there were some higher TN concentrations in WBID 3240B, which could be related to the algal blooms. The more recent TP data are somewhat elevated. About 8-12 new samples were added from the more recent data.

Melanie Hoff asked if this means that are only that many samples collected in a location. Mary responded that these were the number of samples in the database since May 2017 but there were another 120 samples per WBID used in the 5-Year Evaluation. The stations are sampled either quarterly or monthly. Yolanda Olsen asked if there are any standards for sampling frequency. Sara responded that there are no standards and the frequency depends on the type of monitoring. The local governments that are a municipal separate storm sewer system (MS4) permit holder must monitor and report to the DEP MS4 group. DEP and SFWMD also conduct monitoring. The Tier 1 monitoring stations, which are only a portion of the stations, includes samples from the City of Cape Coral, City of Fort Myers, Lee County, DEP, and SFWMD. Mary added that this is an intensive and complex monitoring network compared to other areas in the state. Yolanda stated that she would like to see better coordination and integration for the monitoring. Sara responded that if there are specific examples for where this should occur, Yolanda can provide this information to DEP.

Keith Kibbey asked when the more recent data were pulled because Lee County has been working on uploading their data to the Watershed Information Network (WIN) database. Mary responded that she pulled data about two weeks ago. Terry Nelson asked if the conclusion is that there has not been an increase in TN over the last 11 years. Sara responded that the 5-Year Review analysis showed there were no statistically significant trends for the period of May 1, 2007 through April 30, 2017. The more recent data were not analyzed for trends. Melanie asked if this means that the BMAP is not working and the 23 % reduction for the TMDL has not been met. Sara responded that work is still needed to achieve the 23 % TMDL reduction. It is also important to note that this estuary is influenced by areas outside of the BMAP watershed. James asked if trends in chlorophyll-a were evaluated. Sara responded that chlorophyll-a trends were not assessed because there were not sufficient data. John stated that the TMDL was based on data going back to 1997 and DEP gave BMAP credit for projects back to 2001 so he is not sure why the period of record for the water quality assessment started in 2007. When he asked this question last year, DEP had said they picked about five years before and five years after BMAP adoption. Sara responded that DEP wanted a consistent way to evaluate water quality for the three Northern Everglades 5-Year Review reports. DEP looked at when most projects were completed, and this lined up better with five years prior to adoption than the start date of 2001. John stated that the report should have acknowledged that there would have been a more definitive trend if the period of record had been extended. Mary responded that the report did say that the trends would be different using a different period of record.

Mary stated that for the tributary trends, 20 stations were used to assess TN and 14 stations for TP. For TN, three stations had significant decreasing trends and 17 stations did not have significant trends. For TP, two stations had significant increasing trends, three had significant decreasing trends, and nine had no significant trends. Mary showed a map with the stations and trends. Mary also showed plots of the 5-Year Review data with more recent data and the more recent data were in range of the previous data. Overall, the estuary WBIDs seem to have higher TN and TP concentrations in recent months but the new data period is not long enough to determine if this is a sustained increase. The tributary stations did not appear to have data outside of the previous range.

Sara stated that one of the 5-Year Review recommendations was to add more flow monitoring so that loads could be calculated in more locations. DEP worked with Lee County and the U.S. Geological Survey (USGS) to add three new flow stations at Orange River, Popash Creek, and Telegraph Creek. The stations have been installed and are being set up so that once they are online, the data will come through to the USGS and be available on their website. SFWMD is also working to add new flow stations. James thanked DEP for adding the flow stations. He noted that in the statistics for WBID 3240B, the slope for TN indicates there could be an increase in TN concentrations. This is concerning given the reductions estimated for the BMAP projects. Keith responded that a lot of the trend is being driven by what is occurring outside of the BMAP area. John stated that he appreciates the additional flow monitoring although he hoped to have a station further downstream to help estimate the load only from the tidal basin. This BMAP is based on load reduction targets using 2004 land uses. He would like more flow data to allow for a comprehensive evaluation of loads. Marisa Carrozzo added her appreciation for the flow stations and stated that she would like to see a plan to phase in additional flow stations and funding for monitoring. Darren stated that given the success in Tampa Bay, DEP should consider including atmospheric deposition in the Caloosahatchee Estuary assessment. He noted that there has been discussion about using the model to determine if a 23 % reduction in TN is sufficient. Sara responded that the DEP TMDL program has been working for the last few years to update and recalibrate the watershed and estuary models to conduct this evaluation.

Tributary TMDLs

Sara stated that DEP has proposed new TMDLs for five tributaries to the Caloosahatchee River, upstream of S-79. The draft TMDL report was posted on November 16, 2018 and comments are due on January 4, 2019. A public meeting was held yesterday to discuss the draft TMDLs. Sara stated that she wanted stakeholder feedback on how to expand the BMAP boundary to include the tributaries TMDLs, once adopted. The options are: (1) keep the current boundary, which is not ideal; (2) expand the boundary to include the Townsend Canal watershed, which is currently not within a BMAP area; (3) expand the boundary to meet up with the Lake Okeechobee BMAP boundary; or (4) expand the boundary to Lake Okeechobee to include the entire Caloosahatchee River and Estuary basin.

Lisa asked if options 3 and 4 would include a portion of the Lake Okeechobee watershed. Sara responded that option 4 would overlap with the Lake Okeechobee watershed but option 3 would go to the boundary. James asked if the overlap area in option 4 would be removed from the Lake Okeechobee BMAP. Sara responded that the area would be kept in both BMAPs since it contributes to both watersheds. Lisa asked how allocations would work in the overlap area and if there would be both TN and TP allocations. Sara responded that the entities in the overlap area would have allocations in both BMAPs, if allocations are assigned in the Lake Okeechobee BMAP, and there would be a TN allocation throughout the watershed with TP for the tributary areas. James asked if there has been any discussion

about a TP TMDL for the Caloosahatchee Estuary. Erin Rasnake responded that DEP can only write a TMDL for a verified impairment and, right now, there is not a TP impairment in the estuary. However, with the numeric nutrient criteria, DEP can write TMDLs for TN, TP, and response variable. DEP is still investigating the appropriate response variable for the estuary. Erin requested that the stakeholders upload their data to WIN and provide any algal data collected this summer to DEP to help with the TMDL. The plan is to have a meeting in early 2019 to discuss the path forward for the estuary TMDL.

Darren stated that he thinks expanding the BMAP boundary to include the entire watershed would be less confusing since so much of the load to the tidal portion is from upstream. John stated that the downstream stakeholders experience a cumulative effect of the loading and expanding the boundary would help to address some of the inequity. Melanie noted that the public agrees with this statement. Marisa stated that she agrees that expanding to include the entire watershed would be good if that could be worked out in the BMAP. That approach would help with transparency and better nutrient management for both TN and TP. James stated that the City of Sanibel would support expanding the BMAP boundary to the entire watershed. Maya Robert asked what occurs when two BMAPs overlap. Sara responded that the stakeholders in that area would participate in both BMAPs. Any projects in the overlap area would have benefits calculated to each impaired waterbody. Maya asked how the nutrient reduction goals will be calculated. Sara responded that once the boundary is determined and the tributaries TMDLs are adopted, the allocations will be set. DEP has been discussing options but has not decided on a path forward.

Sara stated that the next steps are for the stakeholders to provide the STAR updates by January 15, 2019. If the stakeholders have new projects or new credits that need to be calculated, they should let DEP know to ensure they are providing all the necessary information. DEP is looking for input on expanding the BMAP boundary to include the new TMDLs and will then work with the stakeholders to revise the BMAP including bringing in new stakeholders, new agricultural areas, and calculating allocations. Erin noted that the bottom of the agenda includes the link to the FTP site. Sara added that this link is for the BMAP page, but stakeholders can go up a level to see the TMDL information.

Questions, Comments, and Discussion

Melanie thanked DEP for opening the meeting to the public. She is a full-time resident and this past summer was bad. Melanie stated that she looked at the STAR and it is very focused on the projects completed. There is little information for the public to determine the outcomes from the project progress. It would help to add an executive summary to summarize what has occurred to help make the report more understandable. Melanie noted she likes the idea of expanding the boundary to the entire watershed so there is not a gap. She also stated that the TMDL should be based on more current land use than 2004. Sara responded that the BMAP meetings are always open to the public, so please come to future meetings. The STAR was written for legislators and others who are working on funding priorities. Therefore, the STAR will not have the information requested but the 5-Year Review includes a lot of details. Stakeholders can also contact Sara to discuss the BMAP in more detail. Terry Cerullo recommended that the stakeholders subscribe to DEP notifications to obtain more information. There are also monthly meetings for the DEP South District that the public can attend. Sara noted that the reason there is a gap between BMAP boundaries is that the BMAPs are implemented in phases and DEP decided to start with estuary and work towards the lake for this BMAP.

Gary Ritter stated that a lot has changed from the 2004 land use and the population in Florida is increasing rapidly. Sara responded that DEP throughout several programs is looking into the implications of population growth in the state. Erin added that as part of the modeling update, the land use was updated to 2009. This coverage was compared to the 2012 land use and it was very similar except for the C-43 reservoir area. The 2009 land use was selected to match up with the available data.

Marisa stated that the C-43 reservoir was discussed before she arrived at the meeting, but she is hoping one of the action items is to have a more in-depth discussion on that project. Sara responded that this was discussed, and stakeholders can contact her with ideas for the project.

John asked when the new modeling will be completed and allocations calculated. Erin responded that the timeline will be presented during a meeting in early 2019. The goal is to have the estuary TMDL in the next year or two, but DEP wants to make sure they get the TMDL correct.

Jennifer Carpenter thanked the members of the public and Water Keeper for coming to the meeting. There is still a lot of work to be done. DEP strives to be transparent and responsive, and they need members of the public to be involved in the process.

Yolanda stated that she agrees the 2004 land use should not be used because there have been a lot of change since then. Sara responded that the updated modeling includes more recent land use and the model will be used to determine the TMDL target. Yolanda asked if the updated target will be in the BMAP. Sara responded that it depends on the timing of the TMDL. The BMAP is adaptively managed so information can be updated, as needed.

Adjourn

The meeting was adjourned at 10:28 AM.

Action Items

- DEP will post the presentation to the FTP site after the meeting.
- Stakeholders should confirm that their projects are shown on the BMAP story map.
- Stakeholders should submit STAR updates to DEP by January 15, 2019. Stakeholders should notify DEP if they are providing new projects.
- Stakeholders should contact DEP with ideas for water quality treatment in conjunction with the C-43 reservoir.
- Stakeholders should upload their data to WIN and provide any algal data to DEP to help with the estuary TMDL.
- Stakeholders should provide feedback to DEP on expanding the BMAP boundary.