

**St. Lucie River and Estuary Basin Management Action Plan (BMAP)
Technical Meeting Summary**

*Tuesday, March 6, 2018 at 2:00 PM
Martin County Administrative Center
Commission Chambers (1st Floor)
2401 SE Monterey Road, Stuart, FL 34996*

Attendees

Sam Amerson, City of Stuart
Thomas Behlmer, DEP
Randy Bell, FJ Nugent
Vanessa Bessey, FDACS
Teresa Coley, SFWMD
Audra Colgan, FDACS
Kevin Coyne, DEP
Breanna Crowell, DEP
Sara Davis, DEP
Patrick Dayan, St. Lucie County
Yesenia Escribano, FDACS
Marcy Frick, Tetra Tech
Stan Ganthier, DEP
Lawrence Glenn, SFWMD
Bill Griffin, City of Stuart
Alan Hall, Higgins Engineering
Patrick Helms, AECOM
Dina Hermoso, City of Fort Pierce

Dianne Hughes, Martin County
Kathy LaMartina, SFWMD
Milton Leggett, City of Stuart
Dale Majewski, City of Port St. Lucie
Jennifer McGee, St. Lucie County
Anne Murray, Martin County
Nick Muzia, Martin County
Stephanie Nevadunsky, E Sciences
Greg Nolte, Martin County
Stacey Ollis, SFWMD
Denise Palmatier, Kimley-Horn
Mark Perry, Florida Oceanographic Society
Nicola Pisarello, ATM
Terry Rauth, Martin County
HM Ridgely, Evans Properties
Eric Shea, FPL
Mary Szafraniec, Wood
Cassandra Thomas, SFWMD

Welcome and Opening Remarks

Sara Davis, Environmental Manager with the Florida Department of Environmental Protection (DEP), welcomed everyone to the St. Lucie River and Estuary (St. Lucie) BMAP technical meeting to discuss the 5-Year Review. Sara introduced Breanna Crowell who is the Basin Coordinator for this BMAP. The participants introduced themselves and the entity they represent.

Status of the St. Lucie River and Estuary BMAP 5-Year Review

Breanna stated that the 5-Year Review report is due to the Governor and Florida Legislature in June, which is five years after the BMAP was adopted. Based on recent legislation, there are a few key items that the report must include: (1) milestones to evaluate progress and to determine if the total maximum daily load (TMDL) can be achieved within a 20-year timeframe; (2) evaluation of progress towards the milestones; and (3) recommendations for any revisions to the BMAP including the new watershed (WaSh) model, updated allocations, and changes to the monitoring network. Breanna stated that stakeholders have previously expressed interest in setting the milestones to meet the TMDL in 15 years, and the 5-Year Review will reflect that interest. This is consistent with the total reductions for the St. Lucie River and Estuary TMDLs being spread over 15 years as noted by the original BMAP. The report will include three chapters. Chapter 1 will provide summary information on the TMDL and BMAP, similar to the summary information in past annual reports. Chapter 2 will assess progress based on

project information provided through December 2017, as well as water quality data evaluations. Chapter 3 will include the recommendations for the milestones, boundary changes, updated allocations, and changes to the water quality network. Breanna noted that based on updates from the stakeholders, there are 260 projects that will be listed in the 5-Year Review, of which 222 have been completed, and 17 that were added since the last update. For the 5-Year Review, the water quality analysis is underway using the methodology that will be discussed during this meeting, the WaSh model scenarios with septic system removal and large scale best management practices (BMPs) are being run, and potential revisions to the BMAP boundary are being identified based on studies by the South Florida Water Management District (SFWMD). The draft report will be available in April for review and public comment.

Draft Methodology for Revised Allocations

Marcy Frick stated that the updated allocations will be determined using a series of geographic information system (GIS) clipping steps that are similar to what were used for the current BMAP. DEP has been collecting updated boundaries from the stakeholders to use in these clipping steps to determine the nutrient loads for each stakeholder from the WaSh model. The allocations will be based on the model period of 2007 through 2016, which are the latest years in the model and represent a mix of wet and dry years. The clipping will occur sequentially in a slightly different order than was used in the current BMAP. The first step will be to clip out water management areas, which include the Florida Power & Light (FPL) pond, dispersed water management projects, and Comprehensive Everglades Restoration Plan (CERP) projects that are under construction or in design. These areas will be removed from the allocations since they are water areas that should not be allocated to any stakeholder. The next step will be to clip roads and rights-of-way associated with the Florida Department of Transportation (FDOT) and Turnpike Authority, and assign the loads from these areas to each entity. The next step will be to clip out water control districts (WCDs) and other special districts. The natural lands will then be clipped, and the loads with these areas will be assumed to stay the same since reductions will not be required on these lands. The agricultural land uses will be clipped next, and the Florida Department of Agriculture and Consumer Services (FDACS) will work with growers to enroll them in BMPs. Community development districts (CDDs) will be clipped to their boundaries, then the municipalities will be clipped to their boundaries, and the remaining area will be assigned to each county. Marcy noted that the local government allocations will not be split into municipal separate storm sewer system (MS4) and non-MS4 allocations, so the stakeholders do not have to track multiple allocations.

Marcy presented a map showing the locations of the water management areas in the BMAP boundary, and asked stakeholders to provide input on any other areas that should be included. She noted that for the WCDs and special districts, the current allocations are based on the land uses, both agricultural and urban, within their boundaries. During development of the current BMAP, there were concerns with this approach because FDACS is the only entity that can enroll growers in BMPs so they had to track separate allocations, and the urban lands within the districts were permitted by the city or county and not under the district's control. Therefore, DEP is proposing to update the allocations and assign only the canals and rights-of-way to the special districts since the districts have jurisdiction over the canals. The districts will have certain canal and right-of-way BMPs to follow to be compliant with the BMAP, such as harvesting vegetation from the canals instead of spraying it and working with FDACS, where needed, to reach out to growers within the district's boundaries. This approach will also help to simplify reporting of agricultural BMP enrollment in the basin.

DEP has also been working to update the list of CDDs that should receive allocations in the next BMAP iteration. To receive an allocation, CDDs must meet three criteria: (1) are developed (roads, buildings, etc.), (2) discharge to a city or county MS4, and (3) receive a refund from the city or county for a portion of the stormwater fees. Marcy presented the draft list of CDDs that would receive an allocation, and noted that DEP is still finalizing this list. Marcy then reviewed a series of figures illustrating the clipping process for the allocations. Marcy noted that the remaining areas that are being assigned to the counties include a new land use codes for dikes and levees, disturbed lands, and spoil areas. If stakeholders have information on these lands and where they should be assigned in the allocation process, they can provide this information to DEP. To finalize the allocations, any updated boundary information should be provided to DEP. The final boundaries will be used to update the GIS clipping and the resulting polygons for each stakeholder will be directly input into the WaSh model so that the loads associated with those areas can be determined from the model. The allocations and required reductions will then be calculated using the percent contribution of each stakeholder to the total load. DEP will discuss the allocations with stakeholders as requested, and the draft allocations will be included in the draft 5-Year Review report in April.

Dianne Hughes asked if *de minimus* stakeholders will be identified again. Marcy responded that once the loads for each entity are calculated from the clipping steps, DEP will evaluate whether any entity has very low loading (less than 1% of the total load was used last time) where this would need to be considered.

HM Ridgely stated that there is land owned by the county or a state agency that is being assigned to agriculture. There may be agricultural leases on some of those lands, but not all of them. For instance, there are about 10,000 acres of land owned by SFWMD in St. Lucie County. He asked how these lands will be addressed. Kathy LaMartina noted that some of the SFWMD lands have agricultural leases. She can try to find a GIS layer of the SFWMD lands. Breanna responded that the initial clipping is based on land use codes. If stakeholders have specific information about the actual land use, they should provide that information to Breanna.

Patrick Dayan stated that having separate MS4 and non-MS4 allocations was helpful to St. Lucie County. The County has been focused on projects within the MS4 area because this is where there is a larger population. The non-MS4 area has been the County's secondary focus. Sara responded that she and Breanna talked with DEP MS4 staff about changing the allocations to ensure that the needs for MS4 reporting are still met. The purpose of combining the allocations is to help stakeholders focus on one allocation. If St. Lucie County would like their area split, DEP can provide this information, but the BMAP will report one allocation and include all the projects together.

Dale Majewski asked about the dikes and levees because these appear to belong to SFWMD. Sara responded that Breanna can provide the GIS shapefiles if people want to look at the land uses more closely. Dianne requested the shapefiles.

Vanessa Bessey stated that it will be important to determine which agricultural lands are fallow because FDACS cannot enroll those areas in BMPs. FDACS received credit for this during the last BMAP. Sara responded that this discussion is occurring statewide. DEP gave FDACS credit for losses in agricultural land that occurred between the 2004 and 2008 SFWMD land use coverages. This BMAP will use the

2012 coverage and there is no newer coverage for comparison. Kevin Coyne added that this is an issue bigger than this BMAP. There are several considerations including if the fallow lands become active again and if shifting those lands to the county could affect the agricultural exemption on those properties. Sara suggested that FDACS continue to track the changes in agricultural lands to help with this discussion. Kevin noted that the allocations are a first draft for the 5-Year Review and will be updated before the BMAP is adopted. Marcy noted that DEP pulled out the additional water management areas to try and help with this change in agriculture since most of those lands are still shown as agriculture in the land use coverage. Dianne stated that Martin County has concerns that the fallow lands will be assigned to them, especially if the lands are not owned by the County. There will need to be further discussion about where the loads will be assigned. Mark Perry stated that if the fallow acres are not designated as another land use then they will still fall under agriculture. Vanessa responded that this is correct and FDACS cannot enroll the fallow lands because there is no agricultural use on the property. Kevin noted that there will be some credit for stopping the agricultural activities on site, but an approach for the fallow lands will need to be determined. Mark noted that Martin County had a good question about how they could address these lands if they do not own them. Sara responded that this is a complicated issue and DEP has been having conversations on this issue. Yesenia Escribano noted that it will be a matter of tracking which lands are fallow and which are active again and can be enrolled. Vanessa asked which projects are included in the water management areas. Marcy showed the map with the FPL pond, dispersed water management projects, and CERP projects. Sara noted that if there are other projects that should be included, stakeholders should provide this information to DEP.

Patrick Helms stated that the WCD he represents has had issues obtaining credit for vegetation harvesting because they have no space for the material except for along the canal banks. He also noted that vegetation harvesting is an annual need and asked if the districts would need to report on this activity annually as part of the BMAP. Marcy responded that the guidance for the vegetation harvesting has a setback for disposal of the vegetation to ensure that it does not go back into the canal. Depending on the slope of the canal banks, there may be an option to place material along the banks and this will need to be coordinated with DEP. The maintenance activities would need to be reported annually, similar to the urban stakeholders' requirements to report on their operation and maintenance activities annually. Patrick Dayan stated that St. Lucie County harvests their vegetation and he asked if they could receive credit. Marcy responded that DEP has a guidance document on how to receive credit for vegetation harvesting.

Greg Nolte asked if the issue with the fallow agricultural lands will be addressed before June for the 5-Year Review report. Sara responded that the initial allocations in the 5-Year Review will be based on the 2012 SFWMD land use coverage. A decision will be made on the fallow lands before the new BMAP is adopted.

Patrick Helms stated that the WCDs have structures that help to hold back water and should result in nutrient removal. He asked how this credit would be calculated if the districts are only asked to address specific BMPs. Marcy responded that credit was given for these structures in the last BMAP and the credit can be revised based on new information. The base model that will be used in the allocations does not include BMPs so the BMPs provided by the stakeholders will be included in the new BMAP.

Water Quality Analysis Methodology

Mary Szafraniec stated that she has been working with DEP and SFWMD on the methodology to evaluate water quality for the 5-Year Review. For the report, the period of record (POR) will be May 1, 2007–April 20, 2017, which corresponds to water years 2008–2017. The preliminary data review was conducted in close coordination with SFWMD to evaluate the POR, number of samples available, and frequency of those samples. A nonparametric statistical technique, Seasonal Kendall, will be conducted for the trend analysis because there is seasonality in the data for this area. Mary stated that an initial scientific and statistically based evaluation was conducted to group the stations into tiers, and the data from the Tier 1 stations will be analyzed for the 5-Year Review. The Tier 1 stations were recently refined with an evaluation of data quality to determine the final list of stations. The Tier 1 stations include both estuary and structure stations, which are all sampled by SFWMD at least monthly. Several of the structure stations have autosamplers with more frequent data collection, and the stations at the structures also have flow data, which SFWMD uses to calculate nutrient loads.

Mary noted that for the 5-Year Review, only total nitrogen (TN) and total phosphorus (TP) will be evaluated. The TN and TP concentration data were pulled from the Florida Storage and Retrieval (STORET) database and the Watershed Information Network (WIN) database, which is the successor to STORET, as well as the SFWMD DBHYDRO database. Only discrete grab sample data from these databases will be used and trend analyses will be conducted on both the STORET/WIN and DBHYDRO TN and TP concentration datasets to see how they compare. In addition, a separate trend analysis will be conducted for the TN and TP loads and flow-weighted means, which were calculated by SFWMD using both grab and autosampler data.

The data will be processed to remove any data with fatal data qualifiers (not outliers) based on Florida Administrative Code requirements. In addition, TN will be calculated for any samples where TN was not analyzed directly at the lab. Mary noted that most of the samples include TN, but TN will need to be calculated for some of the older samples. TN is calculated as the sum of total Kjeldahl nitrogen (TKN) and nitrate + nitrite (NO_x). At some of the structure stations, only TKN data are available so TN will be calculated using a ratio to adjust TKN to TN, which will be site-specific and based on salinity regimes at each station. All data, after processing, will be put into a monthly time series and the median value will be used where there are multiple samples (greater than two) in a month. The median was determined to be more appropriate because water quality data are usually not normally distributed. Mary noted that some initial data analysis is also needed before the full water quality evaluation to prevent errors in reporting. The seasonality and serial correlation in the data will be evaluated using the autocorrelation function (ACF) to determine the correlation from one data point to the next. If serial correlation is detected by the ACF analysis, then the P-value adjusted for serial correlation will be used instead of the raw P-value to prevent false positives in the evaluation. The data will be analyzed using the USGS FORTRAN code to obtain the Seasonal Kendall statistical outputs such as tau, slope, and the P-values. Month will be ascribed as the season since most of the stations are sampled monthly. This trend analysis test will be used to see if there is a significant positive or negative trend in one direction for the selected POR. By using the nonparametric analysis, data outliers and large data gaps are not an issue.

Next Steps

Breanna stated that one more public meeting will be held in April before the 5-Year Review report is due. As DEP continues to develop and refine the allocations, staff will be happy to meet with stakeholders one-on-one to discuss the allocation details and any concerns. Breanna asked that any

stakeholder who would like a meeting can send her an email and she will set up a meeting before the next public meeting, which will be held towards the end of April. The draft 5-Year Review report will be provided for review and comments prior to the next public meeting.

Public Comments and Wrap Up

Stan Ganthier asked if there is a deadline for the new BMAP adoption. Sara responded that there is a deadline for the 5-Year Review report but no deadline for BMAP adoption.

Adjourn

The meeting was adjourned at 2:57 pm.

Action Items

- Stakeholders should provide updated boundaries to DEP for use in the allocations.
- Stakeholders should provide information to DEP on the ownership of the new dikes and levee, disturbed lands, and spoil area land use codes. DEP can provide the GIS file for these areas, upon request. DEP will provide the GIS files to Dianne Hughes per her request.
- SFWMD will try to provide a coverage of their conservation lands in the basin, and stakeholders should provide any information on their conservation lands to DEP.
- DEP will continue discussions on how to address the fallow agricultural lands.
- Stakeholders should provide feedback on any other water management areas that should be removed as part of the allocation process.
- Stakeholders should contact Breanna if they would like a meeting to discuss the allocations.
- DEP will provide the draft 5-Year Review report for review and comment prior to the next public meeting.