

St. Lucie River and Estuary Basin Management Action Plan

Monitoring Meeting Summary

Wednesday, February 13, 2013

1:30 PM – 4:00 PM

Martin County Building Department Conference Room

900 SE Ruhnke Street, Stuart, FL 34994

Attendees

Jason Bessey, St. Lucie County	Kathy LaMartina, SFWMD
Tiffany Busby, Wildwood Consulting	Tom Lindsey, Hobe St. Lucie Conservancy District
Kevin Carter, SFWMD	Tom McGowan, AECOM
Deb Drum, Martin County	Greg Nolte, Martin County
Stan Ganthier, FDEP	Ximena Pernet, SFWMD
Glen Gareau, SFWMD	Fernando Pleitez, E-Sciences
Patti Gertenbach, E-Sciences	Marcy Policastro, Wildwood Consulting
Bill Griffin, Stuart	Jennifer Purdy, FDEP
Katie Hallas, FDEP	H.M. Ridgely, Evans Properties
Jodie Hansing, SFWMD	Colt Schwerdt, Port St. Lucie
Janet Hearn, ATM	Jason Storrs, FDEP
Rhett Keene, Captec Engineering	Mike Tompkins, SFWMD

Welcome and Opening Remarks

Tiffany Busby welcomed everyone to the monitoring meeting for the St. Lucie River and Estuary Basin Management Action Plan (BMAP). The monitoring plan is a main component of the BMAP, and the agenda is structured to determine what the stakeholders want to achieve with the monitoring plan. If additional monitoring is needed, the Florida Department of Environmental Protection (FDEP) does not have extra resources, so other types of funding would need to be pursued. The stakeholders introduced themselves and the entity they represent.

Monitoring Plan Objectives, Parameters, Sampling Frequency, and Existing Stations

Katie Hallas stated that she gave a monitoring presentation during the December meeting, and a lot of that information will be reviewed again during this meeting. The first step is to discuss the objectives of the monitoring plan, then the sampling parameters and frequency, then the existing stations, and finally review the maps and identify gaps in the network. The presentation includes additional monitoring that is not currently marked on the maps but could be listed in the BMAP.

Katie noted that the primary monitoring objective was slightly modified based on feedback at the December meeting. This objective states, “Track trends in total nitrogen (TN), total phosphorus (TP), and biochemical oxygen demand (BOD) loads in the major canals and tributaries in the basin.” The total maximum daily loads (TMDLs) that FDEP adopted for the St. Lucie River and Estuary Basin are for TN, TP, and BOD, which is why these parameters are listed in the objective. BOD was added based on stakeholder input received from the December 2012 meeting.

Marcy Policastro noted that the primary monitoring objective is required to track progress towards the TMDLs. The secondary objectives can be anything else the stakeholders are interested in monitoring to learn more about the watershed. Katie added that the secondary

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objectives could include items that do not have funding right now to collect but might be funded in the future. Two example objectives were provided for discussion. The first example is, “Measure reductions in watershed loadings of the TMDL target pollutant(s).” The second example is, “Measure effectiveness of individual or collective projects in reaching TMDL target-pollutant loadings.” Katie noted that some effort has been made by certain entities to evaluate the efficiencies of their projects, which could be used to meet this second example objective. Tiffany added that while it is not a BMAP requirement to monitor each project, the information is helpful if it can be gathered.

Pattie Gertenbach asked if the objectives could be reevaluated after reviewing the maps. It could be that the first secondary objective would be addressed through the data collected in the primary monitoring. Tiffany responded that it is better to determine what questions the stakeholders want the monitoring to answer before selecting monitoring stations. Pattie asked if there are any implications to listing secondary objectives if there are no current stations. Katie responded that the BMAP could say that monitoring for that secondary objective would occur in the future, if funding were available. The secondary objectives do not have to be included in the BMAP if the stakeholders do not want them. Tiffany added that if the stakeholders think there may be a benefit for obtaining funding if the objectives are listed in the BMAP, the objectives should be included. If not, then these objectives do not need to be included in the BMAP.

Tom McGowan noted that there is a cost associated with the frequency of the monitoring. He asked if the primary monitoring would be monthly and the secondary would be another frequency. Katie responded that the frequency of sampling would be discussed shortly, but the primary and secondary objectives do not have to be on the same collection schedule.

Tom noted that total suspended solids (TSS) are a big issue for water transparency, especially in the Indian River Lagoon (IRL) where seagrass are important. Katie responded that monitoring is underway for seagrass. Tom noted that TSS seems to be a contributor to the seagrass impairment and muck deposition. Marcy responded that TSS is included on the list of proposed monitoring parameters and the South Florida Water Management District (SFWMD) samples for TSS at some of their sites.

Deb Drum stated that she is trying to understand the driver for the monitoring plan. She noted that she thinks the plan needs to be what FDEP will evaluate every five years to determine if progress is being made. Therefore, it seems that FDEP only needs the data from the primary objective, so there does not seem to be a benefit of having secondary objectives, especially if it just puts the stakeholders on the hook for funding that monitoring. Katie responded that, for compliance, FDEP would look at the data associated with the primary objective. However, other items could be monitored to gather information for the model. Jason Bessey noted that for the model, he still has the question about the TP concentration in the C-23 sub-basin. Katie responded that FDEP and SFWMD reviewed the St. Lucie River Watershed Protection Plan (SLRWPP) concentration for the C-23 sub-basin and the BMAP model had a similar, although slightly higher, TP concentration. This sub-basin had a higher TP concentration than the other sub-basins in the SLRWPP data and BMAP model.

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Katie noted that while the BMAP is required to have a monitoring plan and FDEP would like the stakeholders to participate, if some of the monitoring does not occur, it would only be noted in the annual report. The monitoring activities are not enforceable like the projects are in the BMAP. The secondary objectives are a way to gather information for the model and improve understanding of the watershed. Tiffany added that the monitoring plan does not have to include secondary objectives; however, in other basins, stakeholders had items that they thought were really important to monitor, such as jurisdictional loading or hotspots. These stakeholders put themselves on the hook to fund the monitoring, but they thought it was important enough to gather the information. The stakeholders are not required to monitor but if there are important questions, then the monitoring investment might be worth it.

Deb stated that the stakeholders have questions about the basin, but she is unsure if the BMAP is appropriate way to bring them forward. If FDEP is not going to fund this monitoring but the FDEP needs to refine the model they are using as a regulatory tool, then this is a problem. The secondary objectives could be included in the BMAP so that FDEP would be aware of any local efforts that could be used in the model. However, this puts those entities that do not have the funds to refine the model at a disadvantage compared to those entities that have funding for additional data collection. This results in an uneven playing ground in terms of how FDEP is regulating local governments. Tiffany responded that some local governments have made investments in the long-term that can benefit them in the BMAP setting. However, FDEP does have a process for data collection statewide that is not dependent on local efforts, but it is often not detailed enough for the model refinements that the stakeholders would like to be incorporated.

Deb noted that it should be FDEP's responsibility to gather data to validate the model. Katie responded that the model for this iteration of the BMAP has been validated. FDEP worked closely with SFWMD to do this. SFWMD has modelers that can help improve the model information. This is a simplistic model, and water biogeochemistry is not a simple process. Katie noted that the purpose of this discussion was to determine if other efforts exist or money is available to help refine the information. FDEP will refine the model regardless of additional monitoring efforts. Katie stated that once a BMAP is adopted, meetings are typically held annually. However, she is planning on having more frequent meetings to discuss model refinements before the next BMAP iteration. There is also information from the 2012 SLRWPP Update that can be used to improve the current version of the model.

Tiffany asked the stakeholders if they thought a secondary objective to track trends in TSS would be useful, to address Tom's point about the importance of TSS. Bill Griffin asked if the secondary objectives could be included after the first BMAP iteration once the stakeholders have a better idea of where the reductions stand. Tiffany responded that this would work because the monitoring plan does not need to include secondary objectives. Bill noted that Stuart does not have the funding to monitor for the secondary objectives, so he does not think secondary objectives should be included. Colt Schwerdt stated that he thinks TSS is important and should be included in the primary objective. Katie responded that since TSS is not part of the TMDL, TSS would need to be a secondary objective. The emphasis would be on monitoring the TMDL parameters, but TSS could also be tracked. Bill stated that he would be fine with also sampling for TSS.

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Jason stated that he thinks they should review SFWMD's monitoring and then make a decision on what else is needed based on that monitoring. FDEP wants to see a decrease in the TMDL parameters, which will be monitored through the primary objective. The stakeholders could use the secondary objectives as a tool to pursue more information in the future, possibly through grants. Deb noted that if there is a reference to monitoring in a regulatory document, it might not qualify for grants. Tiffany responded that this monitoring could be included in the BMAP, and it should be clear when the stakeholders see the BMAP that the monitoring portion is not regulated. The intent of including the secondary objectives is to help leverage local or grant funding to gather information on items that are a priority.

Deb stated that she thinks the secondary objectives should be left out of the BMAP for the first five-year iteration. This does not preclude the local governments from doing other monitoring, but this would allow time for everyone to become more comfortable with the process in the first five years and obtain funding for projects. During the next iteration, the stakeholders can revisit this topic. Jason noted that by tracking trends as part of the primary objective, there would be data to measure reductions in watershed loading. This would address one of the proposed secondary objectives without it having to be written in the BMAP.

Pattie noted that the primary objective should also list the estuary. H.M. Ridgely asked if the primary objective should be to track loads or concentrations. Katie responded that loads need to be tracked to address the TMDLs. Load is calculated as concentration times flow, so concentration data will also be tracked. H.M. asked how FDEP would determine flow. Katie responded that real flow data would be used. H.M. noted that upstream in the basin, there are no structures to measure flow and there are some places, such as the C-44, where water moves in more than one direction. Katie responded that FDEP could look at the concentration data in areas where flow data are available to determine loads. Tom stated that he is fine with not including a TSS monitoring objective, although the North St. Lucie River Water Control District (WCD) will continue to monitor TSS.

Tom Lindsey asked what it would cost to add the monitoring. Katie responded that she does not have costs for discussion today, but the SFWMD would have this information. Tiffany added that it is difficult to come up with cost information until the details of the monitoring plan have been defined. The costs would also depend on whether the stakeholders currently monitor because an entity such as SFWMD already has the staff, boats, and equipment for monitoring, and that affects the cost estimates. Tom stated that Hobe St. Lucie Conservancy District is already monitoring, so adding one or two more samples is miniscule compared to adding new stations. Tom McGowan added that North St. Lucie River WCD is sampling quarterly, so it is not a big deal to evaluate another parameter in the sample. Tom Lindsey noted that the cost per person across a city or county to add this monitoring would not be much. Katie responded that many of the local governments have spent a lot of money on projects, and they are trying to balance out any additional spending. Deb added that another part of the issue is the magnitude of what monitoring is needed because the further up into the watershed, the more monitoring is required to sample the smaller tributaries.

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Rhett Keene asked if the SFWMD monitoring could be enough for the BMAP. Katie responded that it could be that the stakeholders decide that the current SFWMD monitoring is sufficient; however, FDEP wanted to give the stakeholders the opportunity to discuss the monitoring objectives before looking at the maps. Katie presented the proposed list of parameters and noted that BOD and chlorophyll-*a* were added based on input during the December meeting. The core parameters are to support the primary objective and would have to include nutrients and BOD. The supplemental parameters are collected as supporting information. The list of parameters does not have to be split into core and supplemental if the stakeholders prefer one list. The frequency of the sampling could be monthly or biweekly. SFWMD already has a set schedule for their stations.

Jason stated that total nitrogen (TN) is a combination of nitrate, nitrite, and total Kjeldahl nitrogen (TKN), so a sample analysis for TN gives information on all three of those parameters. Tom McGowan asked why ammonia is listed separately and if that needs to be measured. Jodie Hansing stated that ammonia is needed to determine total inorganic nitrogen. The stakeholders stated that they preferred to have one list of parameters in the BMAP, instead of separate core and supplemental lists. Jason noted that one of the stations in St. Lucie County is located in an area impaired for BOD, but the samples at this location for BOD are always below detection limits. It seems that nutrients are really the issue.

Katie stated that St. Lucie County collects samples at their stations on a tri-weekly basis. St. Lucie West Services District currently samples on a monthly basis, but this frequency will decrease in the near future. Updated information on the frequency at these stations will be included in the BMAP. SFWMD monitors the IRL by collecting grab samples seven times per year. Marcy asked how this sampling is spread out during the year. Mike Tompkins responded that the sampling is weighted more towards the summer months. Katie noted that SFWMD's estuary sampling is monthly, and the tributaries sampling is biweekly. Kevin added that the tributary stations are an evolution of Boyd Gunsalus' (SFWMD) work, and the stations in the presentation are the current ones. Jodie added that 17 of the tributaries stations are currently active, and an additional 12 stations will be brought online in May.

Katie stated that there is a spreadsheet on the File Transfer Protocol (FTP) site with all the monitoring information from the presentation. There are also U.S. Geological Survey (USGS) flow stations in the basin. Katie reviewed the monitoring information from the SLRWPP Update, which had been provided to the stakeholders in November for input. The existing aquatic program monitoring includes seagrass monitoring and Comprehensive Everglades Restoration Plan (CERP) oyster monitoring and mapping. Katie presented maps of the water quality monitoring, which will be reviewed in more detail at the end of the meeting, and the flow stations. The SLRWPP Update also includes historical monitoring such as the blue green algae work and American Recovery and Reinvestment Act (ARRA) oyster monitoring and mapping.

Katie asked if there are any ideas for additional monitoring or research needs that should be listed in the BMAP. Examples from the SLRWPP Update include a nutrient flux study, further hotspot analysis, and evaluation of legacy loads. Jason stated that nutrient flux is important because when the basin was first modeled, the loads did not match actual data because so much of the load is coming from groundwater moving in and out. Kevin stated that Steve Krupa with

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SFWMD did some initial groundwater assessments in the basin, but Kevin was unsure of where the study stands. Jason stated that it would be a better model if groundwater loads were included. There is also an issue with legacy loads and it would be helpful to have information on the loads to identify areas for dredging. Jason noted that he thought it would be helpful to list research ideas in the BMAP. Glen Gareau stated that there is not much information on the nutrient load from reuse. Tom responded that the phosphorus in the reuse water is more than typical grass needs; however, the grass will take up nitrogen. Katie stated that FDEP recently completed a study on reuse statewide, and she will send Glen this report.

Deb stated that she thinks it is good to list the research items in the BMAP because this information will help to bring some reality to the model situation. It also helps to give ideas on what else needs to be taken into account, other than just building stormwater projects. This list of research items should link directly to Northern Everglades documents. Katie responded that the BMAP would include the list of research ideas from the SLRWPP Update and a reference that this information came from that document. Deb noted that having those items vetted through the SLRWPP process is helpful.

Tom stated that there should be something in the monitoring plan to acknowledge Lake Okeechobee discharges and to conduct more intensive monitoring to track loads from the releases. Kevin responded that SFWMD has water quality monitoring stations at the structures in the basin. When the regulatory releases are occurring, SFWMD can measure what is coming from Lake Okeechobee at the structures. Katie added that the data from the structures monitoring are included in the *South Florida Environmental Report* (SFER). Tom stated that the annual reports will list the number of projects completed and the estimated load reductions but the reports should also note when the gates were open and what loads were imported into the basin to determine if there was a net gain or loss of nutrients in the basin during the year. Katie stated that the Lake Okeechobee influence on BMAP achievement could not be separated out. However, the annual report could assess the Lake Okeechobee discharges and how they affected basin water quality using information from the SFWMD monitoring at the structures.

Katie presented information from the Draft 2013 SFER with data at the Roosevelt Bridge monitoring station. The final SFER will be posted on March 1, 2013, and this information will be the same in the final report. At this station, TN fluctuated from 0.5 to 1.5 mg/L, and the TMDL target is 0.72 mg/L for TN. The TP concentrations were generally less than the long-term medians, but were elevated above TMDL target of 0.081 mg/L for TP. Deb asked if the Lake Okeechobee loads were backed out of these numbers. Kevin responded that this is just reporting the data from the station, which is different from what would be included in BMAP reporting. Katie added that Mark Perry (Florida Oceanographic Society) had asked for the current data at the Roosevelt Bridge site at the last meeting.

Glen noted that Martin County sewered homes that were previously on septic tanks around Roosevelt Bridge. This area had an identified fecal coliform issue, but these septic tanks could have also affected nutrient concentrations. Glen added that the second phase of this sewer project has not been fully funded.

Identify Key Existing Stations and Gaps in Network

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The stakeholders reviewed the maps of the existing monitoring to determine the network for the BMAP monitoring plan. Updated monitoring table and maps will be provided in the BMAP.

Adjourn

The meeting was adjourned at 3:45 PM.

Action Items

- The BMAP will only list the primary objective, which will be updated to include a reference to the estuary and river. – *Completed.*
- The BMAP will include one list of monitoring parameters. – *Completed.*
- The BMAP will include a list of potential research studies. – *Completed.*
- Katie will send Glen Gareau the FDEP reuse study. – *Completed.*