

**Central Indian River Lagoon
Basin Management Action Plan (BMAP)**

Technical Meeting Summary

Friday, January 15, 2010

10:00 AM – 12:00 PM

FDOT Treasure Coast Operations Center

Operations Crew Building Room 3

3601 Oleander Ave., Ft. Pierce, Florida 34982

Attendees

Amy Adams, Cape Canaveral Scientific, Inc. Carolina Alvarez, Brevard County Vanessa Arnal, Citizen Virginia Barker, Brevard County J.M. Boyer, Masteller & Moler, Inc. Tiffany Busby, Wildwood Consulting Joe Carroll, Carroll and Associates Kevin Carter, SFWMD Marvin Carter, Carter Associates Gina Chiello, FDEP-SED Cindy Corrente, Indian River County Ellen Daniel, FDOT Robert Day, SJRWMD IRL NEP Richard Earp, E-Sciences Rebecca Elliott, FDACS Gordon England, Stormwater Solutions Chris Ferraro, FDEP Patricia Gertenbach, E-Sciences Scott Glaubitz, Indialantic David Gunter, Indian River Farms WCD Dennis Hanisak, HBOI at FAU Chris Hannden, BKI, Inc. Tom Hill, Florida Farm Bureau Mike Hotchkiss, Indian River County Dianne Hughes, FDEP George Jones, Indian River Keeper Bob Kelly, SAIC Linda Kinehen, Sebastian	Jenni Lamb, Melbourne Ivette Leiva, FDOT Colleen Lindler, Melbourne Beach Mike McCabe, Palm Beach Bach McClure, Brevard County Peter McClure, Evans Properties Keith McCully, Indian River County Tom McGowan, MSLRWCD/AECOM Bill Messersmith, Vero Beach Keith Mills, West Melbourne Matt Mitts, Vero Beach Steve Peene, ATM Marcy Policastro, Wildwood Consulting Robert Potts, E-Sciences Margie Reynolds, Sebastian Troy Rice, SJRWMD IRL NEP H.M. Ridgely, Evans Properties George Simons, Carter Associates Terry Southard, Indian River County Jason Storrs, FDEP-SED Dani Straub, Melbourne Steve Szabo, Jones Edmunds & Associates Amy Tracy, FDEP Bob Ulevich, Sebastian River Improvement District Marc Virgilio, FDEP Harvey Wheeler, E&S Control Solutions Kaylene Wheeler, Palm Bay
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Welcome and Opening Remarks

Tiffany Busby welcomed everyone to the Central Indian River Lagoon (IRL) Basin Management Action Plan (BMAP) technical meeting. Tiffany thanked the Florida Department of Transportation (FDOT) for hosting the meeting. Since this is a large basin, the Florida Department of Environmental Protection (FDEP) is trying to move the meeting location around so each entity has a chance to host. Tiffany introduced Amy Tracy who is the FDEP Basin Coordinator and thanked Dianne Hughes from FDEP Southeastern District and Chris Ferraro from FDEP Central District for attending the meeting. The participants introduced themselves and the entity they represent.

Central Indian River Lagoon Basin Management Action Plan (BMAP)

Allocation Approach

Tiffany stated that there is an adopted nutrient total maximum daily load (TMDL) for the basin, which gives total load reductions needed to meet the seagrass targets. One of the first key steps for the BMAP is to develop a process to meet the TMDL goals. In order to do this, each entity's responsibility must be allocated so that can determine what actions must be implemented to meet the TMDL. Since there are so many entities in the Central IRL, FDEP determined that they will assign detailed allocations to each entity.

Amy Tracy stated that there are several handouts that go with this presentation on allocations including the list of stakeholders by project zone, a white paper that explains the allocation process in writing, and three maps of the project zones. Bob Kelly will be working with FDEP on the allocation calculations. Amy noted that she found out yesterday that the IRL folder on the FDEP FTP site is missing and FDEP staff are working to bring the folder back onto the FTP site.

The TMDL specifies target loads for the waterbody identification numbers (WBIDs) in the Central IRL. The load reductions that the TMDL are based on do not include reductions from atmospheric deposition; therefore, atmospheric deposition will not be included when calculating the BMAP allocations. The TMDL load reductions are the goals to achieve the seagrass depth-limit targets. The point source facilities are listed in the TMDL with their allocations, which have been or will be included in the permits. The municipal separate storm sewer systems (MS4s) and non-MS4s (other urban stormwater sources) will receive allocations through the BMAP process. There are also water control districts (WCDs) and agriculture in the basin that will receive allocations. Amy noted that each entity's allocation is not yet calculated and the TMDLs for the impaired tributaries to the IRL are needed before allocations can be determined. At this point, only the process to determine responsibilities can be discussed.

Included in the TMDL document is the discussion of different segments of the IRL Basin. For the BMAP, a similar approach of "project zones" will be used. The project zones are subsets of the WBIDs and provide a good representation of the hydrology and residence times for different areas in the basin. The residence time is an important factor and makes a difference for the lagoon response to project implementation. The project zone approach gives stakeholders the option to partner with other entities in their project zone on a regional project to achieve reductions more cost effectively. The Central IRL basin will have three project zones: (1) Central A, which is from the Melbourne Causeway to Grant Farm Island; (2) Central SEB, which is from Grant Farm Island to the Wabasso Causeway; and (3) Central B, which is from the Wabasso Causeway to the C-25 Canal. The project zones also include those impaired tributaries that flow to these areas and the TMDLs should be drafted in spring 2010.

Bob Ulevich asked if an entity falls into two project zones if they can choose which zone to be in. Tiffany responded that this will be discussed in more detail later in the presentation. Richard Earp stated that the maps in the handouts are not clear and it is difficult to differentiate which entity is in what project zone. The maps in the presentation are easier to understand. Amy responded that the primary purpose of the handouts is to show where the project zones are and the Geographic Information System (GIS) shapefiles will be provided on the FTP site for the entities to use. Patty Gertenbach stated that it would be helpful to see what WBIDs or segments

Central Indian River Lagoon Basin Management Action Plan (BMAP)

from the TMDL are included in each project zone. Bob Kelly stated that a crosswalk of the WBIDs in each zone will be provided. Virginia Barker asked if there will be an opportunity to comment on whether the zones make sense locally. Amy responded that comments can be provided but these zones are based on work that Joel Steward and Whit Green (SJRWMD) have done in the basin. These zones are similar to the way the TMDL modeling was structured but FDEP is interested to hear comments and any relevant information would be considered. Amy Adams asked how the allowable loads for each project zone will be determined. Amy Tracy responded that the total allowable load for each zone will be calculated based on the total allowable load for each of the WBIDs in that zone.

Bach McClure asked why the entire drainage basin that contributes to each WBID is not included. Several of the creeks are not included in the project zone boundaries. Amy responded that since those creeks are not impaired they are not included in the basin. Bach noted that projects on some of the creeks would benefit the IRL but based on the boundary, these projects would not count for credit in the BMAP. Amy responded that projects on unimpaired creeks would not receive credit unless the entity can provide information on why the project should be included. FDEP's WBID boundaries include the contributing watersheds. Bob Kelly added that it seems logical that if a project reduces the load to a basin WBID then the entity should receive credit. This needs to be a policy decision by FDEP and staff will bring this question to upper management. Virginia noted that the St. Johns River Water Management District (SJRWMD) C-1 project is outside of the BMAP boundary. Amy Adams added that FDEP is contributing TMDL money for this project and based on the boundaries, Melbourne would not be able to use this project for BMAP credit.

Amy Tracy stated that the method to calculate the loads and allocations will be GIS based. The output from the Pollutant Load Screening Model (PLSM), which is a GIS shapefile, will be used as a basemap. The shapefile includes land uses, event mean concentrations (EMCs), runoff (RO) coefficients, and 30-year average rainfall. A series of GIS processing steps will be used to obtain the information needed for the calculations. The first step is to clip the BMAP area from the output file since the output file spans across all three BMAPs. This will create a basemap just for the Central IRL. The FDOT roads will then be pulled out using a shapefile provided by FDOT. This will leave the basemap without FDOT roads and create a separate file for FDOT with all their land uses, which will be used to determine their starting loads based on the PLSM information. This will ensure FDOT infrastructure is not assigned to any other entity. Virginia asked if the FDOT layer will include all of their ponds and other treatment areas as well. Amy responded that it will and FDOT needs to provide FDEP with this information.

Amy explained that the next step will be to remove any land uses that are assigned zero EMC values in the model so that any entity with these land uses in their jurisdictions will not be penalized for that acreage. The WCDs will be the next entities removed from the basemap and Amy went through an example of how the Melbourne-Tillman WCD would be clipped from the basemap. Troy Rice asked why Melbourne-Tillman WCD would be taken out of the basemap. Tiffany responded that they will be assigned an allocation based on the land uses but they will be removed from the basemap so that their area is not assigned to a city or county. Amy added that some of the WCD boundaries overlap with the incorporated areas so only the portion of the WCD outside of the incorporated area will be removed. Amy has been working with the WCDs

Central Indian River Lagoon Basin Management Action Plan (BMAP)

to ensure that FDEP has the correct boundaries for these districts. Richard asked for clarification that the term “take out” does not mean the entity is being removed but that their boundaries are being delineated to receive an allocation. Amy responded that this is correct and that, in the example, Melbourne-Tillman WCD has been removed from the basemap and assigned a load.

Amy Adams asked if an entity only receives credit for projects on that acreage in that area. Bob Kelly responded that an entity will only be responsible for loading from those acres but may choose to meet their reductions outside of those acres, as long as the project is in the same project zone. Virginia asked if there is another portion of the Melbourne-Tillman WCD that will be included in another project zone. Amy Tracy responded that she is not sure because this was prepared as an example for this presentation. Bob Day noted that Melbourne-Tillman WCD is missing from the map handouts. Amy responded that any refinements to the maps should be provided so they can be updated.

Amy stated that after pulling out FDOT, areas with zero EMC values, and WCDs from the basemap, then agricultural areas outside of the WCDs will be removed to receive an allocation as a whole for agriculture. Troy asked who will be responsible for agricultural acres in WCDs. Tiffany responded that WCDs will be responsible for agriculture in their jurisdiction.

Amy noted that each city and town will then be removed from the basemap to determine their loads and to leave just the counties in basemap. Amy stated that the stakeholders will need to provide information on their MS4 system, if applicable, so that the MS4 and non-MS4 areas in each jurisdiction can be determined. Robert Potts asked once all the clipping for the calculations is complete if FDEP can provide each clipped portion on the FTP site. Amy responded that she will post all those shapefiles once the processing is finished. Once each entity has a shapefile, FDEP will use the land use codes and associated loads to determine the starting point load for each stakeholder. The project zone’s allowable load per acre from the TMDL will be calculated and this load per acre will be multiplied by the number of acres in each jurisdiction. The starting point load minus the total allowable load will yield the total reduction for each entity.

Steve Peene stated that when the allowable load per acre is calculated, this will take the total load and spread it out evenly. Therefore, hotspots or areas of high loading are not being considered up front. Tiffany responded that the target load per acre gives a point to compare the starting loads. The starting loads are based on what is coming from each jurisdiction using information from the model on the land uses. Each jurisdiction can focus their project efforts on hotspot or areas with high loads to get the most cost effective reductions. Bob Kelly added that those areas with the highest loads per acre could be easily identified to determine if there is an option to treat those areas.

Scott Glaubitz asked what the basis is for the loads assigned to each land use. Bob Kelly responded that the loads are based on information that went into model. The land use coverage was developed by SJRWMD with some ground truthing. Gordon England added that the EMCs used in the model are based on a lot of research. Tiffany noted that the model is also calibrated to basin water quality data to ensure the model results are close to reality. The process used to determine the loading from each type of land use is a generally accepted method for watershed

Central Indian River Lagoon Basin Management Action Plan (BMAP)

modeling. Bob stated that the TMDL and supporting model documents are posted on the FTP site.

Peter McClure asked if the load reduction results are measured or calculated. Amy responded that when the entities submit their projects, the estimated load reductions will be calculated. The BMAP will also include a monitoring component to determine how the projects are working based on water quality data. Peter asked if soils information is included in the model. Tiffany responded that soils are included and this information is on the FTP site (once it is restored). Gordon asked if FDEP will use the PLSM model as is or a modified version. Amy responded that they will use straight output from model.

Amy stated that in order to do these calculations, information is needed from the entities. The municipalities' boundaries that FDEP has on file are the incorporated places which are based upon 2000 data and some entities have annexed. Amy will need input from the entities on whether the boundaries FDEP has on file are correct. Information is also needed on the MS4 boundaries to correctly calculate the loads associated with the MS4. In addition, FDEP will determine a *de minimus* value as part of the allocations but this calculation has not been done yet so there is no information on who will qualify. Both the total nitrogen (TN) and total phosphorus (TP) *de minimus* values must be met for an entity to not receive an allocation. FDEP will contact those entities that qualify. Bob Kelly added that the loads from all jurisdictions will be calculated and some will be very small compared to overall load and they will not be included. All the loads from the entities must first be determined before establishing the *de minimus* values. Amy noted that once the allocations have been determined, a presentation will be given on how project credit in the BMAP will be assigned. The BMAP will be implemented in phases so that each phase will address one-third of the total reduction in a five-year period.

Richard asked who will be responsible for the non-MS4 areas. Amy responded that the jurisdiction is still responsible for its non-MS4 area. Bob Kelly added that the non-MS4 area is being separated to show what areas are linked to the MS4 permit and which areas are not. This makes a difference in terms of enforcement. Tiffany noted that MS4 areas will be linked and enforceable through the MS4 permit and non-MS4 areas will be enforceable through the BMAP itself. The entity will receive a wasteload allocation for the MS4 and a load allocation for the non-MS4.

Peter asked how land use changes since 2000 will be handled. Amy responded that the TMDL is based on the 2000 point in time so this will be used as the starting point for the BMAP. The BMAP will be implemented in cycles and the land use information will be updated next time. Peter asked if each small agricultural area is responsible for reductions. Bob Ulevich added that many areas are like a checkerboard with a community development district (CDD) within a WCD. Tiffany responded that the agricultural areas will receive one allocation and the urban areas will receive a separate allocation. Amy added that the Florida Department of Agriculture and Consumer Services (FDACS) will work with growers to sign notices of intent (NOIs) to implement appropriate best management practices (BMPs). Bob Kelly noted that it is likely that the required BMPs will not achieve the total agricultural reductions and other options to meet the remainder of the allocation will need to be determined.

Central Indian River Lagoon Basin Management Action Plan (BMAP)

Peter asked what water quality data FDEP would accept from an entity to prove that they are not contributing to the load. He has been taking samples in his area for years. Bob Kelly responded that FDEP would need to see the water quality samples to determine if they are sufficient to say that there is no effect from that area. Peter asked if FDEP would be able to provide guidance on what monitoring needs to be done. Amy responded that they can talk about this in more detail after the meeting to determine if the sampling program was designed correctly to show trends. Bob Ulevich noted that one of the things they do in the Sebastian River Improvement District is “defensive monitoring.” The district owns a communal conveyance system but it only contributes about 40% of the total load. They started this monitoring in anticipation of a TMDL or something similar to show that they are having no or only a small effect. Bob also noted that a lot of the grove growers implemented BMPs with understanding that they would have met their requirement. Amy noted that the BMP implementation should be reflected in the water quality data.

Gordon asked if once the PLSM is used to calculate base loadings, if the model will be available for the entities to run. Amy responded that the output files for all three BMAPs were provided on the FTP site. The PLSM is GIS based and not a separate model such as Hydrologic Simulation Program – Fortran (HSPF) model that can be run. A separate meeting will be held to discuss the project calculations.

Jenni Lamb asked when the tributaries would be added to the project zones. Amy responded that the project zone boundaries already include the tributaries. Jenni noted that there are Brevard County roads running through the cities and she asked if they would be removed similar to FDOT roads. Amy responded that she doesn’t know if the information is available to remove county roads, if not they will stay in. David Gunter asked how county roads in the WCDs would be addressed. Tiffany responded that the county roads in WCDs could also not be removed without information on the roads.

Provisional Credit for Nonstructural Activities

Tiffany reviewed the handout on provisional project credits for the BMAP. There is pretty good information available on the reductions associated with structural BMPs; however, there are other activities that FDEP wants to give credit for but there is less information to determine reductions. Therefore, these activities are given provisional credit and there are studies underway in Florida to refine the reduction estimates. These values will be updated in the next BMAP iteration. There are two main categories of provisional credit. The first category is education and outreach efforts, which can be up to a 6% credit off the total starting point load. The Florida Yards and Neighborhoods (FYN) Program is worth 3% credit alone. Having a suite of local ordinances (landscaping, irrigation, fertilizer, and pet waste) provides 2% credit, with partial credit given for having some of the ordinances. Other activities such as public service announcements, pamphlets, websites, and a line to report illicit discharges are worth 1% credit. FDEP wanted to present this information early in the BMAP process to give the entities time to think about putting some of these efforts into place. These activities are eligible for credit no matter when they started so that early adopters of education efforts are not penalized.

Bob Ulevich stated that his improvement district is mainly agriculture and he is limited in what education activities he can implement. He asked what the WCDs could do to pursue some of this

Central Indian River Lagoon Basin Management Action Plan (BMAP)

6% credit. Tiffany responded that this is the first BMAP basin with WCDs so FDEP will need to discuss in more detail how to assign credit for the WCDs. Mike McCabe asked if the education activities had to be implemented before the BMAP was complete or can they be included in the BMAP. Tiffany responded that education can be included as a project in the BMAP but any efforts would need to be in place in the first five years. It is better to have the activities in place before the BMAP is completed.

Tiffany noted that street sweeping is also a provisional credit option. FDEP is expecting the results from the Florida Stormwater Association (FSA) study on street sweeping this year and this information may be used to determine credit. The handout provides an example of how credit for street sweeping was calculated in another basin. Bach asked if the street sweeping information would need to be provided for each project zone. Tiffany responded that the frequency of sweeping and the miles swept should be provided for each project zone. The question was asked whether the method uses road miles or two lane road miles. Tiffany responded that the example provided uses road miles because the method assumes that the entire road is swept. Virginia asked if the FSA study will look at seasonality and not just average conditions because there is a very strong wet/dry season in Florida that could impact the effectiveness of sweeping. Amy responded that she is not sure but the study does look at a wide variety of parameters so credit will likely be assigned for both TP and TN reductions.

Inspection and Maintenance of Neighborhood Stormwater Ponds

Tiffany stated that after the last meeting, she followed up with SJRWMD on the issue of homeowner association (HOA) ponds. The South Florida Water Management District (SFWMD) still needs to be contacted on how they handle these ponds. Any issues with HOA ponds that have Environmental Resource Permits (ERP) should be reported to SJRWMD for follow up. The SJRWMD Palm Bay office provided information that some of their staff has been tasked with these inspections. If the HOA pond does not have an ERP but the pond discharges to the MS4, the local jurisdiction has the ability to regulate through their MS4 permit. David Gunter asked what happens if the pond is in a WCD. Tiffany responded that since they are a special district, they may have the authority to regulate what goes into their system. Amy also suggested that any flagrant violations be reported to the local FDEP office.

Tiffany noted that in terms of maintenance, the responsibility depends on whether there is an ERP and what the local policies are. Peter asked what happens if the HOA pond has a lot of wading birds and it is not the HOA generating the nutrients. Tiffany responded that the pond does provide some treatment and it is not the goal of the BMAP to get rid of wildlife. Amy added that the water sampling would show that only that pond has high nutrients and they can provide information about the wading birds. Bob Ulevich noted that they have been talking about water farming to use some abandoned properties and this could attract wading birds so this is a potential issue. Gordon responded that the reuse system would provide credits as a BMAP project that could offset the load from the wading birds.

Virginia asked if the county comes up with an incentive program for HOAs to upgrade their systems, how they would get credit for that. Amy responded that FDEP would need information on the plan and then FDEP can determine how to assign provisional credits. Tiffany noted that

Central Indian River Lagoon Basin Management Action Plan (BMAP)

something like adding alum treatment to a pond would be easy to calculate credit but a program would need some consideration on what credit could be assigned.

Wrap Up

Tiffany noted that when FDEP selected the meeting dates for the IRL BMAPs, they checked to make sure there were no major conflicts with other meetings. Since that time, SJRWMD has started their water supply planning meetings, which are held on the same day as the IRL meetings. FDEP apologizes for the conflict and is trying to work something out with SJRWMD because there were a few stakeholders who stated that this is an issue for them.

Next Meeting

The next Central IRL meeting is scheduled for Friday, April 9, 2010, at the City of Palm Bay Council Chambers located at 120 Malabar Road, Palm Bay, Florida 32907.

Adjourn

The meeting was adjourned at 12:00 PM.

Action Items

1. FDEP will prepare a crosswalk that shows which WBIDs are included in each project zone. – *Complete.*
2. FDEP staff will discuss with upper management whether credit can be given for projects on unimpaired tributaries outside the basin boundary that would benefit the IRL. – *Complete.*
3. Amy Tracy will update the map handouts to include Melbourne-Tillman WCD. – *Complete.*
4. Amy Tracy will post the clipped shapefiles once the allocation calculations have been completed.
5. All entities should provide their updated jurisdictional boundaries to Amy Tracy.
6. All MS4 entities should provide their MS4 boundaries to Amy Tracy.
7. Amy Tracy will talk to Peter McClure about his monitoring and provide guidance on what FDEP considers an appropriate monitoring plan.
8. FDEP staff will discuss how to assign education credit for the WCDs.
9. FDEP staff will determine how credit would be assigned for education activities that will not be in place before BMAP adoption.
10. FDEP staff will discuss if and how BMAP credit can be assigned for implementing a program to encourage HOAs to upgrade their ponds.