Indian River Lagoon
Basin Management Action Plan (BMAP)

Technical Meeting Summary
Friday, June 12, 2009
10:00 AM – 12:00 PM
Brevard County Agricultural Center
3695 Lake Drive, Cocoa, Florida 32926

Attendees

John Abendroth, FDEP	Bill Kerr, IRL NEP
Carolina Alvarez, Brevard County	Mark Leslie, Titusville
Tom Baker, Melbourne	Colleen Lindler, Melbourne Beach
Walter Bandish, Cape Canaveral	John Matthews, NASA KSC
S. Barber, Cocoa Beach	Darren May, Cape Canaveral AFS
Virginia Barker, Brevard County	Mike McBee, Brevard County
Ann Benedetti, SJRWMD	Mike McCabe, Palm Beach
Chuck Billias, Cocoa Beach	Bach McClure, Brevard County
Bennet Boucher, Cape Canaveral	Terrena McCue, Reiss Engineering
J.M. Boyer, Citizen	Matt Mitts, Vero Beach
Pearl Breckenridge, E-Sciences	Stephen Moler, Mastellar & Moler
Richard Brewer, Bussen-Mayer Engineering Group	John Mongioi, Friends of Turkey Creek
Tiffany Busby, Wildwood Consulting	Danita Morgan, Fort Pierce
Anne Capelli, Mock Roos & Associates	Mark Morris, Vero Beach
Joe Carroll, Carroll and Associates	Timothy Murphy, New Smyrna Beach
Kevin Carter, SFWMD	Robert Musser, Canaveral Port Authority
June Clark, Cape Canaveral	David Nichols, Miller Legg and Associates
Keith Cunningham, Melbourne	Steve Peffer, Brevard County
Rich Davis, Jones Edmunds & Associates	Alfred Pennell, Melbourne-Tillman WCD
Robert Day, SJRWMD IRL NEP	Daniel Phillips, SpecPro Environmental Services
Duane DeFreese, Aquafiber	Marcy Policastro, Wildwood Consulting
Roger Dykes, Cocoa	Allen Potter, Satellite Beach
Doug Durham, NASA	Robert Potts, E-Sciences
George Dussich, Eco Sense International	Thomas Price, KSC
Jim Eager, FDEP CAMA	Jeff Ratliff, Cape Canaveral
Jim Egan, Marine Resources Council	Troy Rice, SJRWMD IRL NEP
Rebecca Elliott, FDACS	John Royal, Brevard County
Gordon England, Stormwater Solutions	Sally Scalera, Brevard County Extension
Alicia Forbis, Fort Pierce	Charles Shinn, Florida Farm Bureau Federation
Vivian Garfein, FDEP	George Simons, IRFWCD
Patricia Gertenbach, E-Sciences	David Sinton, Melbourne Village
Lou Giacona, Indian Harbor Beach	Larry Smith, USAF
Clark Giangarra, Algae Collection Technology	Doug Sphar, Sierra Club – Turtle Coast Group
Andrew Giannini, Quentin L. Hampton Associates	Mary Sphar, Sierra Club – Turtle Coast Group
Lisa Good, Brevard County	Suzanne Stempel, Brevard County
Whitney Green, SJRWMD	Joel Steward, SJRWMD
Don Griffin, Rockledge	Dani Straub, Melbourne
Lorraine Guise, Titusville	Janice Szuflita, West Melbourne
David Gunter, Indian River Farms WCD	A. Townsend, Rockledge

Evelyn Guyton, Citizen	Amy Tracy, FDEP
Sue Hann, Palm Bay	Suzanne Valencia, Citizen
Ben Hayner, Cocoa	Joe Walter, UF
Janet Hearn, ATM	Kalina Warren, FDEP
Mary Hillberg, Citizen	Everett Wegerif, Cocoa
Dianne Hughes, FDEP	Marilyn Wetmore, Citizen
Erlyn Hupfer, ISC Environmental Assurance	Kaylene Wheeler, Palm Bay
Michael Jarusiewicz, Rockledge	Forest Willis, Daytona Beach
Micheal Jennings, USFWS	Diane Wilson, Indian River County
Carol Johnson, FDACS	John Windsor, Florida Institute of Technology
Tim Jones, EPA	Kelly Young, Volusia County
Bob Kelly, SAIC	

Welcome and Opening Remarks

Vivian Garfein welcomed everyone to the meeting and noted that a lot of great projects have been implemented in the basin through the Indian River Lagoon (IRL) National Estuary Program (NEP). The Total Maximum Daily Load (TMDL) Program will add another element to improve water quality in the basin. The Basin Management Action Plan (BMAP) process is collaborative with the Florida Department of Environmental Protection (FDEP) and the stakeholders working together to make progress towards restoring the natural system. Vivian Garfein stated that she looks forward to working with everyone in the coming months and thanked the participants for attending.

John Abendroth introduced himself as the Environmental Administrator for the FDEP Watershed Planning and Coordination Section in Tallahassee. He noted that this section is responsible for creating BMAPs across the state. The primary contact for this basin is Amy Tracy who is the Basin Coordinator. Working with Amy are two contractors from Wildwood Consulting, Tiffany Busby and Marcy Policastro. Bob Kelly with SAIC will provide technical support during the BMAP process. Vivian is the Director of the FDEP Central District. Kalina Warren is also located in the Central District and is the Watershed Coordinator. Troy Rice and Bob Day provide support from the IRL NEP and Joel Steward and Whit Green with the St. Johns River Water Management District (SJRWMD) provided the supporting information used in the TMDL modeling. Anita Nash, who is not in attendance today, is also from FDEP in Tallahassee and will be providing support throughout the process. John Abendroth noted that other key personnel in attendance are Diane Hughes from FDEP Southeast District and Kevin Carter from South Florida Water Management District (SFWMD). David Sinton, a Commissioner from the Town of Melbourne Village, was also introduced. The participants then introduced themselves and the entity they represent.

Tiffany Busby stated that the purpose of the meeting is to provide basic information on the process to achieve the TMDL. Information that is more specific will be presented as the BMAP process moves forward, but the goal is to answer some of the more general questions and address the basic informational needs today. Any technical questions will be deferred to a future meeting or a follow-up phone call.

BMAP Components

Amy Tracy welcomed everyone to the introductory kickoff meeting for the IRL BMAP. Amy provided an overview of the key components of a BMAP:

- TMDLs being addressed;
- Assumptions and considerations;
- Future growth and how to address any additional loads from growth in the basin;
- Allocations;
- Projects, which can be individual or regional, structural or nonstructural, and must be maintained as permitted;
- Funding, which is an important component to show commitment to the BMAP;
- Monitoring plan to determine how the projects are working, how the lagoon is responding, and how quickly reductions are being achieved;
- Implementation approach with goals; and
- Appendices with supporting information.

BMAP Development Process

Amy Tracy stated that the BMAP is developed collaboratively with the stakeholders, which helps to create a successful plan. For point sources, which include wastewater treatment facilities (WWTFs) and municipal separate storm sewer systems (MS4s), the BMAP is enforceable through the National Pollutant Discharge Elimination System (NPDES) permits. For nonpoint sources, the projects in the BMAP are enforceable through the BMAP itself. Agriculture will have to implement the appropriate best management practices (BMPs) or monitoring. The BMAP must include a complete plan to show how the TMDL will be met. Since a lot of reductions must be achieved in this basin, the BMAP will have a phased implementation and FDEP will work with stakeholders to determine a reasonable timeline. The BMAP will also include considerations, which are the uncertainties identified during the BMAP process that cannot be addressed at this time but will be included in the next iteration of the TMDL and BMAP.

Agriculture will be assigned its own load allocation in the BMAP. The individual producers will have to implement BMPs or a monitoring plan designed by FDEP to show they are not having a water quality impact. The Florida Department of Agriculture and Consumer Services (FDACS) is a partner in the BMAP and will work with agricultural producers. BMAP responsibilities can be assigned to all sources including WWTFs, MS4s, urban areas outside of MS4s, nonpoint sources, federal facilities, and agriculture. In this process, a lack of funding does not mean that no action is required in the BMAP. This process may identify additional actions for facilities that have already upgraded. In addition, current BMPs may not result in the reductions needed. Amy Tracy stated that there have been numerous stormwater retrofits in the basin but there is still more that needs to be done to meet the TMDL. The basic stormwater BMPs may not be enough and reductions could be achieved through regional or cooperative projects to provide more cost effective reductions, water retention projects, and other innovative solutions.

Bill Kerr asked what will happen if an agricultural producer that implemented BMPs does not meet the water quality treatment requirement. He noted that he is concerned because he has heard that BMPs will keep agricultural producers out of trouble when they get into the BMAP process and these might not be enough to control loads from agricultural lands. There are not many agricultural representatives at the meeting today and this may result in backlash later.

Amy Tracy responded that there are several agricultural representatives in attendance and that FDEP is working collaboratively with FDACS to adopt BMP manuals for each commodity type. FDEP will evaluate the effectiveness of BMPs as they implemented and the manuals may need to be revised in the future if the water quality benefits are not seen.

George Dussich stated that his company works internationally and these same water quality issues come up in other countries. He asked if FDEP has had any exchanges with other countries to obtain ideas for other solutions. Amy Tracy responded that FDEP does work with others internationally, especially with the Dutch countries that have some good innovations. This is not directly part of the BMAP process but other participants that are identified can be invited.

Indian River Lagoon TMDLs Being Implemented

Bob Kelly stated that this presentation is an overview of the TMDL and more detail will be provided on how the TMDL was developed throughout the BMAP process. A TMDL is the maximum amount of a pollutant that can be discharged to a waterbody that will allow water quality standards to be met. TMDLs are required to be developed by the Clean Water Act for any impaired waters that do not meet Florida water quality standards. The BMAP is the plan to implement the TMDL. The TMDL consists of a target based on water quality standards and the necessary load reductions to achieve the target. In Florida, there are only narrative criteria for nutrients so the target needs to be developed to achieve the TMDL in a way that is consistent with the criteria. For the IRL TMDL, the target is based on a distribution of seagrass equal to the non-impaired system. To determine this distribution, aerial photographs from 1943 to the present, which show the distribution of seagrass, were examined. For total restoration, seagrass would need to occur at every location where there was ever seagrass in the past. To create a more reasonable target, a target distribution of 10 percent less than the historical distribution.

The required reductions in the TMDL were determined by analyzing the relationships between seagrass depth and the loading of total nitrogen (TN) and total phosphorus (TP) to the lagoon. Standard statistical techniques were used to evaluate these relationships with the best information available at the time. The loads were calculated for each waterbody identification (WBID) number in the basin. FDEP created the WBIDs as ways to identify segments of waterbodies based on the characteristics of the water in that area. The TMDL was also summarized into three major divisions: North IRL, Central IRL, and Banana River Lagoon (BRL). The required TN reductions to achieve the TMDL are 22 percent in North IRL, 51 percent for Central IRL, and 40 percent in BRL. The required TP reductions are 44 percent in North IRL, 47 percent in Central IRL, and 62 percent in BRL.

John Mongioi asked if the deeper the water, the less nitrogen and phosphorus are needed for the seagrass to be successful. Bob Kelly responded that there are many factors that affect seagrass and nutrients are one of those factors. The nutrients allow for the growth of algae in the water, which shade seagrass so they do not get enough light to grow. John Mongioi asked how the nutrient levels related to algae. Tiffany Busby responded that the nutrients act like lawn fertilizer and allow algae to grow in the water and block the light from reaching the seagrass. The algae can also grow on the seagrass.

Richard Brewer asked how the targets for the TMDLs were established. Tiffany Busby responded that the targets are based in part on the Pollutant Load Reduction Goals (PLRGs) established by the SJRWMD about one and a half years before the TMDL. FDEP was able to use the same model and background data in the TMDL water quality model.

Virginia Barker asked if other areas in the state have had to meet 50-60 percent reduction rates and if those areas had WWTFs with the same level of tertiary treatment as the IRL has. Bob Kelly responded that other basins have had similar reductions that had to be achieved only by stormwater sources.

A question was asked about suspended solids in the lagoon. Bob Kelly responded that suspended solids are one the factors that shade seagrass. While suspended solids will not be directly addressed in the BMAP, many of the technologies used to reduce TN and TP will also reduce suspended solids. Tiffany added that there is not a TMDL for suspended solids because there is no standard for suspended solids. Suspended solids reductions will be quantified as part of the project collection process, although it is not a required reduction in the TMDL.

A question was asked about the rulemaking process to establish TMDLs. John Abendroth responded that FDEP follows a rotating cycle to assess waterbodies in the state for impairments in accordance with state and federal law. Once the impaired waters are identified, the law requires that a TMDL be developed for those waters. The TMDL for the IRL Basin was adopted earlier this year and, towards the end of the last calendar year, FDEP held a public meeting to explain the draft TMDL and solicit comments. After the public comment period, the TMDL went through rulemaking and was then adopted by the FDEP Secretary. As part of rulemaking, there was a challenge period but there were no challenges to the TMDL. Currently, the TMDL has been set and the purpose of the BMAP process is to implement the TMDL. During the BMAP process, if information is obtained that will help to improve the TMDL this information can be included in future iterations of the TMDL.

Larry Smith asked if there are any benefits to seagrass from nutrients and if this was factored into the TMDL. Bob responded that it was not factored into the TMDL because there are not many positive impacts to seagrass from nutrients. The seagrass need nutrients to grow but they obtain the nutrients from the soil and not from the water column.

David Sinton asked how does freshwater affect seagrass and how these impacts were included in the TMDL. Bob Kelly responded that freshwater does affect seagrass distribution but there are no freshwater targets to create a TMDL.

Duane DeFreese asked if atmospheric deposition was factored into the TMDL. Bob Kelly responded that atmospheric deposition had been included and the impacts vary depending on the portion of the lagoon. Whit Green added that about 20 percent of the nitrogen is coming from rainfall with atmospheric deposition playing a greater role in North IRL than Central IRL.

The question was asked whether grazing by manatees has been considered as an impact to seagrass because there are an increasing number of manatees. Whit Green responded that the

depth that seagrass can grow should not be affected by grazing. However, there will be areas where the abundance of seagrass is diminished because of grazing.

Indian River Lagoon BMAP Approach

Tiffany Busby stated that several BMAPs have been developed in the state using different approaches and there is flexibility in how to implement the TMDLs. While the other BMAPs can be used as an example for the process, the IRL Basin is unique and the approach will need to be modified. FDEP will be working with the stakeholders to determine the best approach for this basin and the details will be decided during the BMAP process. The overall approach will be to divide the basin into three subbasins because this is a large area with differences in hydrology. The subbasins will be the same as those in the TMDL model: North IRL, Central IRL, and BRL. The plan will be to create three separate BMAPs for each of the subbasins. The TMDLs for the tributaries to the IRL are currently being developed and will be added to these subbasins once adopted. The stakeholders in those tributaries will be involved in the BMAP process from the beginning. It is already known that the reductions in the tributaries are needed to meet the main stem reductions. The subbasin maps in the presentation include the tributaries and the maps will be posted on the FDEP FTP site, which is listed on the agenda. The maps show the WWTFs and MS4s identified in the TMDL and there is also a handout that lists the WBIDs included in each subbasin.

Separate technical meetings will be held for each subbasin and all meetings will be open to the public. The technical meetings will be held to discuss the technical information that will be used to assist in making decisions for the BMAP. These meetings will be monthly and will rotate between the subbasins (each subbasin will meet quarterly). In addition, a Basin Working Group (BWG) will be formed. The BWG will consist of official members and this group will make recommendations to FDEP on issues related to the BMAP. It is important have this distinction between the technical meetings and BWG because of the Sunshine Law. Both meetings fall under the Sunshine law; however, since the BWG has official members, two or more members cannot discuss BMAP items outside of a publicly noticed meeting. There will be a series of technical meetings before the BWG is convened. The stakeholders will be asked by FDEP to identify who the BWG members should be.

Tiffany Busby reviewed the handout on the Sunshine Law. The Sunshine Law applies to any group that is making official recommendations to an agency and requires that the discussion occur in an open meeting that is publicly noticed. Technical meetings must also be noticed but the provision of no discussion outside of meetings does not apply since there are no members. This allows for an open process that does not constrain coordination between the entities.

Tiffany Busby noted that there has been discussion about incorporating the BWG into the NEP structure. Historically there was a management committee for the NEP and the BWG may be established as that committee. The number of representatives on the BWG has not yet been determined but more than one BWG may be needed dependant on the size.

Roger Dykes asked about the Office of General Counsel (OGC) case number on the TMDLs and if background information is associated with those case numbers. John Abendroth responded that when FDEP adopts a verified list, there is a period for someone to challenge the listing of a

waterbody. The case numbers are used for tracking in the event of a challenge so there is no supporting information with that number.

Kaylene Wheeler asked whether there would be one or three BWGs. Tiffany Busby responded that this has not been determined yet because the purpose of the BWG is to represent the responsible parties and not all responsible entities have been identified. FDEP will consider options to ensure that everyone is well represented and depending on the number of seats, three groups may be needed instead of one. FDEP will determine the BWG membership with input from the stakeholders.

Robert Potts asked since the tributaries will be included in the subbasins, how will credit be assigned for projects in the tributaries. Tiffany Busby responded that this will be determined during the subbasin meetings.

Gordon England asked what types of decisions the BWG will be making. Tiffany Busby responded that they will review the allocation approach, responsibilities in the monitoring plan, and assumptions and considerations. They can play a role in determining the details in the BMAP and for choosing the best option for an approach.

Duane DeFreese asked if the NEP designation opens opportunities for federal funding for BMAP projects. Tiffany Busby responded that the NEP designation has opened the lagoon to federal funding but she is unsure if it will help obtain even more funding. Typically, areas with TMDLs and BMAPs are given additional points for Section 319 funding, TMDL grants, and in the State Revolving Fund. Duane DeFreese asked if this area would receive greater funding through Section 319. John Abendroth stated that funding is currently limited; however, areas with impaired waters do receive extra points, which is why IRL has received so much funding in the past.

The question was asked that once the BMAP is adopted if the cities and counties will have to adopt the BMAP actions into their code. Tiffany Busby responded that the BMAP itself is enforceable and the actions are also enforceable through permits. Local governments may have actions they choose to adopt in their code for BMAP credit including a landscaping ordinance, pet waste ordinance, fertilizer ordinance, and Florida Yards and Neighborhoods. Jim Egan noted that he brought copies of sample fertilizer ordinances if anyone is interested.

Gordon England asked if the BMAP allocations would be included in the MS4 permit immediately or when the permit renews. Tiffany Busby responded that the allocations are not added to the permit because the MS4 permit has self-implementing language that requires implementation of actions in an adopted BMAP.

Dianne Hughes asked if the statewide nutrient criteria, once adopted, would affect this BMAP. John Abendroth responded that there is a process in place for FDEP to work with the U.S. Environmental Protection Agency to develop numeric nutrient criteria for streams, lakes, and springs by the end of this year and estuaries in the next year. Since the TMDL provides site-specific criteria, it will supersede the more general statewide criteria. Kevin Carter added that the draft criteria for freshwater are posted on the FDEP website and a public workshop is

scheduled for next Wednesday, June 17, 2009, in Tallahassee. The target date for adoption of the estuary criteria is January 2011 and Kevin Carter encouraged anyone who is interested to get involved soon.

Review of Homework Assignments

Tiffany Busby reviewed the homework assignments: (1) review the Sunshine Law to help with identification of BWG members; (2) identify missing stakeholders so they can be invited to future meetings; and (3) wait for guidance from FDEP before compiling a project list to ensure that the correct information is used for this basin.

Next Technical Meeting

Tiffany Busby stated one more basin-wide meeting is planned for July 10th. The participants decided that the Brevard County Agricultural Center would be a good location for that meeting. Tiffany Busby requested that the stakeholders start thinking about potential locations for the subbasin meetings. The meeting presentation, handouts, maps, and TMDL document will be posted on the FDEP FTP site.

Adjourn

The meeting was adjourned at 11:50 AM.