

Florida Department of Environmental Protection



Indian River Lagoon BMAPs 2014 Progress Reports

Annual Meeting
May 13, 2014





Presentation Agenda

- Overview of the BMAP annual progress reports.
- Seagrass depth limit targets evaluation.
- BMAP Path Forward
- Plan for the Central Indian River Lagoon (IRL).



Overview of the BMAP Annual Progress Reports





Annual Report Overview

- This is the first annual progress report on the Banana River Lagoon (BRL), North IRL, and Central IRL Basin Management Action Plans (BMAPs) activities.
- Information was provided by the stakeholders on activities from February 7, 2013 (BMAPs adoption) through February 28, 2014.
- The reports include updates on accomplishments with project implementation, path forward for the next year, upcoming activities, and the latest seagrass depth limit target evaluation.



Background on the BMAPs

- The total maximum daily loads (TMDLs) for the IRL Basin were adopted in March 2009 for total nitrogen (TN) and total phosphorus (TP) reductions to achieve water quality conditions needed for seagrass re-growth at historical depths.
- Allocations were assigned to the stakeholders in the BRL B, North A, and North B project zones.
- At the time of the BMAPs, the BRL A and all three Central IRL project zones were meeting seagrass targets and did not require allocations.
- The BMAPs were adopted by the Florida Department of Environmental Protection Secretary in February 2013.



Activities During the Reporting Period

- BRL BMAP:
 - 33 projects were completed during the reporting period.
 - 7 new projects were added to the BMAP.
- North IRL BMAP:
 - 12 projects were completed during the reporting period.
 - 5 new projects were added to the BMAP.
- Central IRL BMAP:
 - 14 projects were completed during the reporting period.
 - 23 new projects were added to the BMAP.



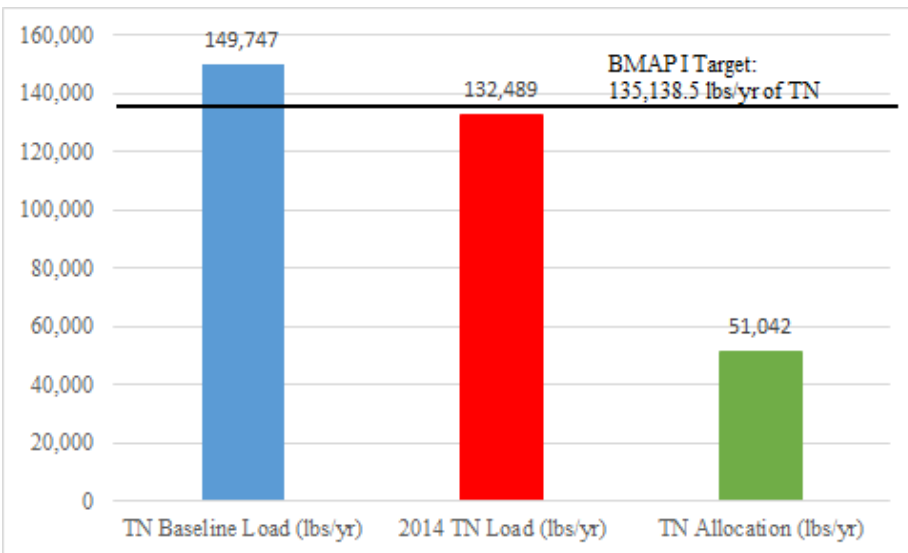
Activities, continued

- The Florida Department of Agriculture and Consumer Services (FDACS) continued to enroll agricultural producers in best management practices (BMPs) in the North IRL and Central IRL.
 - There is very little/no agriculture in the BRL.
 - There is 100% enrollment in South IRL.
 - Citrus acreage has declined because of disease.
- Many of the stakeholders continued their public education and outreach, street sweeping, and BMP clean out activities.
- The water quality and seagrass monitoring continued throughout the reporting period.

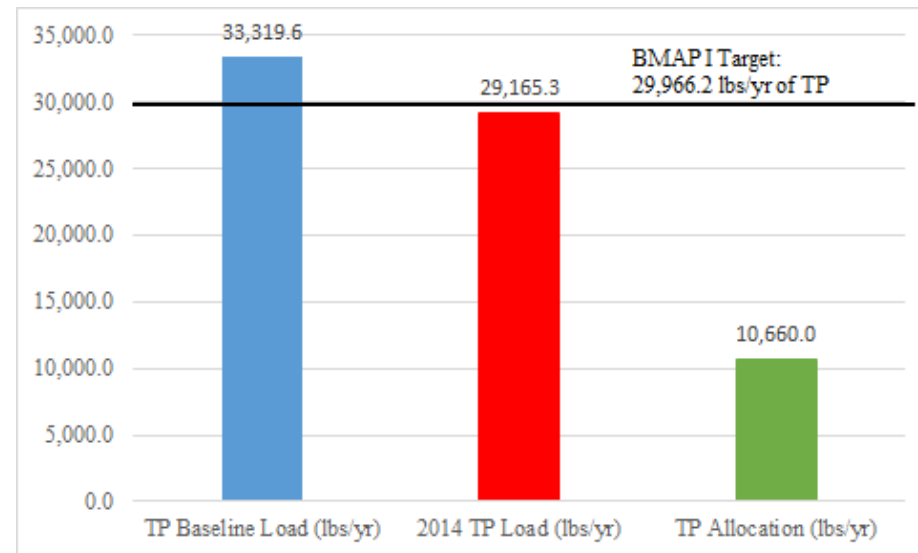


Progress to the BRL B TMDLs

- The total project reductions, including those shown as completed in the BMAP, are 17,258 lbs/yr of TN and 4,154.3 lbs/yr of TP.
 - This is greater than the required reductions for the first iteration of 14,608.5 lbs/yr of TN and 3,535.4 lbs/yr of TP.



Progress to the BRL B TN TMDL

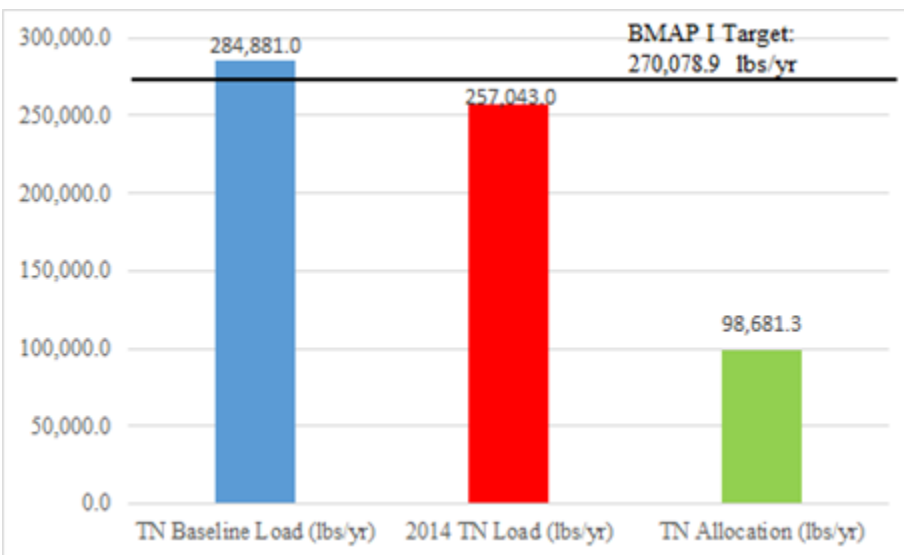


Progress to the BRL B TP TMDL

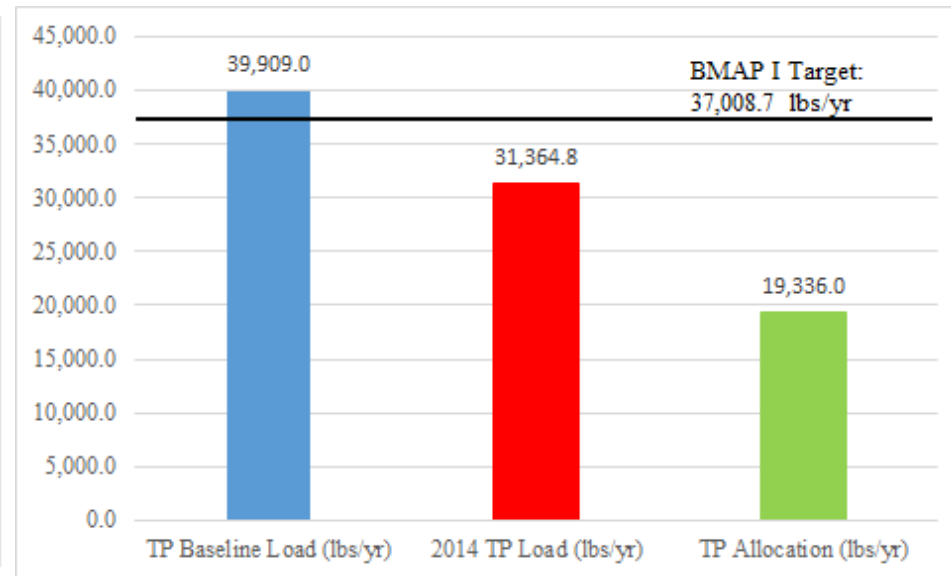


Progress to the North A TMDLs

- The total project reductions, including those shown as completed in the BMAP, are 27,838 lbs/yr of TN and 8,544.2 lbs/yr of TP.
 - This is greater than the required reduction for the first iteration of 14,802.1 lbs/yr of TN and 2,900.3 lbs/yr of TP.



Progress to the North A TN TMDL

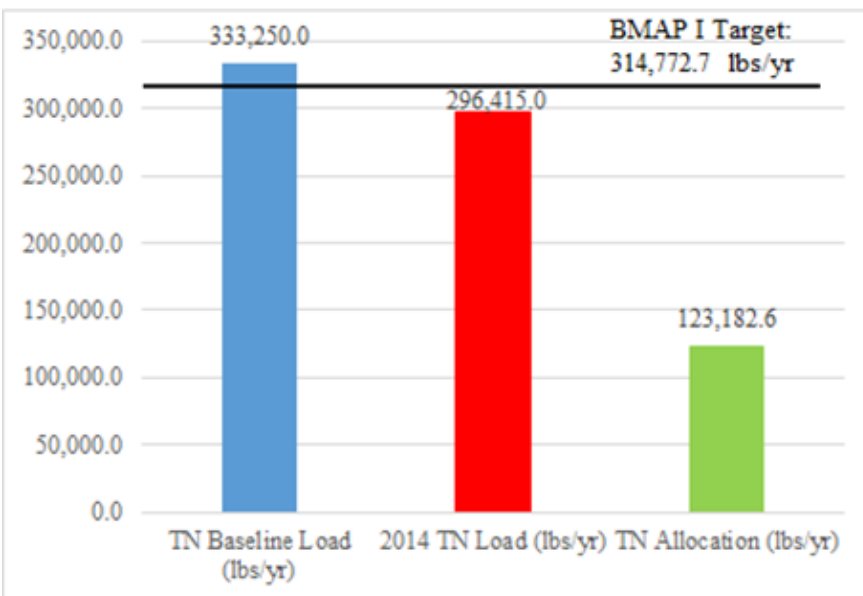


Progress to the North A TP TMDL

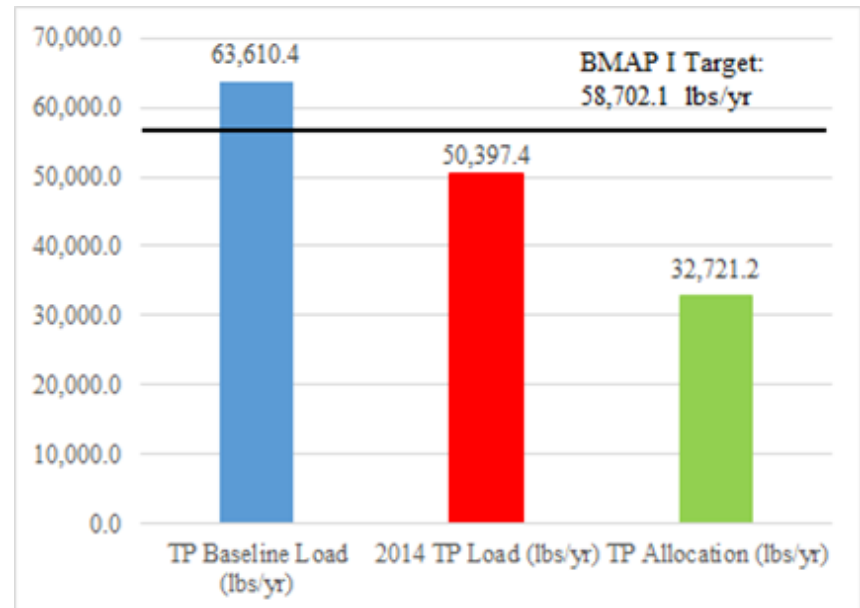


Progress to the North B TMDLs

- The total project reductions, including those shown as completed in the BMAP, are 36,835 lbs/yr of TN and 13,213 lbs/yr of TP.
 - This is greater than the required reduction for the first iteration of 18,477.3 lbs/yr of TN and 4,908.3 lbs/yr of TP.



Progress to the North A TN TMDL



Progress to the North A TP TMDL



Summary of Loading Reductions

Project Zone	TP Percent Loading Reduction	TN Percent Loading Reduction
Banana B	18.3	17.5
North A	41.5	15
North B	42.8	17.5



Fertilizer Ordinances

Local Government	Fertilizer Ordinance Status
Brevard County	Adopted
City of Cape Canaveral	Adopted
City of Cocoa	Adopted
City of Cocoa Beach	Adopted
City of Edgewater	In discussion
City of Fellsmere	Adopted
City of Indian Harbour Beach	Adopted
City of Melbourne	Adopted
City of Palm Bay	Draft
City of Rockledge	Adopted
City of Satellite Beach	Adopted
City of Sebastian	Adopted
City of Titusville	Adopted
City of Vero Beach	Adopted
City of West Melbourne	In discussion
Indian River County	Adopted
Town of Indialantic	Adopted
Town of Orchid	Adopted
Town of Palm Shores	Adopted
Volusia County	In discussion



BRL BMAP Projects

- Brevard County completed the Florida Boulevard pond managed aquatic plant system (MAPS).
- City of Indian Harbour Beach completed five exfiltration projects.
- City of Satellite Beach completed two large retention projects.
- Patrick Air Force Base completed the stormwater reuse project at the golf course pond.



Indian Harbour Beach Exfiltration



Satellite Beach Cassia Project Under Construction



North IRL Projects

- Brevard County completed wet detention, MAPS, and vegetation harvesting projects.
- City of Melbourne added a new street sweeper.
- City of Titusville completed a wet detention pond project.



Brevard County MAPS



Titusville St. John's Basin Improvements



Central IRL Projects

- Brevard County completed wet pond and vegetation harvesting projects.
- City of Sebastian completed a baffle box project.
- Florida Department of Transportation District 4 completed four roadway projects.
- Indian River County made improvements to its algal scrubber system.



Brevard County Valkaria Lakes Project Under Construction



Questions?

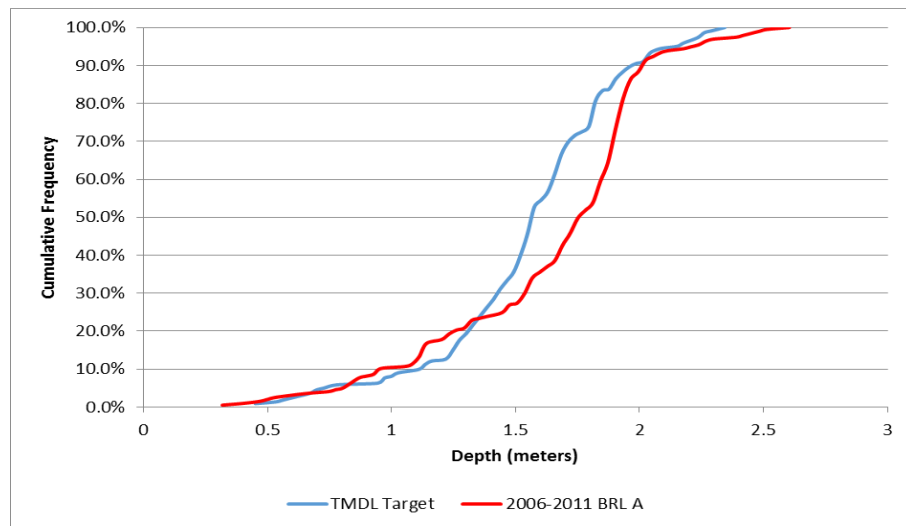




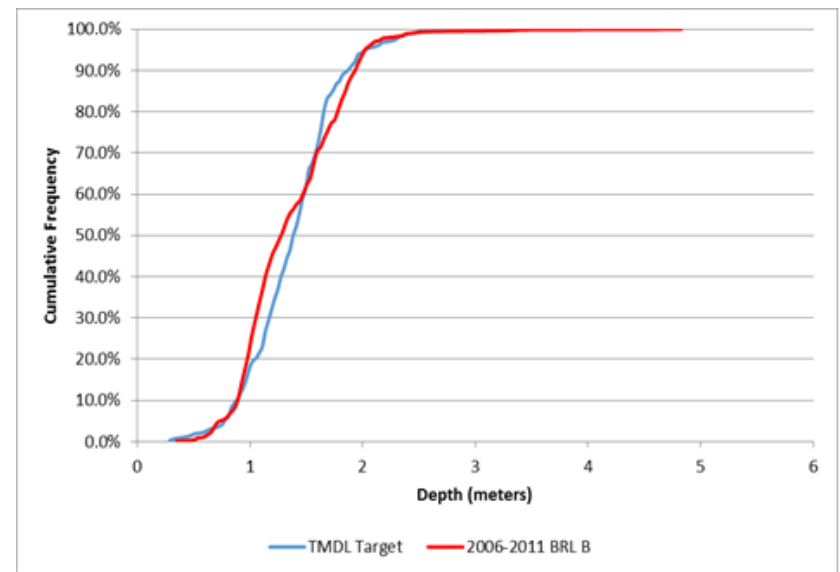
Seagrass Depth Limit Targets Evaluation



BRL



BRL A Step 1 Evaluation



BRL B Step 1 Evaluation



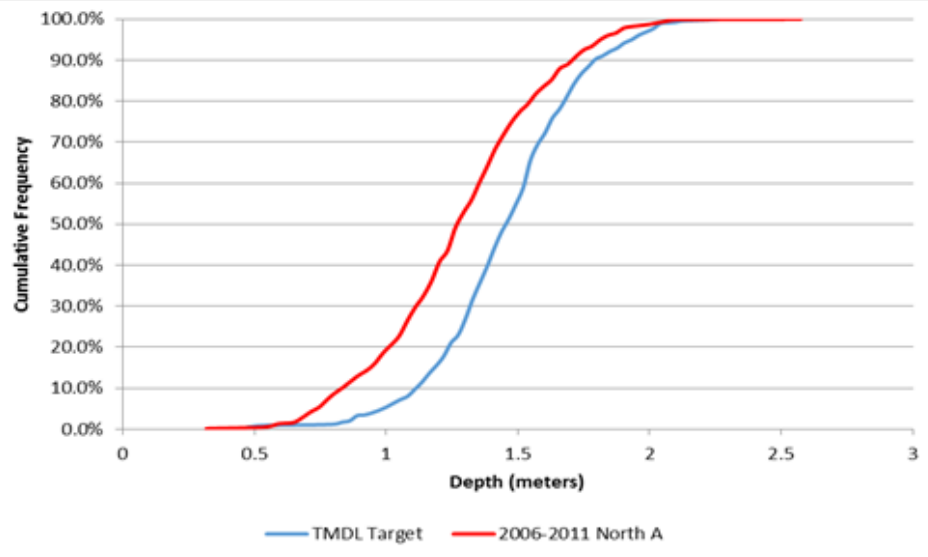
BRL

Year	BRL A Median Depth (meters)	BRL B Median Depth (meters)
TMDL Median	1.58	1.41
2006	1.75*	1.29
2007	1.81*	1.32
2009	1.78*	1.32
2011	0.71	0.62
Step 2 Compliant?	Yes	No

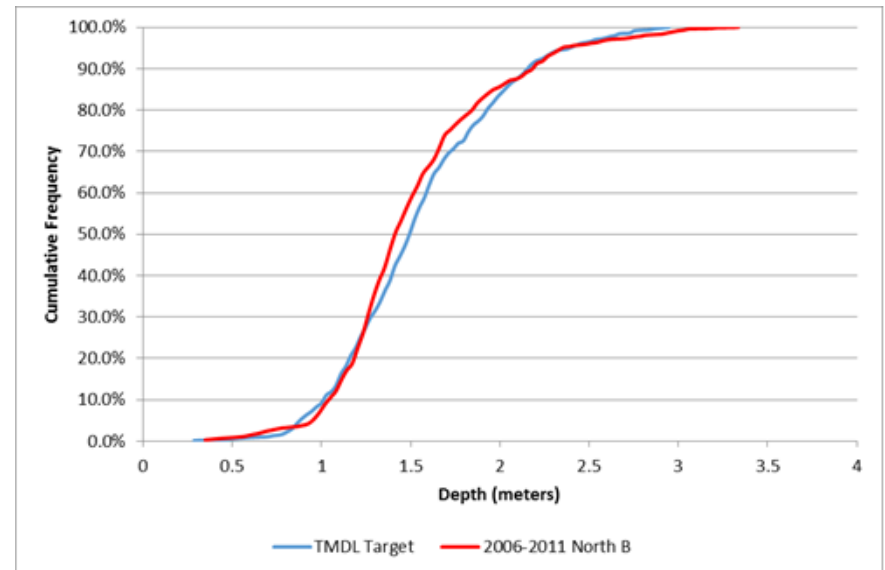
* Year in which the TMDL median depth limit target was achieved in the project zone.



North IRL



North A Step 1 Evaluation



North B Step 1 Evaluation

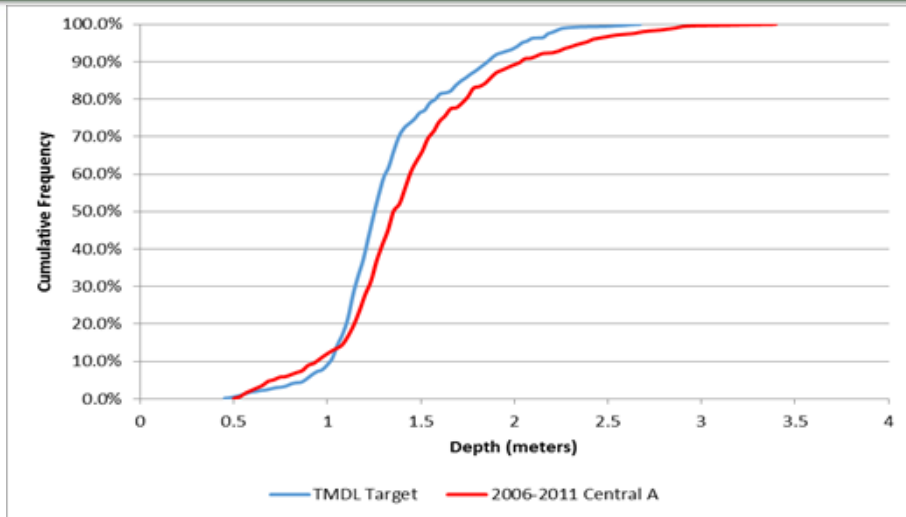


North IRL

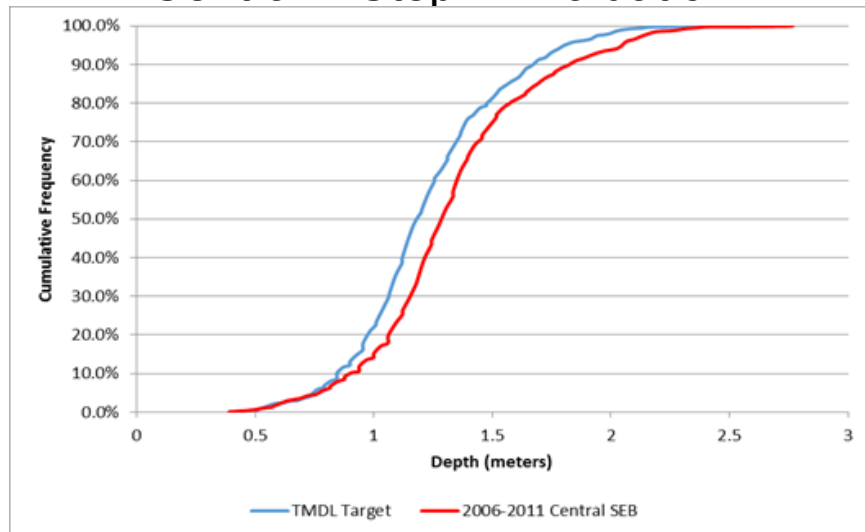
Year	North A Median Depth (meters)	North B Median Depth (meters)
TMDL Median	1.44	1.51
2006	1.20	1.45
2007	1.23	1.39
2009	1.17	1.39
2011	1.05	0.93
Step 2 Compliant?	No	No



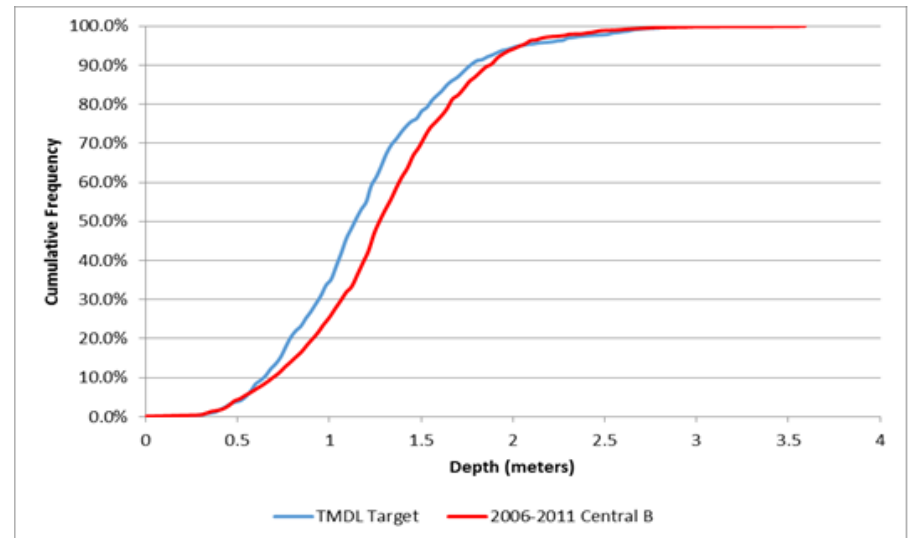
Central IRL



Central A Step 1 Evaluation



Central SEB Step 1 Evaluation



Central B Step 1 Evaluation



Central IRL

Year	Central A Median Depth (meters)	Central SEB Median Depth (meters)	Central B Median Depth (meters)
TMDL Median	1.27	1.20	1.15
2006	1.29*	1.24*	1.21*
2007	1.39*	1.27*	1.27*
2009	1.32*	1.27*	1.24*
2011	0.96	0.89	0.97
Step 2 Compliant?	Yes	Yes	Yes

* Year in which the TMDL median depth limit target was achieved in the project zone.



Questions?





Path Forward





Issues and Concerns

- Local partners are continuing the design and implementation of projects that will reduce nutrient loading.
- Concerns about the BMAP process have been communicated to DEP by stakeholders.
- General overview of those concerns.



New Technologies

- Interest in using innovative stormwater technologies and habitat restoration techniques to restore Lagoon.
- Some examples are denitrification walls, living shorelines, bioretention areas, use of phosphorus binding media, planting of seagrass, changes in local land development codes (incentives), etc. Credits for removal of septic systems is also an interest.
- Amount of credit for these newer types of projects not defined at this time. That will change as information and data are available to evaluate a technology.
- DEP has always been willing to consider local data in support of a particular stormwater management technique.
- ERP crediting guidance can provide some guidance.
 - May be useful for habitat restoration
- Incentives to use different technologies? Needs further discussion.



Model Revisions

- Brevard County has led a local initiative to revise and update the PLSM model. Propose replacement with SWIL model.
 - SWIL is more detailed than PLSM.
 - Generating output is more involved; longer processing time.
- DEP has been reviewing the SWIL model and commenting.
 - DEP is working out issues with operation of the model.
- Will establish a time line for completing review and how to use SWIL model in BMAP process. Roughly 6-12 months.
- Water quality targets will be discussed.



Funding

- Stakeholders have noted the need for additional funding to support water quality restoration activities.
- DEP periodically provides opportunities to apply for grant dollars from the 319 Program or the TMDL Restoration Grant.
- There are other potential funding sources either within DEP or outside agencies.
 - State Revolving Fund as an example
 - SJRWMD
- The Department will give a seminar on available grants and their uses. Some of the tricks for preparing a good application.
 - Is there interest?



Next Steps

- What is our game plan?



Plan for the Central IRL





Request

- DEP received a letter from Indian River Lagoon Estuary Program Advisory Board requesting the setting of targets for Central IRL.
- City of Titusville endorsed setting goals.
- Other local entities have been unsure of additional steps to take without an estimate of the magnitude of potential loading reduction.



Proposal

- Agreed upon BMAP method is to have 2 failures of seagrass depth targets, before an allocation is proposed.
 - Only 2011 has failed median depth targets.
- Current expectation is that the 2013 data will also fail the compliance test for median depth at the deep edge.
- DEP proposes the preparation of guidance or interim targets for TN and TP reductions.
 - This would provide some direction to entities located in the Central IRL. Would provide a response to local request for action.
- **This is not a proposal for allocation, but rather interim guidance.**



Discussion

- Reactions?



Questions?

