

Florida Department of Environmental Protection



**Indian River Lagoon Basin
Management Action Plans
(BMAPs) 2015 Progress Reports**

**Annual Meeting
May 27, 2015**





Presentation Agenda

- Overview of the BMAP annual progress reports.
- Stakeholder presentations:
 - Brevard County
 - St. Lucie County
 - St. Johns River Water Management District (SJRWMD)
- Funding Discussion.



Annual Report Overview

- 2nd annual progress report on the Banana River Lagoon (BRL), North, and Central Indian River Lagoon (IRL) BMAP activities.
- Implementation Activities: March 1, 2014 through February 28, 2015.
- Reports includes:
 - Accomplishments during reporting period
 - Upcoming activities
 - Management strategies for BMAP Phase 2

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- This is the second annual progress report on the Basin Management Action Plan (BMAP) activities
- Information provided by stakeholders includes activities from March 1, 2014 through February 28, 2015.
- The reports include updates on
 - accomplishments with project implementation: projects completed, increased efficiency, re-implemented projects
 - upcoming activities – includes the reporting period of March 1, 2015 through February 29, 2016
 - Management strategies for BMAP phase 2 - the activities listed are not BMAP requirements at this time, but are listed to show that plans are underway to achieve additional nutrient reductions to benefit the Lagoon



Background on the BMAPs

- TN and TP TMDLs adopted in March 2009.
 - Achieve water quality conditions for seagrass re-growth at historical depths
- Allocations assigned to BRL B, North A, and North B project zones.
- BRL A and all three Central IRL project zones were not assigned allocations.
- BMAPs adopted by the Department in February 2013.

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- Reductions are based on the Indian River Lagoon TMDLs.
- 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 Banana River Lagoon project zone B and to stakeholders in the North Indian River Lagoon project Zones A and North B.
- At the time of the BMAP adoption, the Banana River Lagoon project zone A and all three Central Indian River Lagoon project zones, were meeting seagrass targets, so allocations were not required.
- The BMAPs were adopted by the Florida Department of Environmental Protection Secretary in February 2013.



Activities During the Reporting Period

- BRL BMAP:
 - 8 projects completed
 - 1 project re-implemented
- North IRL BMAP:
 - 1 project completed
 - 2 projects re-implemented
 - Increased street sweeping
- Central IRL BMAP:
 - 2 projects completed
 - 1 project re-implemented
 - Increased street sweeping

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- Banana River Lagoon
 - 8 projects completed
 - Brevard County – 2 projects
 - Pine Island Phase I and Phase II project – improves water quality and reduces the duration of flooding
 - Fortenberry Pond – regional stormwater project
 - Kennedy Space Center – 6 projects
 - land use change via demolition of 6 sites
 - 1 re-implemented project
 - FDOT – street sweeping
- North Indian River Lagoon
 - 1 project completed
 - Brevard County – Pine Island Phase I and Phase II
 - 2 projects re-implemented
 - FDOT street sweeping
 - Increased street sweeping
 - City of Titusville
- Central Indian River Lagoon
 - 2 projects completed
 - FDOT 4 – onsite retention pond
 - St. Lucie County – Taylor Creek Dredging project
 - 1 project re-implemented
 - FDOT 4 – street sweeping
 - Increased street sweeping
 - Indian River County, Palm Bay, West Melbourne, Ft. Pierce



Activities, continued

- FDACS continued to enroll agricultural producers in BMPs in the North IRL and Central IRL.
 - BRL: minimal agriculture
 - South IRL (SIRL): 100% enrollment
- The water quality and seagrass monitoring continued throughout the reporting period.

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- 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 agriculture in the BRL.
 - There is 100% enrollment in South IRL.
 - Citrus acreage has declined because of disease.
- The water quality and seagrass monitoring continued throughout the reporting period.



Ongoing Activities

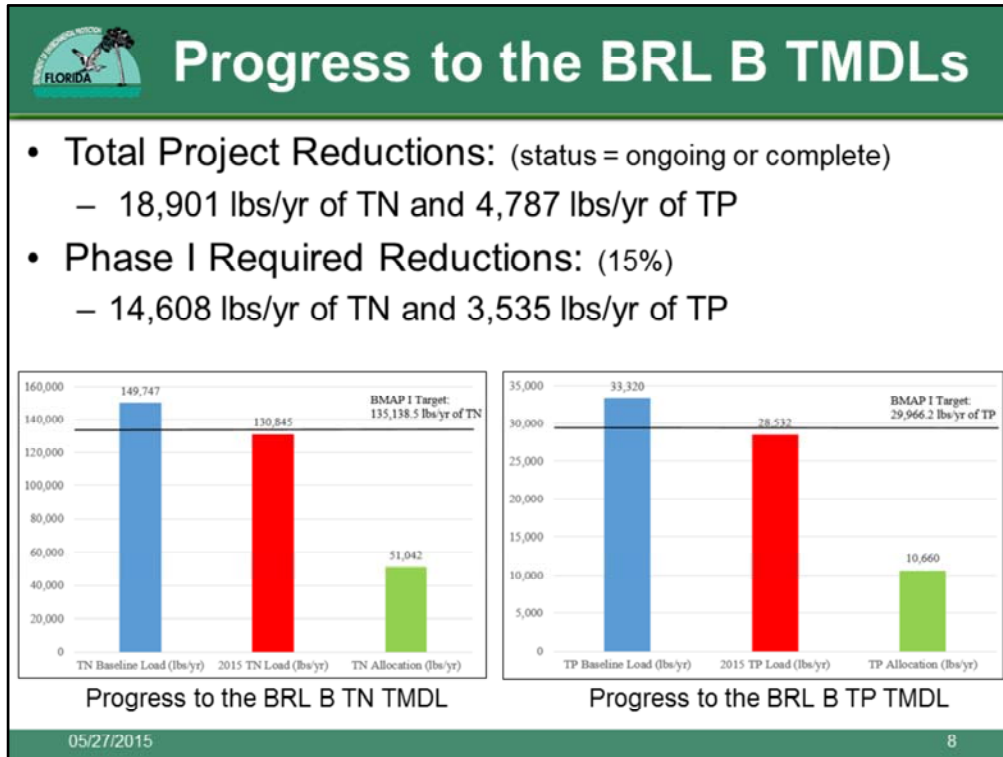
Many of the stakeholders have ongoing activities:

- Education and outreach
- Ordinances: fertilizer, irrigation, landscape
- Fertilizer cessations
- Street sweeping*
- BMP cleanout*

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- Many of the stakeholders continued their public education and outreach, street sweeping, and BMP clean out activities.
- Since the adoption of the BMAP, the methodology for calculating nutrient load reductions using the Florida Stormwater Association assessment tool has been modified.
- Street sweeping reductions in the first two years of BMAP implementation were reported based on the old methodology.
- For this reporting period were reported based on the new methodology
- As of the next reporting period, all stakeholders with a street sweeping program will be required to calculate street sweeping reductions based on the updated methodology, which is consistent with the requirements included in the MS4 permits.

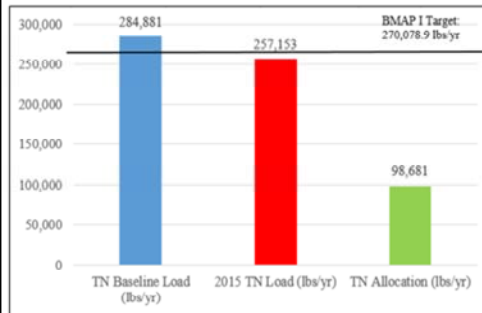


- Here we have a charts per impairment that show the reductions achieved during this reporting period
- First bar in blue shows the TMDL baseline loads for stormwater runoff – starting loading
- Second bar in red shows the current estimated loading based on project reductions
- Third bar in green shows the Total allocation for stormwater to meet the TMDL.
- Black Horizontal Line shows the target for the first BMAP iteration - which is 15% of the overall required reduction.
- BRL A did not have allocations so this assessment was not completed, although projects were implemented in BRL A.
- Projects completed in BRL B during the reporting period resulted in an estimated reduction of 1,007 lbs TN and 467 lbs of TP.
- These reductions are in addition to those projects given credit at BMAP adoption.
- Therefore, the total project reductions to date are 18,901 of TN and 4,787 lbs TP which are greater than the required reductions in the first BMAP iteration of 14,608 lbs/yr of TN and 3,535 lbs/yr of TP.

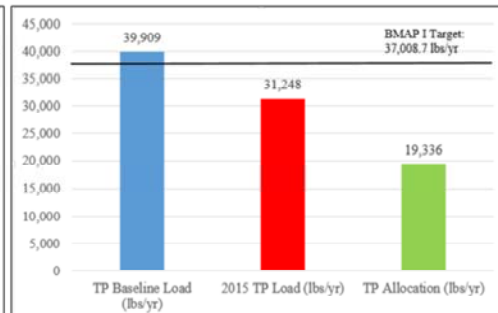


Progress to the North A TMDLs

- **Total Project Reductions:** (status =ongoing or complete)
 - 27,728 lbs/yr of TN and 8,661 lbs/yr of TP
- **Phase I Required Reductions (15%)**
 - 14,802 lbs/yr of TN and 2,900 lbs/yr of TP



Progress to the North A TN TMDL

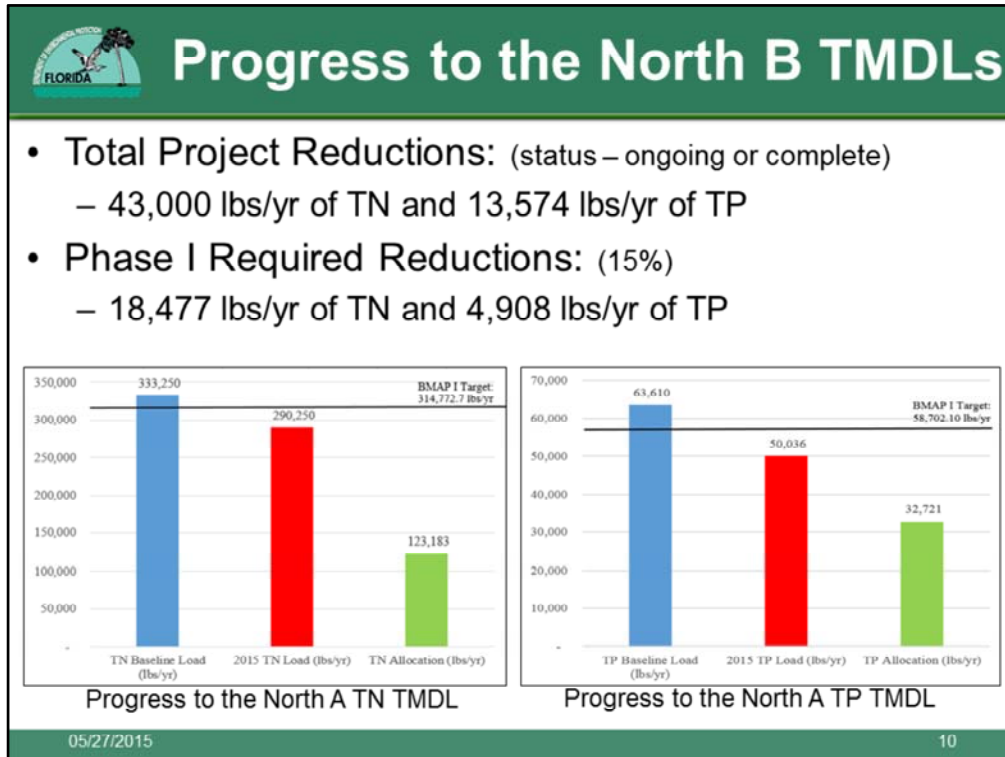


Progress to the North A TP TMDL

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- Projects completed in NIRL A during the reporting period resulted in an estimated reduction of 118 lbs of TN and 76 lbs of TP.
- These reductions are in addition to those projects given credit at BMAP adoption.
- Therefore, the total project reductions to date are 27,728 of TN and 8,661 TP which are greater than the required reductions in the first BMAP iteration of 14,802 lbs/yr of TN and 2,900 lbs/yr of TP.



- Projects completed in NIRL B during the reporting period resulted in an estimated reduction of 11,141 of TN and 3,365 of TP.
- These reductions are in addition to those projects given credit at BMAP adoption.
- Therefore, the total project reductions to date are 43,000 lbs of TN and 13,574 lbs TP which are greater than the required reductions in the first BMAP iteration of 18,477 lbs/yr of TN and 4,908 lbs/yr of TP.
- There were no allocations in the Central IRL so this evaluation was NOT conducted for those project zones, although projects were implemented during the reporting period.
- We can see throughout the Banana and North Lagoon that stakeholders are implementing projects that have resulted in more reductions than were required of them, and therefore, more than 100% of the phase one required reductions have been achieved.
- However, there are still stakeholders in the basin that could implement further projects in order to achieve their required reductions and meet their allocations.



Summary of Loading Reductions

Project Zone	TP Percent Loading Reduction	TN Percent Loading Reduction
Banana B	19%	21%
North A	15%	42%
North B	20%	44%

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- Based on the ongoing and completed projects we have calculated the percent of the reductions being achieved needed to meet the TMDL allocated to the different project zone with assigned allocations



Monitoring

- Designed to enhance the understanding of basin loads, identify areas with high nutrient concentrations, and track water quality trends
- Ambient water quality sampling and biological and vegetation monitoring
- Measures progress towards achieving the TMDL reductions and provide a foundation for continued improvement in cost-effective project implementation

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- The BMAP monitoring plan was designed to enhance the understanding of basin loads, identify areas with high nutrient concentrations, and track water quality trends
- Monitoring includes ambient water quality sampling and biological and vegetation monitoring
- Information gathered through the monitoring plan measures progress toward achieving the TMDL reductions and provide a foundation for continued improvement in cost-effective project implementation
- All responsible stakeholders participated in the monitoring plan in the second year of BMAP implementation



Questions?

