FINAL

2016 PROGRESS REPORT

for the
Central Indian River Lagoon
Basin Management Action Plan

prepared by the

Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection

with participation from the
Central Indian River Lagoon Basin Stakeholders

May 2016

2600 Blair Stone Road
Tallahassee, FL 32399

ACKNOWLEDGMENTS

This *2016 Progress Report for the Central Indian River Lagoon (IRL) Basin Management Action Plan* was prepared as part of a statewide watershed management approach to restore and protect Florida's water quality. It was prepared by the Florida Department of Environmental Protection with participation from the Central IRL stakeholders.

For additional information on the watershed management approach in the Central IRL Basin, contact:

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List of Central Indian River Lagoon Basin Management Action Plan participants

Type of Governmental or Private Entity	Participant
Counties	Brevard County Indian River County
Municipalities	City of Fellsmere City of Melbourne City of Palm Bay City of Sebastian City of Vero Beach City of West Melbourne Town of Grant-Valkaria Town of Indialantic Town of Indian River Shores Town of Malabar Town of Melbourne Beach Town of Melbourne Village Town of Orchid
Agencies	Florida Department of Agriculture and Consumer Services (FDACS) Florida Department of Environmental Protection (DEP) Florida Department of Transportation (FDOT) District 4 FDOT District 5 Florida's Turnpike Enterprise South Florida Water Management District (SFWMD) St. Johns River Water Management District (SJRWMD)
Other Interested Parties	Fellsmere Water Control District (WCD) Indian River Farms WCD Melbourne-Tillman WCD

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LIST OF ACRONYMS AND ABBREVIATIONS

µ/L	Micrograms Per Liter
BMAP	Basin Management Action Plan
BMP	Best Management Practice
BRL	Banana River Lagoon
DEP	Florida Department of Environmental Protection
ERU	Equivalent Runoff Units
FDACS	Florida Department of Agriculture and Consumer Services
FDOT	Florida Department of Transportation
FPFWCD	Fort Pierce Farms Water Control District
FY	Fiscal Year
FYN	Florida Yards and Neighborhoods (Program)
HMGP	Hazard Mitigation Grant Program
IRFWCD	Indian River Farms Water Control District
IRL	Indian River Lagoon
lbs/yr	Pounds Per Year
m	Meter
MAPS	Managed Aquatic Plant System
mgd	Million Gallons Per Day
mg/L	Milligrams Per Liter
mL	Milliliter
NOI	Notice of Intent
NSLRWCD	North St. Lucie River Water Control District
O&M	Operations and Maintenance
ppt	Parts Per Thousand
RFQ	Request for Qualifications
SFWMD	South Florida Water Management District
SJRWMD	St. Johns River Water Management District
SLRIT	St. Lucie River Issues Team
SR	State Road
SRID	Sebastian River Improvement District
STA	Stormwater Treatment Area
STEP	Septic Tank Effluent Pump
TBD	To Be Determined
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
WBID	Waterbody Identification
WCD	Water Control District
WMA	Water Management Area

SUMMARY

Total Maximum Daily Loads (TMDLs)
In March 2009, the Florida Department of Environmental Protection (DEP) adopted the Indian River Lagoon (IRL) Basin TMDLs for total nitrogen (TN) and total phosphorus (TP), with a focus on the water quality conditions necessary for seagrass regrowth at historical depth limits. These limits are depths at which seagrass historically grew based on a multiyear composite of seagrass coverage in the basin. The median depth limits of seagrass coverage in the IRL Basin have decreased over the years because of changes in water quality conditions resulting from human (anthropogenic) influences.

The Central IRL Basin Management Action Plan (BMAP) was adopted in January 2013 to implement the TMDLs in the watershed. This is the third annual Progress Report for the BMAP. It describes the activities that occurred during the reporting period from March 1, 2015, through February 29, 2016.

Summary of Load Reductions
During the reporting period, 5 projects were completed. Projects for which load reductions could be quantified resulted in an estimated reduction of 13,200 pounds per year (lbs/yr) of TN and 3,300 lbs/yr of TP in the Central IRL. These reductions are in addition to those projects given credit at BMAP adoption and in previous annual reports.

Water Quality and Biological Monitoring
Water quality monitoring and data analysis continued in the Central and South IRL Subbasins. The Indian River Farms Water Control District provided data from 3 stations with TN and TP data for a 15-year period of record beginning in 2000. No significant trend is present for either water quality parameter in any station. The South Florida Water Management District continued data collection at Station C25S50. Regression analyses were performed for both TN and TP, and both declined significantly since 2000, when data collection began. No significant trends are evident for TN or TP in any of the data from the 5 Fort Pierce Farms stations. The North St. Lucie River Water Control District continued to monitor 1 quarterly water quality station in the basin. Limited data exist for the station. However, trend analyses were performed and no significant trends were evident for TN or TP.

Routine St. Johns River Water Management District water quality sampling was completed the first week of February 2016. Water clarity continued to decline from Cocoa southward through Grant-Valkaria. YSI-measured chlorophyll-*a* has increased in the same region. Bloom samples collected on February 1, 2016, south of the State Road 520 Causeway in Cocoa, contained a mixed assemblage of species, including *Aureoumbra lagunensis*, picocyanobacteria, and green nanoeukaryotes. *A. lagunensis* predominated, making up 84 % of the sample. Another bloom sample was collected in Rockledge, again with *A. lagunensis* dominating the biovolume. Chlorophyll-*a* increased at the continuous monitoring station at the Melbourne Causeway. Salinity remained in the low 20 parts per thousand.

Section 1: INTRODUCTION

1.1 Purpose of the Report

This is the third annual Progress Report for the Central Indian River Lagoon (IRL) Basin Management Action Plan (BMAP). **Section 2** describes the activities that occurred during the period from March 1, 2015, through February 29, 2016. **Section 3** summarizes compliance with the BMAP. **Section 4** summarizes the water quality monitoring and biological evaluation. **Section 5** includes a summary of activities that occurred in the South IRL during the reporting period.

1.2 Total Maximum Daily Loads (TMDLs) for the Central IRL Basin

The Florida Department of Environmental Protection (DEP) identified the IRL Basin as impaired for nutrients because of excessive amounts of total nitrogen (TN) and total phosphorus (TP). In March 2009, DEP adopted the IRL Basin TMDLs, with a focus on the water quality conditions necessary for seagrass regrowth at depth limits where seagrass historically grew in the basin, based on a multiyear composite of seagrass coverage. The median depth limits of seagrass coverage in the IRL Basin have decreased over the years because of changes in water quality conditions resulting from human (anthropogenic) influences. **Table 1** and **Table 2** list the TN and TP TMDLs and pollutant load allocations, respectively, adopted by rule for the segments with waterbody identification (WBID) numbers in the Central IRL Subbasin.

Table 1: TN TMDLs in the Central IRL Subbasin

lbs/yr = Pounds per year

WBID Number	WBID Name	Parameter	TMDL (lbs/yr)	Wastewater Facilities Allocation (lbs/yr)	Stormwater Allocation (lbs/yr)	Atmospheric Deposition Allocation (lbs/yr)
5003D and 2963A	South Indian River and Indian River above Sebastian Inlet	TN	684,715	831	577,184	106,700
5003B and 5003C	South Indian River	TN	278,273	25,391	217,876	35,006
	Total	**TN**	**962,988**	**26,222**	**795,060**	**141,706**

Table 2: TP TMDLs in the Central IRL Subbasin

WBID Number	WBID Name	Parameter	TMDL (lbs/yr)	Wastewater Facilities Allocation (lbs/yr)	Stormwater Allocation (lbs/yr)	Atmospheric Deposition Allocation (lbs/yr)
5003D and 2963A	South Indian River and Indian River above Sebastian Inlet	TP	111,594	122	109,055	2,417
5003B and 5003C	South Indian River	TP	53,599	1,949	50,857	793
	Total	**TP**	**165,193**	**2,071**	**161,044**	**2,078**

1.3 Central IRL Subbasin

Because of the large geographic extent of the IRL Basin and the diversity of hydrologic characteristics throughout the basin, DEP divided the watershed into three subbasins: (1) Central IRL, (2) North IRL, and (3) Banana River Lagoon (BRL). Separate BMAPs were developed for each subbasin; this document focuses solely on the Central IRL subbasin.

In addition to dividing the overall IRL Basin into subbasins, the Central IRL was further divided into project zones. The project zone boundaries are based on the distinct hydrology in different areas of the basin and their corresponding annual residence times. These zones are important because flushing times vary greatly among locations and consequently affect how nutrient reductions will impact these distinct areas of the basin. The project zones identify large areas where projects should be implemented to ensure that the load reductions achieve the desired response for each subbasin. The Central IRL Subbasin was split into three project zones, as follows:

- Central A–Melbourne Causeway (U.S. Highway 192) to the north tip of Grant Farm Island.
- Central SEB–Grant Farm Island to Wabasso Causeway (County Road 510).
- Central B–Wabasso Causeway to the boundary between Indian River County and St. Lucie County.

Figure 1, Figure 2, and **Figure 3** show the stakeholders in each project zone. This BMAP also encompasses a portion of the South IRL Subbasin, extending to Fort Pierce Inlet and including the drainage areas for the Fort Pierce Farms Canal and C-25 Canal. **Section 5** provides additional information about this area.

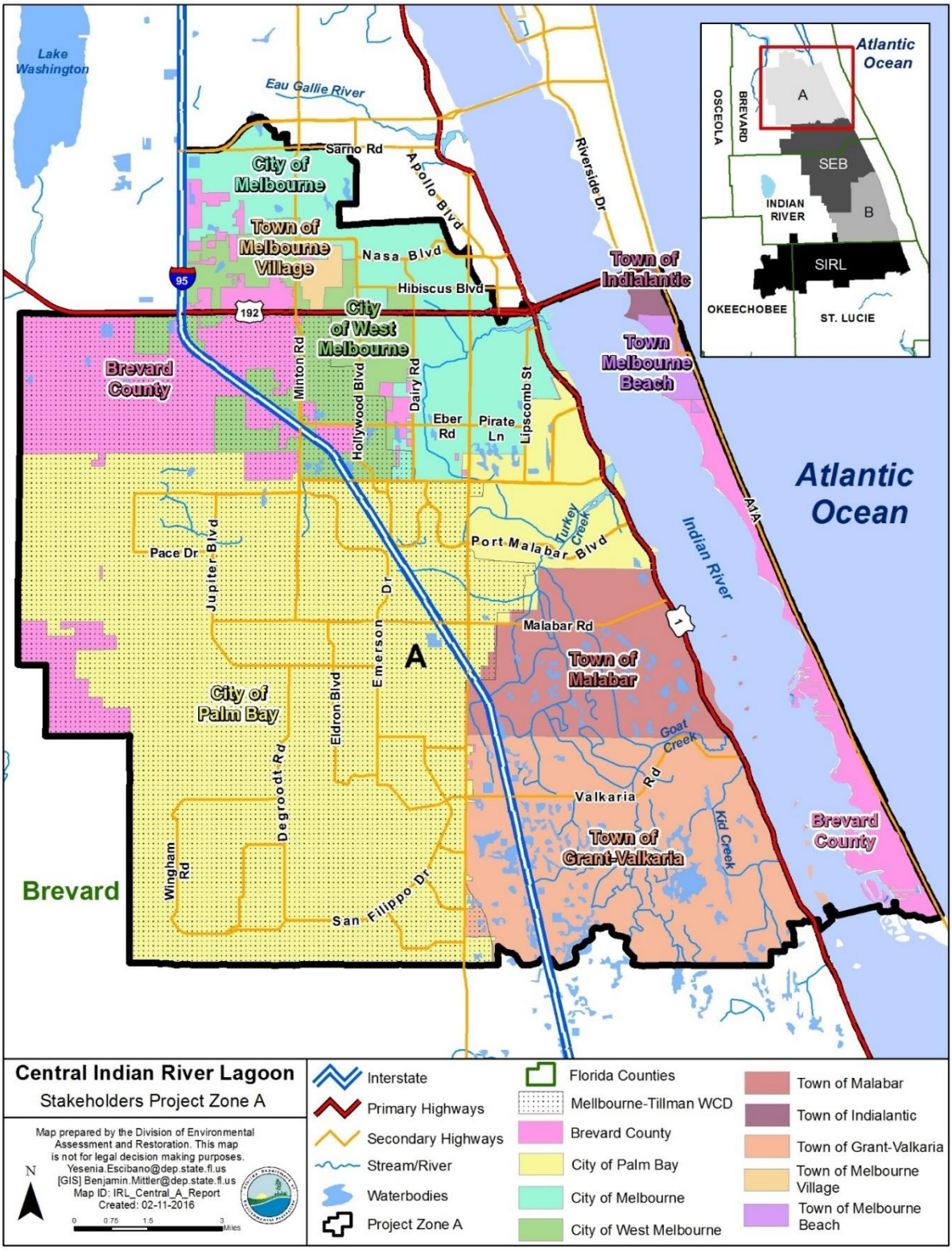

Figure 1: Central IRL Project Zone A stakeholders

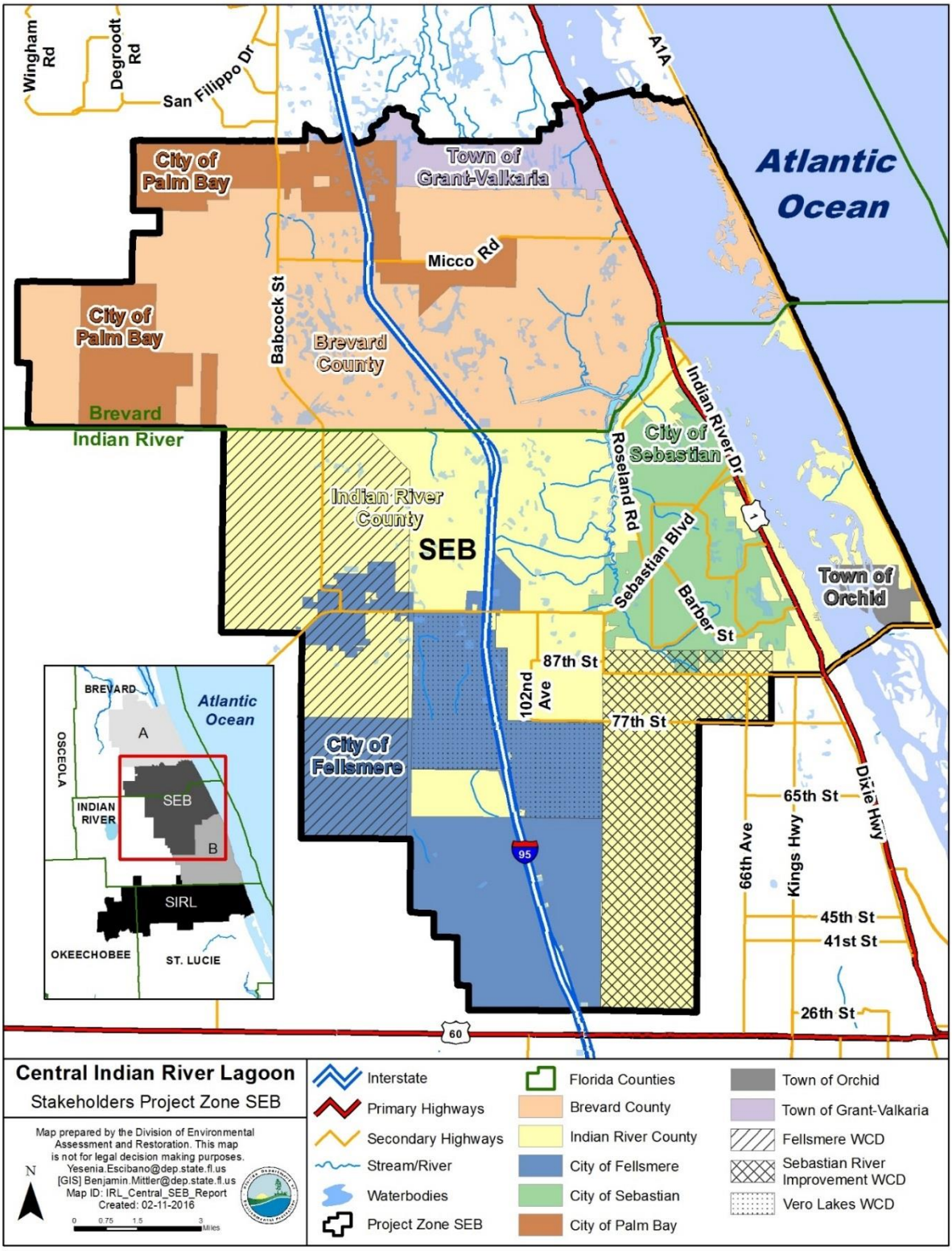

Figure 2: Central IRL Project Zone SEB stakeholders

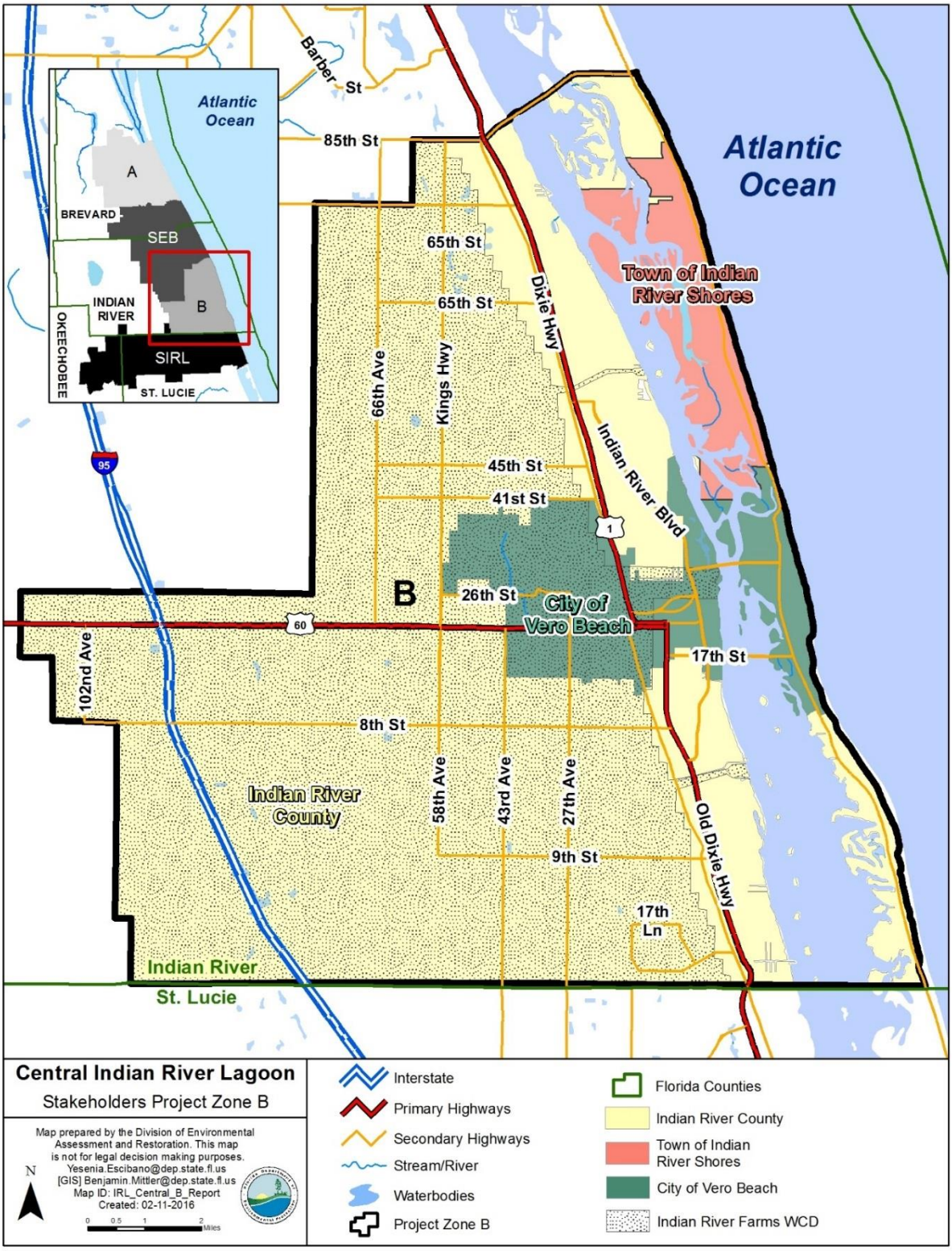

Figure 3: Central IRL Project Zone B stakeholders

Section 2 : ACTIVITIES DURING THE REPORTING PERIOD

Section 2.1 and **Section 2.2** describe the accomplishments in the Central IRL during the reporting year. New projects added to the individual project tables are described below, as well as individual projects completed during the reporting period. Ongoing efforts such as street sweeping, ordinances, and public education efforts are not specifically described below but must continue each year for the project credit to remain effective. **Appendix A** includes the individual project tables.

2.1 Activities by Entity

2.1.1 Brevard County

Brevard County completed the Micco I Project (BC-9) located on Riverview Drive in southern Brevard County (Project Zone SEB) in June 2015. The project included the retrofit of 2 outfalls that discharged previously untreated stormwater runoff to the Sebastian River from a 50-acre drainage basin composed primarily of residential land uses. The north outfall was retrofitted using a series of inlets and exfiltration pipes, in combination with a denitrification wall. The wall, a composite of mulch, rock, and natural soils, was installed below the exfiltration system and is designed to intercept stormwater and ground water flows with an anticipated nitrogen removal rate of 80 % to 90 %. The south outfall was retrofitted with a baffle box and an offline denitrification chamber to capture and treat the average rain event (0.5 to 3 inches). The denitrification chamber contains a composite of natural denitrification media designed to remove both TN and TP.

The county, in partnership with the St. Johns River Water Management District (SJRWMD) and with TMDL grant funding from DEP, completed the construction of the 4.27-acre Wheeler Fleming Grant Wet Detention Pond (BC-13) adjacent to the SJRWMD regional Wheeler Stormwater Treatment Area (STA) in southeastern Brevard County (Project Zone SEB) in March 2015. The project will treat stormwater runoff from a 135.85-acre basin prior to discharge to the Sebastian River and the Central IRL. The pond bank is lined with an 18-inch layer of denitrification bioreactor media, estimated to reduce TP and TN loads by 244.29 lbs/yr (72.18 %) and 717.97 lbs/yr (47.17 %), respectively.

The county enhanced the C-1 Rediversion Project by adding 2 pumps on the C-1 Canal to increase the volume of freshwater flows diverted from the IRL to the St. Johns River in October 2015. The increased volume is estimated to reduce 22 % and 27 % of the TP and TN load, respectively, to the IRL by reducing the fresh water, nutrients, and suspended solids flowing into Turkey Creek and the IRL. The C-1 Basin, located in southern Brevard County (Project Zone A), consists of 62,720 acres and includes approximately 300 miles of drainage canals that outfall to the C-1 Canal. The C-1 provides flood protection to approximately 80,000 residents of Brevard County, Palm Bay, and West Melbourne. Discharges from the C-1 are responsible for 80 % of the annual nutrient loading into Turkey Creek. Total suspended solids (TSS) discharged from the

C-1 contribute muck and turbidity to the creek and downstream to the IRL, potentially impacting seagrass beds in the IRL for miles north and south of the mouth of Turkey Creek.

Brevard County Natural Resources Management Department, in partnership with the Brevard Zoo, with cost-share from the SJRWMD, will construct 2,360 linear feet of oyster reef living shorelines along the IRL in Brevard County during Fiscal Years (FY) 2015–16 and 2016–17. The pilot sites will include native saltmarsh vegetation and living oyster reefs as wave breaks. The county is also working with the zoo to engage the Brevard County community in a citizen-based oyster propagation program to raise juvenile oysters to populate living shoreline oyster reef sites constructed during FY 2015–16 and 2016–17.

2.1.2 Indian River County

During the reporting period, Indian River County completed the Osprey Marsh Algal Nutrient Removal Facility Project (IRC-6). This algal turf scrubber system treats 10 million gallons per day (mgd) of Indian River Farms Water Control District (IRFWCD) South Relief Canal water and up to 1.5 mgd of South County Water Treatment Plant reject brine concentrate. In its 8 months of operation, the algal turf scrubber system has removed over 4.4 tons of TN and over 1.1 tons of TP from the water.

The county commenced plans for a new managed aquatic plant system (MAPS), called Moorhen Marsh, to be located on the Indian River Farms WCD North Relief Canal. This MAPS will replace the county's PC North Aquatic Plant Based Nutrient Removal System (IRC-7). A Request for Qualifications (RFQ) for a six-month-long pilot study for the project was issued, and land survey work began for new aquatic vegetation harvesting systems on the Indian River Farms WCD North and South Relief Canals. The county also started design work for an oyster reef near the 45th Street Dock.

In partnership with a private consultant, the county has begun marketing high-quality compost under the name "Indian River Lagoon Saver™," with the motto "Saving the Lagoon one bag at a time." The compost is produced from algae harvested at Egret Marsh Stormwater Park (IRC-5).

During the last reporting period, data entry errors were discovered in the BMAP tables for Projects IRC-4, IRC-5, and IRC-12. **Table 3** lists the corrected reductions.

Table 3: Indian River County projects with corrected reductions

Project Number	Project Name	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)
IRC-4	PC Main – Nutrient removal from measured data	1,794	459
IRC-5	Egret Marsh Stormwater Park – Nutrient removal from measured data	19,948	4,049
IRC-12	Spoonbill Marsh Project	8,774	1,960

2.1.3 City of Fellsmere

Fellsmere continued with design plans for the South Regional Lake Project (F-10) and continued with the design, permitting, and bid plans for the North Regional Lake Project (F-9). Construction is expected to start in July 2016. The city completed the design, permitting, and bid plans for the Hickory/Wyoming Paving/Drainage Project, and construction is expected to start in July 2016.

2.1.4 City of Palm Bay

Palm Bay continued best management practice (BMP) maintenance efforts. The city is considering additional baffle box and treatment trains in basins with limited treatment or no treatment before the water flows into Turkey Creek, which ultimately enters the IRL. The city added five projects: inlet inserts (PB-28), a treatment train (PB-29), two dry detention ponds (PB-30 and PB-32), and drainage improvements (PB-31).

2.1.5 City of Vero Beach

Vero Beach entered into an agreement on October 13, 2015, with Clean Water Services to conduct a Stormwater Utility Study. The preliminary phase of the study found that a fee of $5 per equivalent runoff unit (ERU), with an ERU being approximately 3,300 square feet of impervious area, would generate approximately $1 million of revenue for the city annually. On March 1, 2016, the City Council decided to continue with the study. The city also continued its Septic Tank Effluent Pump (STEP) Program (VB-5).

The city added 18 new projects, as follows: 3 1st-generation baffle boxes (VB-15, VB-18, and VB-19), 7 2nd-generation baffle boxes (VB-6, VB-8, VB-9, VB-10, VB-11, VB-12, and VB-13), a deep injection well (VB-16), an exfiltration project (VB-7), Flexi-Pave inlet retrofits (VB-14, VB-30, VB-21, and VB-22), street sweeping (VB-17), and catch basin cleanout (VB-23).

2.1.6 Town of Indialantic

Indialantic continued to pursue the installation of streetside swales (TI-2) for water quality treatment, and the swale map was updated January 21, 2016. The town obtained a grant for an offline retention project in Lily Park (TI-5) located at South Riverside Drive and 8th Avenue. Construction is anticipated to occur from November 2016 through February 2017.

2.1.7 Florida Department of Transportation (FDOT) District 4

In August 2015, FDOT District 4 completed a 100 % on-site retention pond along Interstate 95 that treats runoff from 377 acres from the St. Lucie–Indian River County line to the north of State Road (SR) 60 (FDOT 4-21). The district also completed a wet detention pond in September 2015 that treats 40 acres (FDOT4-29).

2.1.8 FDOT District 5

FDOT District 5 increased street sweeping activities (FDOT5-16), removing an additional 62 lbs/yr of TN and 39 lbs/yr of TP.

2.1.9 Fellsmere WCD

During the reporting period, the Fellsmere WCD made progress in developing several regional stormwater treatment lake projects. The Historic Fellsmere Master Drainage Plan (FWCD-7) was completed, and both the North Regional Lake (FWCD-9) and South Regional Lake (FWCD-8) Projects are now in the design and permitting phase.

2.1.10 Sebastian River Improvement District (SRID)

The SRID obtained a development contract for a 200-acre water farming pilot project (SRID-6).

2.1.11 Agriculture

The Florida Department of Agriculture and Consumer Services (FDACS) currently has two field staff and one contracted staff in the SJRWMD area, and is evaluating the possibility of contracting and hiring additional staff to assist with enrollments in the IRL Basin.

During the reporting period, FDACS staff enrolled 416 acres under 14 notices of intent (NOIs) in the *Statewide Citrus BMP Manual*. In addition, FDACS has enrolled 8,783.38 acres under 108 NOIs in the Central IRL (**Table 4** and **Table 5**). Enrolled acreage in the citrus land use category decreased from the 2014 Progress Report numbers, because FDACS deactivated all the NOIs associated with the Ridge Citrus BMP Manual, as all NOIs enrolled under that manual were required to re-enroll under the Statewide Citrus BMP Manual. FDACS will continue to enroll producers in the Central IRL Subbasin to meet the 5-year enrollment goal.

Table 4: FDACS BMP enrollment in the Central IRL as of December 31, 2015

N/A = Not applicable
[1] FDACS staff-adjusted acreage for purposes of enrollment is based on a review of more recent aerial imagery in the basin and local staff observations.

2000 SJRWMD Land Use	2000 Acres	FDACS-Adjusted Acres for Enrollment[1]	Related FDACS BMP Programs	Acreage Enrolled as of December 31, 2015	Related NOIs
Pasture	27,410.2	26,494.6	Cow/Calf; Vegetable/Agronomic Crops (hay/forage)	638.15	3
Row/Field/Mixed Crops	724.7	642.8	Vegetable/Agronomic Crops	62.7	1
Fallow Cropland	2,429.4	N/A	No Enrollment Needed	N/A	N/A
Horse Farm	62.7	57.9	Equine	0.0	0
Citrus	43,747.7	18,699.1	Statewide Citrus	7,906.7	91
Abandoned Citrus	1,153.0	N/A	No Enrollment Needed	N/A	N/A
Tree Crops	5.3	0.0	Specialty Fruit and Nut	0	1
Nurseries and Vineyards	2.9	2.9	Statewide Nursery	175.8	12
Ornamentals	238.3	200.9	Statewide Nursery	Included in nursery/vineyard acreage above	Included in nursery/vineyard acreage above
Specialty Farms	93.4	79.2	Conservation Plan Rule	0	0
Cattle Feeding	4.5	4.5	Conservation Plan Rule	0	0
Other Open Lands – Rural	94.2	N/A	No Enrollment Needed	N/A	N/A
Aquaculture	11.56	N/A	Aquaculture Certification Program	N/A	N/A
Total	**75,977.9**	**46,181.9**		**8,783**	**108**

There were 2 merged cells in the table above—I split the cells & added explanatory text. The document cannot be made ADA compliant if any cells are merged. Please review this change to make sure it is okay.

Table 5: FDACS BMP enrollment summary for the Central IRL BMAP

Category	Acres
Total Acreage Remaining in Basin for Enrollment	37,398.6
Five-Year Enrollment Goal (50 %)	23,091
Acreage Enrolled as of December 31, 2015	8,783.4
Remaining Acres To Enroll in Phase I	**14,308**

2.2 Regional Projects

2.2.1 C-1 Rediversion Project

Phase I of the project is essentially complete. Upgraded pumps at Sawgrass Lake are operating, and they will send up to 39 % of the average annual flow to the IRL to the St. Johns River. The Melbourne-Tillman WCD modified its stormwater permit and is holding sufficient water to allow year-round pumping. The design of Phase II, the C-10 Reservoir, is under way, with

construction planned to begin after October 1, 2017. Upon completion, the full project will send approximately 50 % of the average annual flow to the St. Johns River.

2.2.2 Upper St. Johns River Project and C-54

The Fellsmere Water Management Area (WMA) is nearing completion. When operational, it will decrease discharges to the lagoon to less than a 1-in-100-year storm event. Also, planning is under way for a dispersed water storage pilot project to reduce flows to the lagoon. The water will flow through the Fellsmere WMA.

2.3 Summary of Accomplishments

Table 6 summarizes the projects completed during the third annual BMAP reporting period. For the projects that could be quantified, these projects resulted in an estimated reduction of 13,200 lbs/yr of TN and 3,300 lbs/yr of TP. These reductions are in addition to projects given credit at BMAP adoption, and in previous annual Progress Reports.

Table 6: Summary of projects completed in the reporting period in the Central IRL

TBD = To be determined

Stakeholders	Project Zone	Project Number	Project Name	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)
Brevard County	SEB	BC-9	Micco I	TBD	TBD
Brevard County	SEB	BC-13	Wheeler Flemming Grant	TBD	TBD
FDOT District 4	B	FDOT4-21	FM#: 413048-1 (I-95 from St. Lucie/ IRC Line to North of SR 60)	TBD	TBD
FDOT District 4	SEB	FDOT4-29	FM# 228583-2 US 1 Widening (Pond 3)	TBD	TBD
Indian River County	B	IRC-6	PC South (Osprey Marsh) Algal Nutrient Removal Facility	13,200	3,300
Total			**Total Reductions in Reporting Period**	**13,200**	**3,300**

Section 3: COMPLIANCE

As stated in the Central IRL BMAP, adopted in January 2013, DEP will annually review each entity's progress towards achieving the overall TMDL goal. While there were no entity-specific allocations in the 2013 Central IRL BMAP, the BMAP included management actions that each entity had completed since 2000 or that would be completed by the end of Phase 1 of the BMAP. **Table 7** outlines the number of committed projects by entity, the number of completed projects, and the number of projects stakeholders have committed to that are still under way.

Table 7: Summary of completed projects identified in the BMAP by entity

Entity	Projects Listed in 2013 BMAP	Completed	Under Way
Brevard County	13	7	6
City of Fellsmere	6	5	1
City of Fort Pierce	7	6	1
City of Melbourne	1	1	-
City of Palm Bay	27	27	-
City of Sebastian	10	9	1
City of Vero Beach	4	4	-
City of West Melbourne	22	22	-
Fellsmere WCD	6	5	1
Fort Pierce Farms WCD (FPFWCD)	3	3	-
Indian River County	12	9	3
Indian River Farms WCD (IRFWCD)	3	3	-
Melbourne Tillman WCD	1	1	-
North St. Lucie River WCD (NSLRWCD)	3	3	-
SRID	5	3	2
St. Lucie County	6	4	2
St. Lucie Village	1	1	-
Town of Indialantic	1	1	-
Town of Melbourne Beach	17	17	-
Town of Melbourne Village	1	1	-
Town of Orchid	1	1	-
Florida's Turnpike Enterprise	1	1	-
FDOT District 4	17	17	-
FDOT District 5	15	15	-
Total	**183**	**166**	**17**

Section 4: WATER QUALITY AND BIOLOGICAL EVALUATION

4.1 Water Quality Monitoring

The IRL BMAP monitoring plan was designed to enhance the understanding of basin loads, identify areas with high nutrient concentrations, and track water quality trends. The information gathered through the monitoring plan measures progress toward achieving the TMDL and provides a better understanding of watershed loading. The BMAP monitoring plan consists of ambient water quality sampling and biological monitoring. A few highlights of the BMAP monitoring efforts are described below.

4.1.1 Monitoring Network

The IRFWCD continued to monitor three quarterly water quality stations in the basin and data were provided to DEP for assessment. The SJRWMD continued monthly sampling of 18 water quality stations in the Central IRL. The SJRWMD also continued seagrass transect monitoring in the Central IRL for seagrass, phytoplankton, epiphyte coverage, and water quality.

In addition, DEP and the SJRWMD worked with Dewberry, a consulting firm, to collect aerial photography for the seagrass imagery analysis in April and May 2015. The mapped seagrass deep edge from the aerial imagery was used to update the seagrass depth limit evaluation, discussed in **Section 4.2**. **Figure , Figure 12,** and **Figure** show the locations of the BMAP monitoring plan stations throughout the Central IRL.

4.1.2 IRFWCD

The IRFWCD provided data from 3 stations with TN and TP data for a 15-year period of record beginning in 2000. Data were reviewed for qualifiers to determine data acceptability when available. All nondetect values were reported at half the minimum detection limit. Data with no reported units were assumed to be in milligrams per liter (mg/L). No significant trend is present for either water quality parameter ($p < 0.01$) in any station. **Table 8** lists the median TN and TP concentrations for each station.

Table 8: Median TN and TP concentrations by station for the IRFWCD

Station Name	Median TN Concentration (mg/L)	Median TP Concentration (mg/L)
IRFWCD – North Gate	1.088	0.149
IRFWCD – Main Gate	1.138	0.123
IRFWCD – South Gate	1.131	0.125

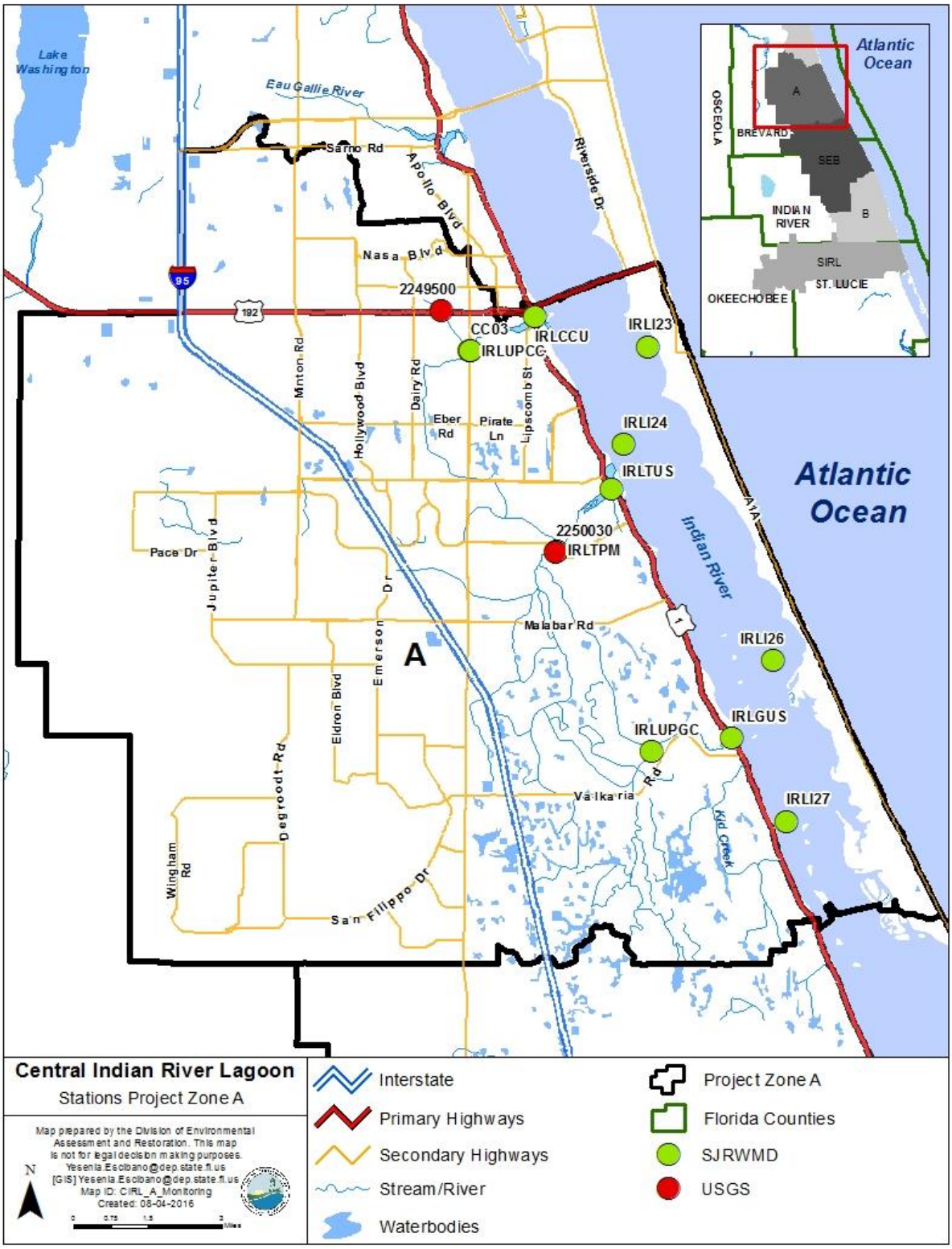

Figure 4: Water quality monitoring stations in Central IRL Project Zone A

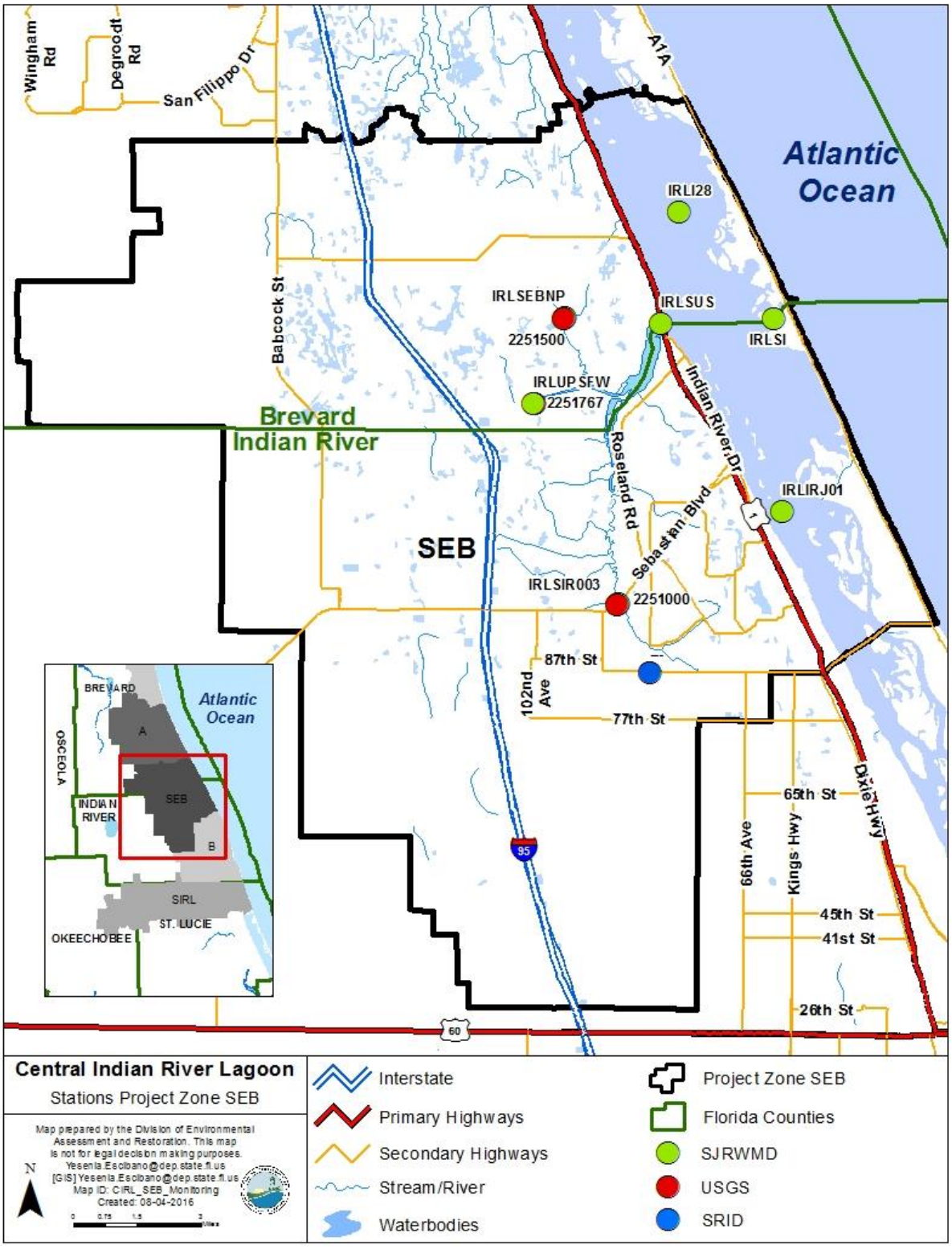

Figure 5: Water quality monitoring stations in Central IRL Project Zone SEB

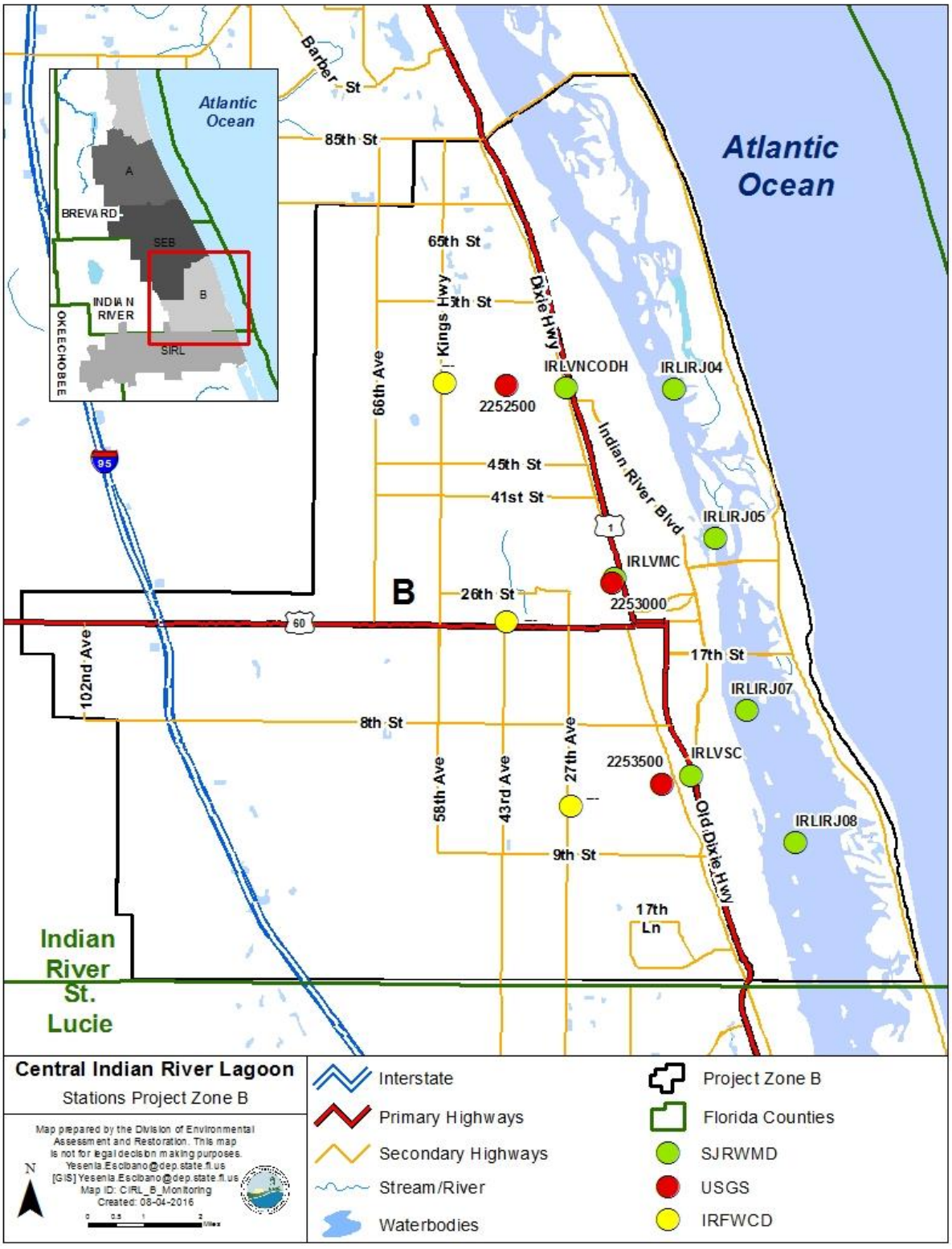

Figure 6: Water quality monitoring stations in Central IRL Project Zone B

4.1.3 SJRWMD

The SJRWMD completed additional water quality sampling beyond routine water quality sampling during the first week of February 2016 through the Central IRL and North IRL because of algal blooms. Water clarity in the IRL continued to decline, with Secchi depths less than 0.4 meters (m) from Cocoa southward through Grant-Valkaria (North IRL Project Zone B). YSI-measured chlorophyll-*a* has increased in the same region (North IRL Project Zone B to Central IRL Project Zone A), with the highest concentrations in the Rockledge area (350 micrograms per liter [µg/L]) and decreasing southward towards Grant-Valkaria (43 µg/L).

Bloom samples were collected on February 1, 2016, south of the SR 520 Causeway in Cocoa (North IRL Project Zone B). The samples contained a mixed assemblage of species, including picocyanobacteria (2,198,379 cells/milliliter [mL]), *Aureoumbra lagunensis* (1,281,667 cells/mL), and green nanoeukaryotes (244,847 cells/mL). *A. lagunensis* predominated, making up 84 % of the sample. Another bloom sample was collected in Rockledge (North IRL Project Zone B), again with *A. lagunensis* dominating the biovolume. Chlorophyll-*a* increased at the continuous monitoring station at the Melbourne Causeway (North IRL Project Zone B), with the highest concentrations (402 µg/L) observed on February 14, 2016. Salinity remains in the low 20 parts per thousand (ppt). Maintenance on this station was completed on February 8, 2016, and is scheduled again on March 8, 2016.

Data collected from 6 stations between January 6, 2016, and April 6, 2016 (Figure) showed that values for 4 forms of nitrogen, 3 forms of phosphorus, and chlorophyll-*a* varied in space and over time (**Figure 15**, **Figure** , and **Figure 17**). Ammonium concentrations at IRLB04 (BRL), IRLI06 (North IRL Project Zone A), IRLI13 (North IRL Project Zone B), and IRLI23 (Central IRL Project Zone A) were elevated in samples from November and December 2015, which was the period preceding the bloom of *A. lagunensis*, or brown tide (**Figure 15**). An increase in ammonium also was noted prior to the first bloom of *A. lagunensis* in Laguna Madre, Texas.

Phosphorus concentrations remained slightly higher than concentrations recorded before 2010, especially at more northern stations (**Figure**).

Brown tide was evident as increased concentrations of chlorophyll-*a* at IRLB04, IRLI06, IRLI13, and IRLI23 from December 2015 to March 2016, with no evidence of an event at IRLIRJ07 (Central IRL Project Zone B; **Figure 17**). The last reports of large numbers of *A. lagunensis* (> 2,000,000 cells/mL^{-1}) came from the southern Mosquito Lagoon and southern BRL on March 7, 2016. Overall, water quality, especially in the North IRL, remained unsettled.

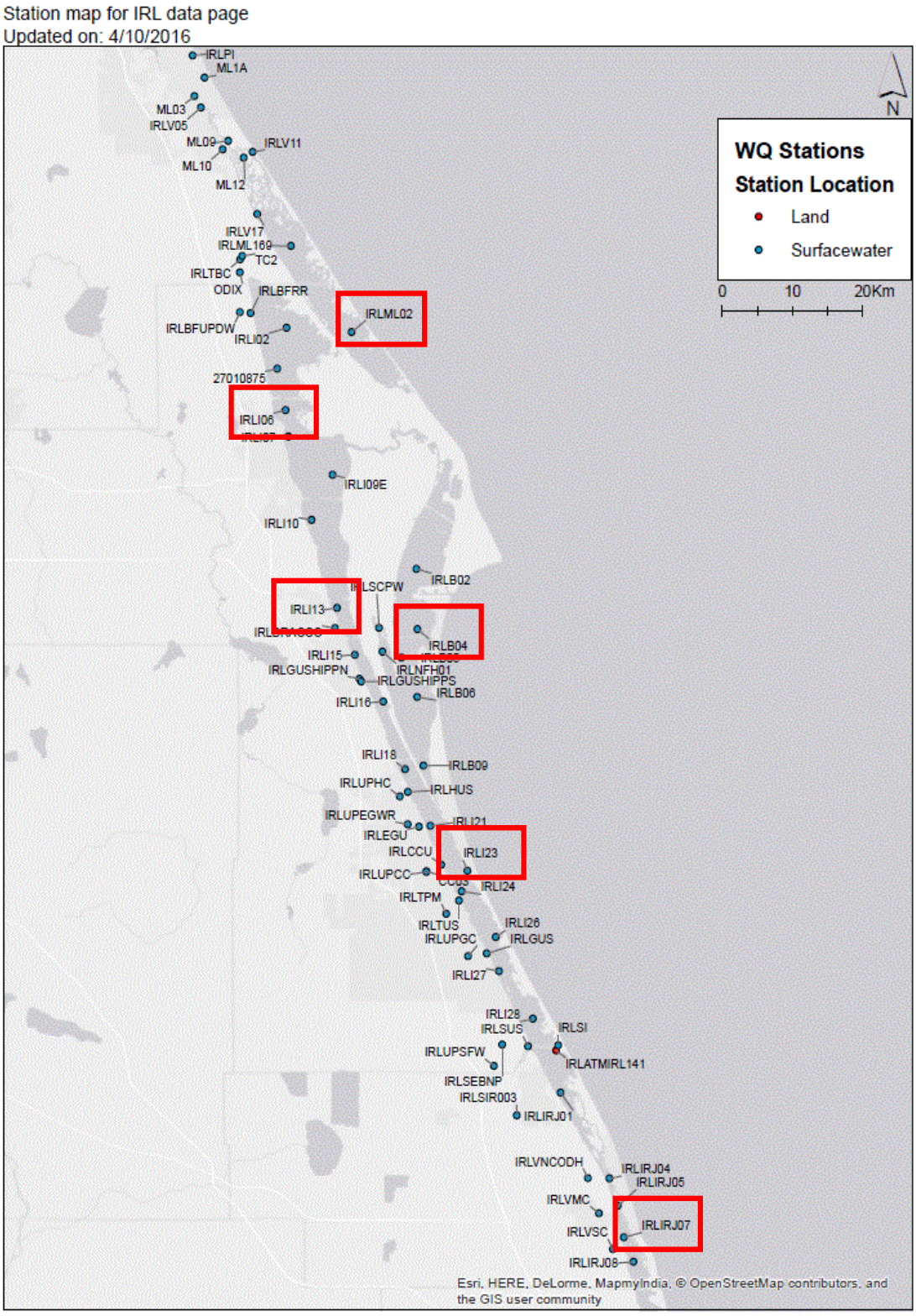

Figure 7. Water quality sampling stations

Red boxes = Representative stations

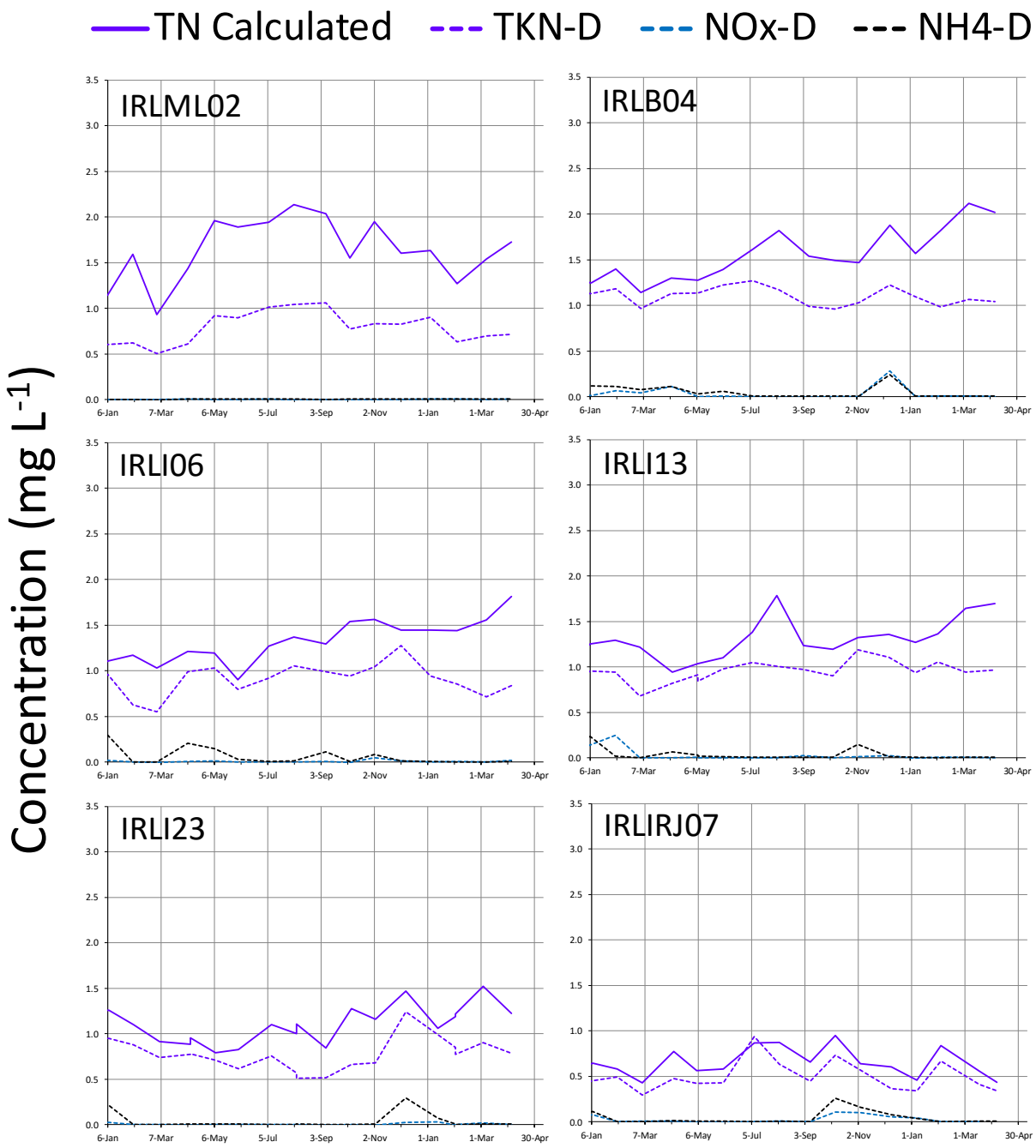

Figure 8. Concentrations of various forms of nitrogen

TN Calculated = TN calculated from other forms; TKN-D = Total dissolved Kjeldahl nitrogen; NOx-D = Dissolved nitrate and nitrite; NH4-D = Dissolved ammonium

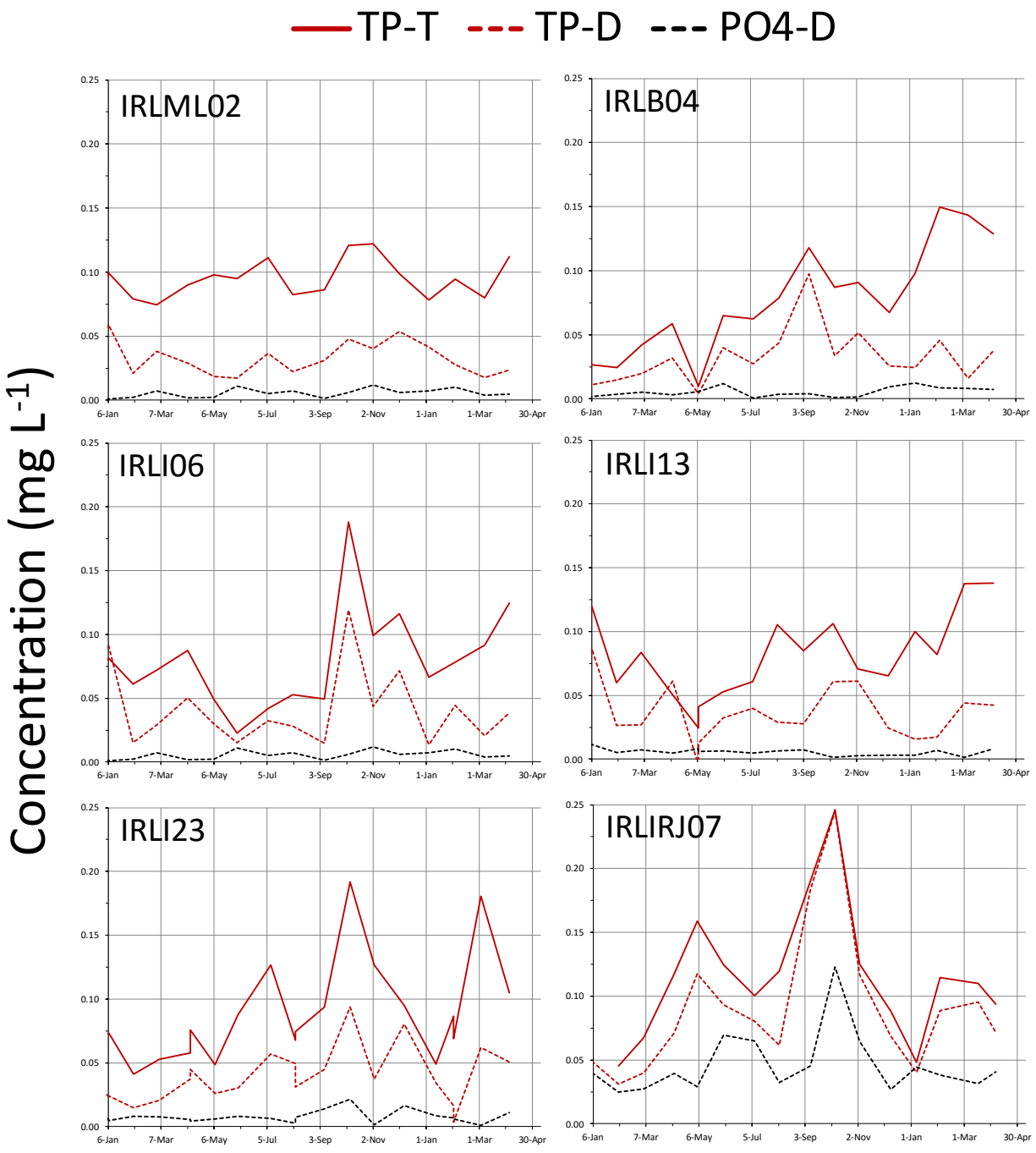

Figure 9. Concentrations of various forms of phosphorus

TP-T = Total Phosphorus; TP-D = Total dissolved phosphorus; PO4-D = Dissolved orthophosphate

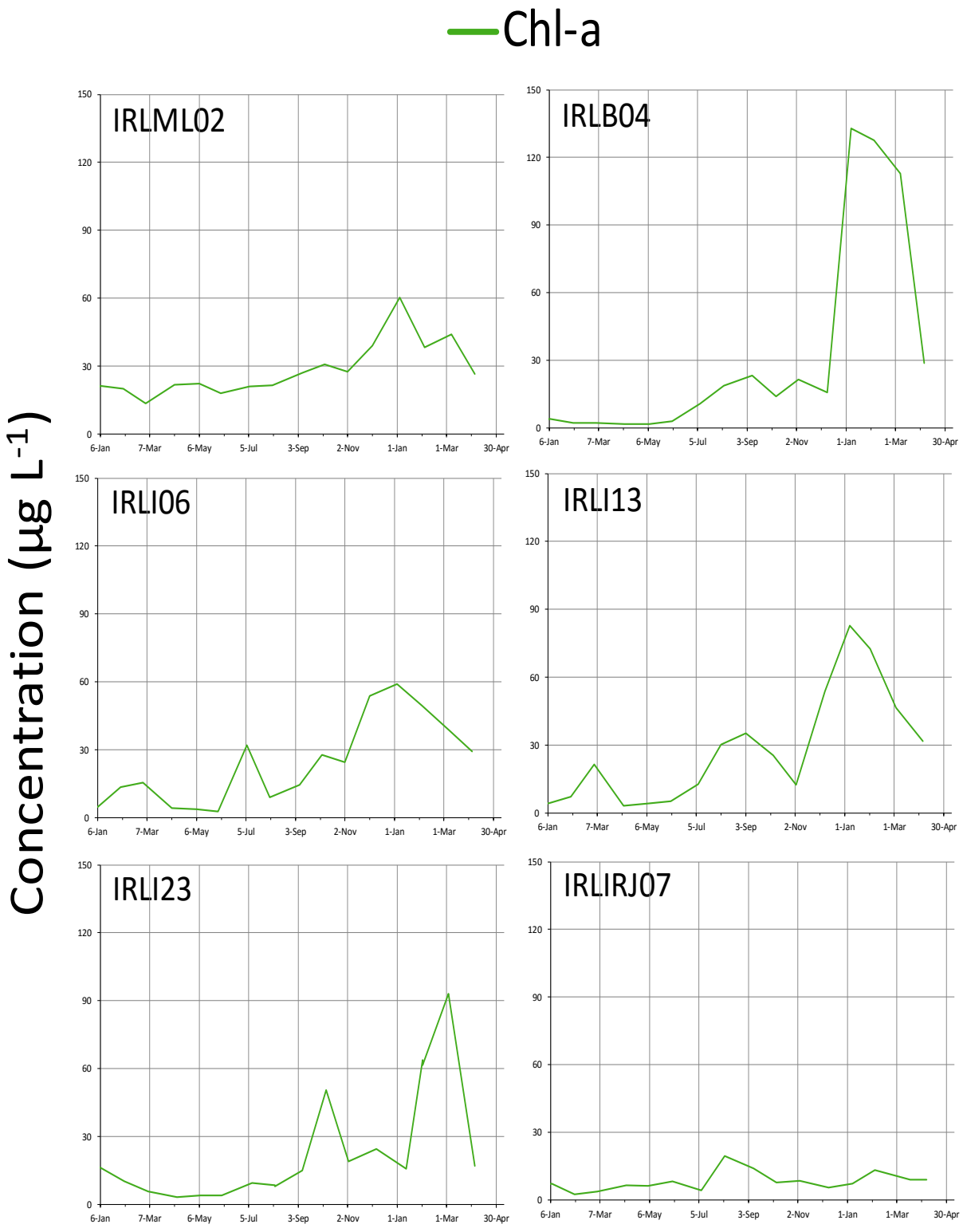

Figure 10. Chlorophyll concentrations

Chl-a = chlorophyll-*a*

4.2 Seagrass Compliance Test

The goal of the TMDLs is to recover the deeper seagrass habitats, with the biological response of the seagrass being the most important factor in evaluating the success of achieving the TMDL targets. To assess progress in the IRL Basin towards the median seagrass depth limit target, the following two-step compliance test was used:

- Step 1 is a cumulative frequency distribution analysis in which the four most recent mapped seagrass datasets are used to create a union coverage of the assessment years and establish the deep edge of the seagrass beds. A cumulative frequency distribution curve of the assessment years' depths is then compared with the union coverage TMDL depth limit target curve. Compliance in Step 1 is achieved when at least 50 % or more of the assessment years' frequency distribution curve lies on or to the right of the TMDL depth limit target curve.

- Step 2 is conducted by calculating the median seagrass depth for each year of the four most recent mapped seagrass datasets. Each assessment year median is then compared with the TMDL median depth limit target. Three of the four assessment years' medians must meet or exceed the median TMDL to be Step 2 compliant.

DEP conducted this two-step evaluation process using the 2009, 2011, 2013, and 2015 mapping years, which were the latest datasets available at the time of this analysis. All the Central IRL project zones were determined to be Step 1 compliant (**Figure** , **Figure 12**, and

Figure) but not Step 2 compliant (**Figure** , **Figure 15**, and **Figure**). **Table 9** summarizes the Step 2 compliance test, with the highlighted rows indicating the years when the median seagrass depth met the TMDL depth limit target. Therefore, BMAP stakeholders will continue to work towards achieving the seagrass depth limit targets.

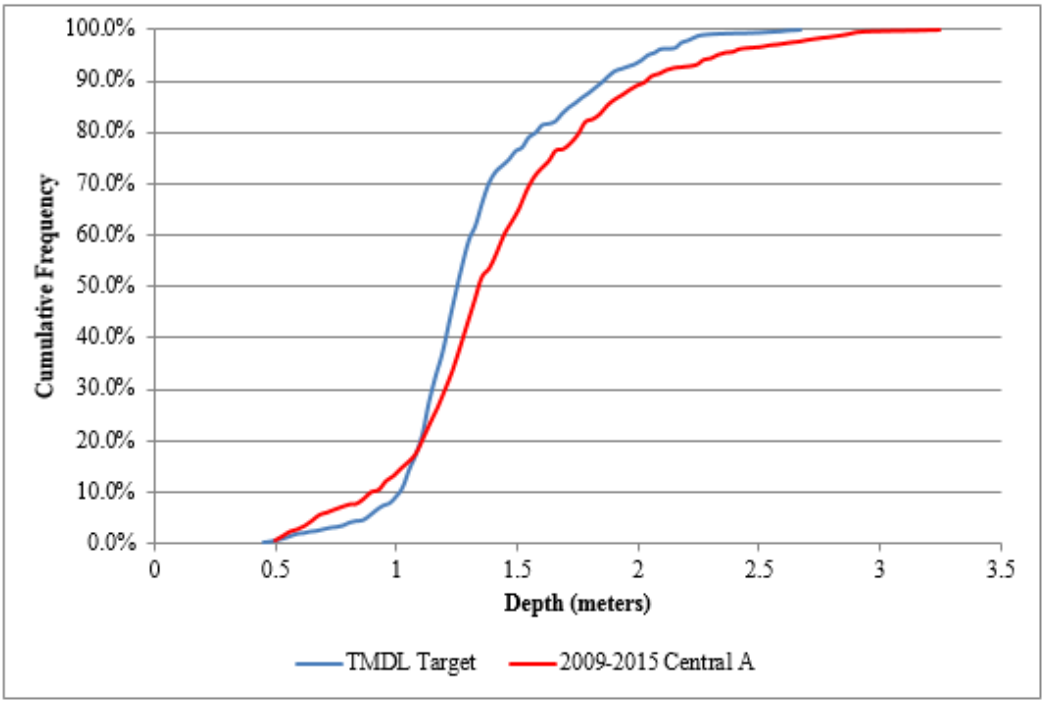

Figure 11: Step 1 compliance evaluation for Central IRL Project Zone A, 2009–15

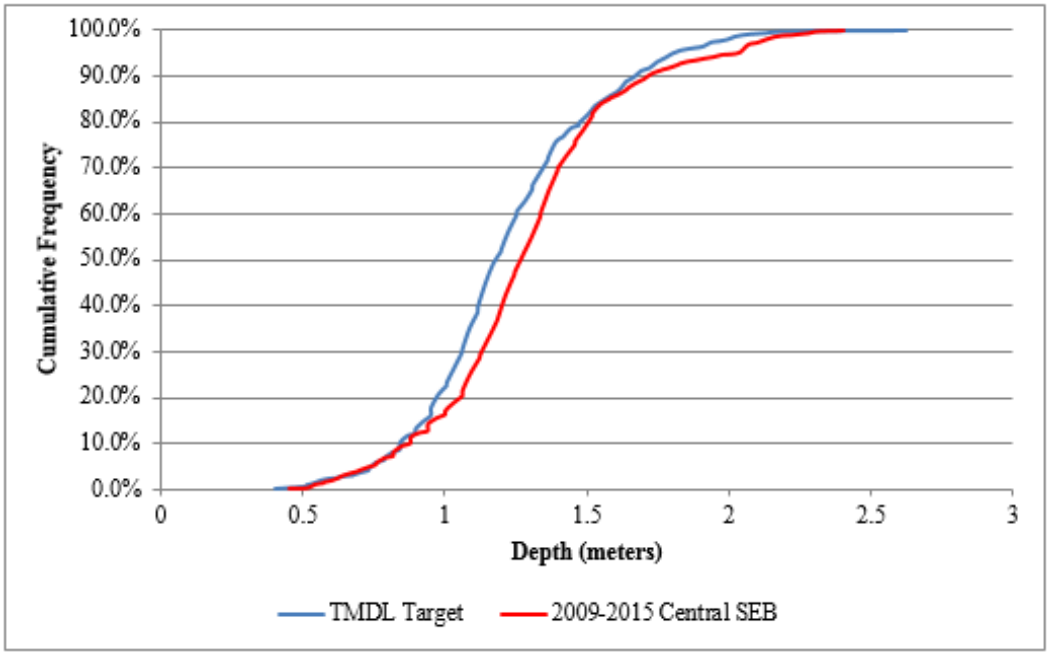

Figure 12: Step 1 compliance evaluation for Central IRL Project Zone SEB, 2009–15

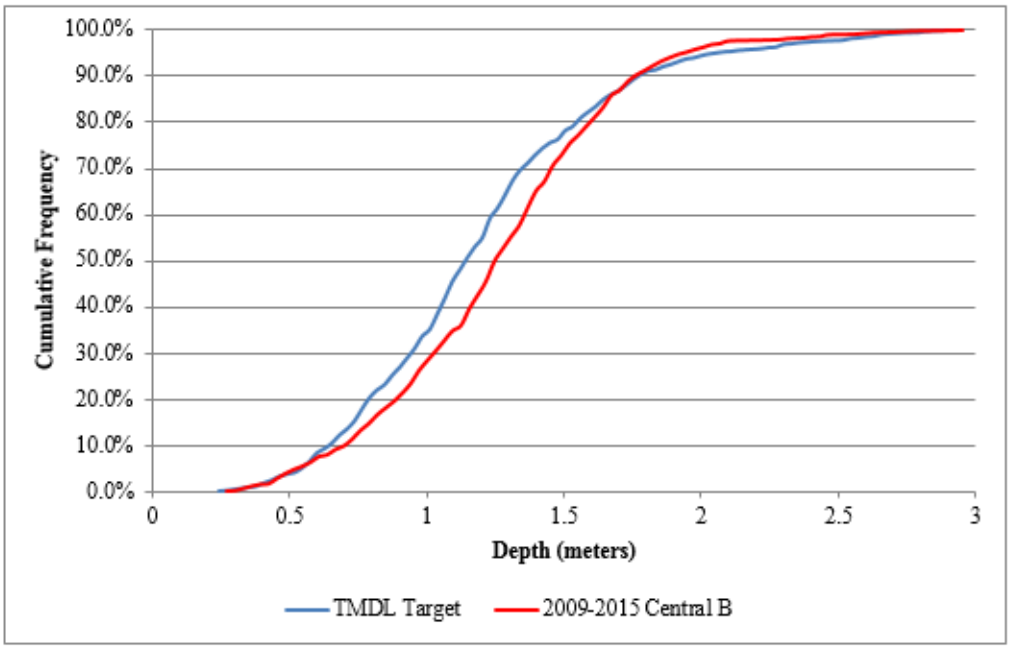

Figure 13: Step 1 compliance evaluation for Central IRL Project Zone B, 2009–15

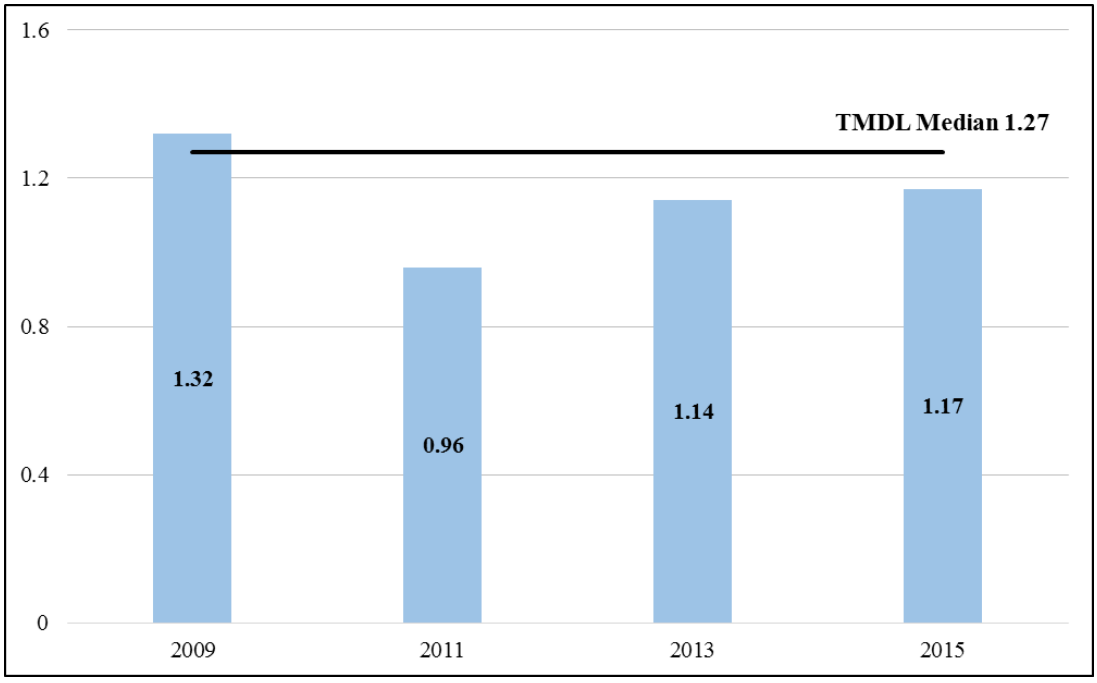

Figure 14: Step 2 compliance evaluation for Central IRL Project Zone A, 2009–15

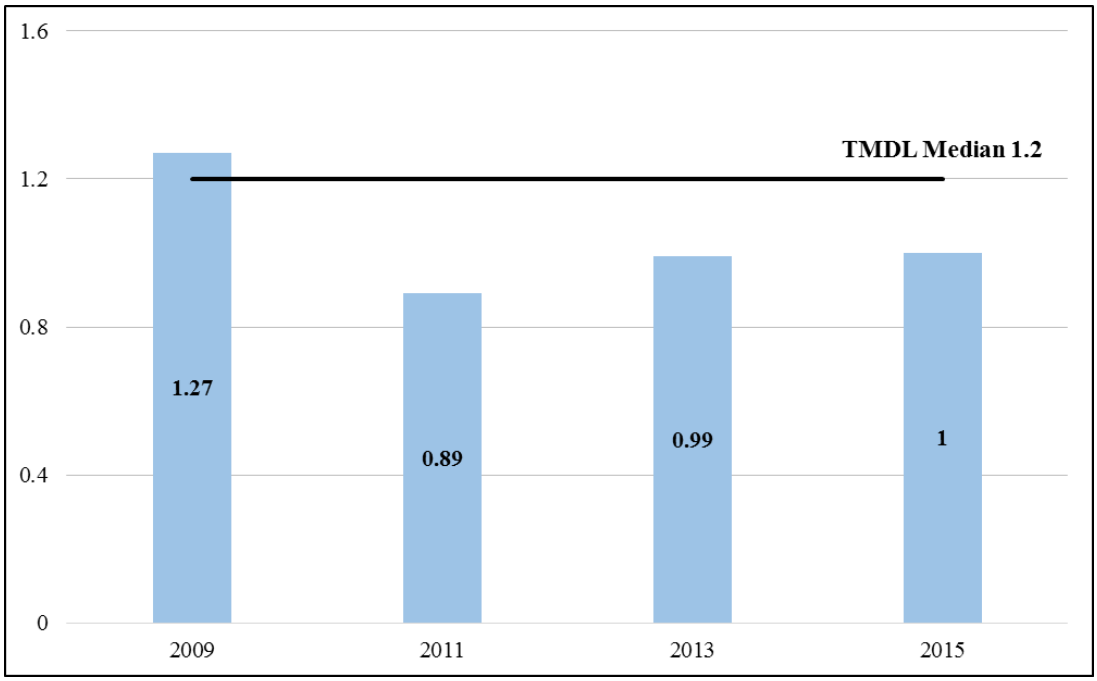

Figure 15: Step 2 compliance evaluation for Central IRL Project Zone SEB, 2009–15

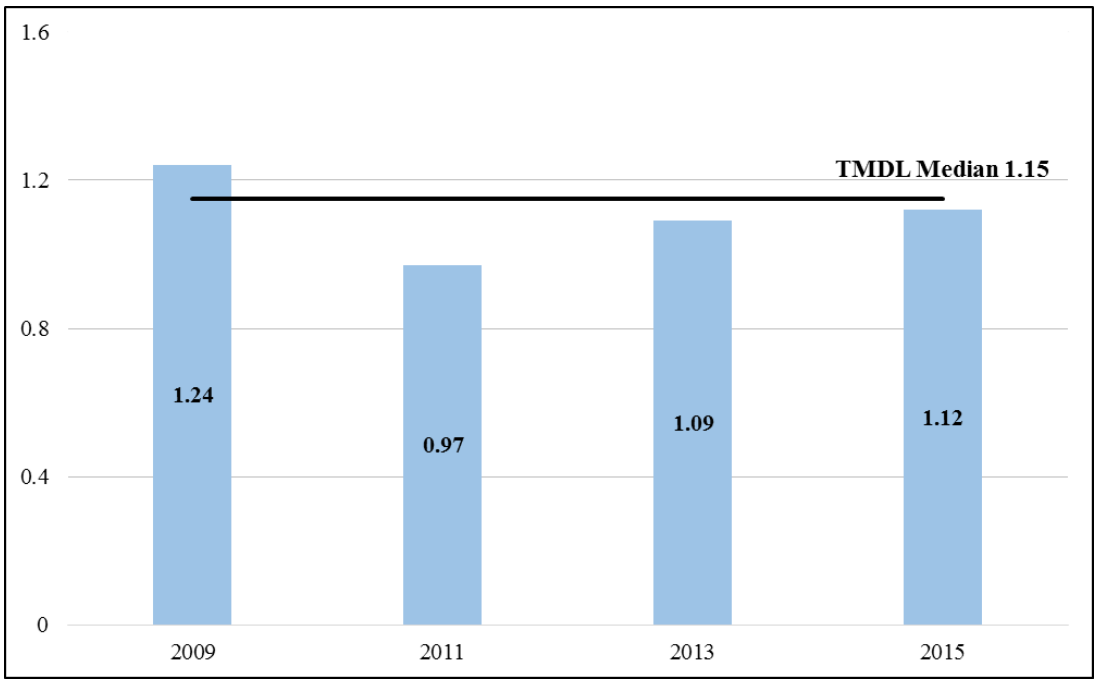

Figure 16: Step 2 compliance evaluation for Central IRL Project Zone B, 2009–15

Table 9: Step 2 compliance evaluation for the Central IRL Subbasin

Note: An asterisk and highlighted cells indicate the years when the median seagrass depth met the TMDL depth limit target.

Year	Central IRL A Median Depth (m)	Central IRL SEB Median Depth (m)	Central IRL B Median Depth (m)
TMDL Median	1.27	1.20	1.15
2007	1.39*	1.27*	1.27*
2009	1.32*	1.27*	1.24*
2011	0.96	0.89	0.97
2013	1.14	0.99	1.09
2015	1.17	1.00	1.12
Step 2 Compliant?	**No**	**No**	**No**

Section 5: SOUTH IRL SUBBASIN

5.1 Activities by Entity

This section describes the accomplishments in the South IRL Subbasin during the reporting year. New projects added to the individual project tables are described below, as well as individual projects completed during the reporting period. Ongoing efforts such as street sweeping, ordinances, and public education efforts are not specifically described below but must continue each year for the project credit to remain effective. **Appendix A** contains the individual project tables.

5.1.1 City of Fort Pierce

Fort Pierce implemented water quality improvement projects that benefit the IRL but are located outside the basin boundary. These projects are identified as FP-1, FP-2, FP-3, FP-4, and FP-6 in the BMAP. Moving forward, the status of these projects and associated reductions will be included in the St. Lucie Estuary BMAP based on the project locations.

5.1.2 FDOT District 4

In an effort to achieve additional load reductions, FDOT District 4 identified five new 2nd-generation baffle box projects: FDOT4-30, FDOT4-31, FDOT4-32, FDOT4-33, and FDOT4-34.

5.1.3 FPFWCD

The FPFWCD continued ongoing research into potential BMAP projects and will update DEP when more information becomes available.

5.1.4 North St. Lucie River WCD (NSLRWCD)

The NSLRWCD continued ongoing research into potential BMAP projects and will update DEP when more information becomes available.

5.1.5 St. Lucie County

During the reporting period, St. Lucie County continued work on capital projects, associated grant funding opportunities, public education (SLC-1), and street sweeping efforts (SLC-2). The county continued work in oyster reef modules construction and deployment. It also added a new treatment train project to be completed in 2017 that includes a baffle box and weir.

5.1.6 Agriculture

FDACS currently has two field staff and one contracted staff in the SJRWMD area, and is evaluating the possibility of contracting and hiring additional staff to assist with NOI enrollments in the IRL Basin.

During the reporting period, FDACS staff enrolled 59,204 acres under 139 NOIs (**Table 10** and **Table 11**) in the South IRL Subbasin. Enrolled acreage in the citrus land use category decreased from the 2014 annual Progress Report numbers, because FDACS deactivated all the NOIs

associated with the Ridge Citrus BMP Manual, as all NOIs enrolled under that manual were required to re-enroll under the Statewide Citrus BMP Manual. FDACS will continue to enroll producers in the South IRL Subbasin to meet the 5-year enrollment goal.

Table 10: FDACS BMP enrollment in the South IRL Subbasin as of December 31, 2015

N/A = Not applicable
[1] FDACS staff-adjusted acreage for purposes of enrollment is based on a review of more recent aerial imagery in the basin and local staff observations.

2000 SJRWMD Land Use	2000 Acres	FDACS-Adjusted Acres for Enrollment[1]	Related FDACS BMP Programs	Acreage Enrolled	Related NOIs
Pasture	28,353.56	28,353.56	Cow/Calf; Vegetable/Agronomic Crops (hay/forage)	15,828.93	14
Row/Field/Mixed Crops	3,758.83	3,758.83	Vegetable/Agronomic Crops	0	0
Horse Farm	86.69	86.69	Equine	0	0
Citrus	63,409.23	40,742.32	Statewide Citrus	0	0
Abandoned Citrus	4,003.67	N/A	No enrollment needed	39,035.84	114
Other Groves	223.74	223.74	Specialty Fruit and Nut	0	0
Tree Nurseries	224.71	224.71	Statewide Nursery	360.34	7
Ornamentals	299.62	299.62	Statewide Nursery	Included in tree nurseries acreage above	Included in tree nurseries acreage above
Dairies	685.24	685.24	Dairy Manual; Conservation Plan Rule	3,724.27	3
Specialty Farms	14.80	14.80	Conservation Plan Rule	0	0
Aquaculture	19.21	N/A	Aquaculture Certification Program	N/A	N/A
Total	101,079.30	74,390		59,205	139

There were 2 merged cells in the table above—I split the cells & added explanatory text. The document cannot be made ADA compliant if any cells are merged. Please review this change to make sure it is okay.

Table 11: FDACS BMP enrollment summary for the South IRL Subbasin

Category	Acres
Total Acreage Remaining in Basin for Enrollment	41,874.8
Five-Year Enrollment Goal (50 %)	37,195
Acreage Enrolled as of December 31, 2015	59,205
Remaining Acres To Enroll in Phase I	0

5.2 Water Quality in the South IRL Subbasin

5.2.1 South Florida Water Management District (SFWMD)

Data collected since 2000 for Station C25S50 (upstream of Weir S50 on C-25) were analyzed by DEP for statistical trends. Regression analyses were performed for both TN and TP, and both declined significantly ($p < 0.01$) over the period evaluated. The median TP concentration was 0.13 mg/L, and the median TN concentration was 1.17 mg/L. **Figure 17** shows the locations of the water quality monitoring stations in the South IRL.

5.2.2 FPFWCD

The FPFWCD continued to monitor five quarterly water quality stations. These have a limited period of record spanning just over three years from January 2013 through January 2016. Trend analyses for these stations were carried out for discussion. No significant trends are evident for TN or TP in any of the data. Error! Reference source not found. lists median TN and TP concentrations for the Fort Pierce Farms stations.

Table 12: Median TN and TP concentrations for the FPFWCD

Station Name	Median TN Concentration (mg/L)	Median TP Concentration (mg/L)
FPFWCD – Site 1	0.57	0.13
FPFWCD – Site 2	0.70	0.05
FPFWCD – Site 3	0.79	0.15
FPFWCD – Site 4	1.00	0.13
FPFWCD – Site 5	0.62	0.09

5.2.3 NSLRWCD

The NSLRWCD continued to monitor 1 quarterly water quality station in the basin. Limited data exist for the North St. Lucie Site 5 station; however, trend analyses were performed for discussion. No significant trends were evident for TN or TP ($p > 0.1$). The median TN concentration for the period of record was 0.97 mg/L, and the median TP concentration was 0.17 mg/L.

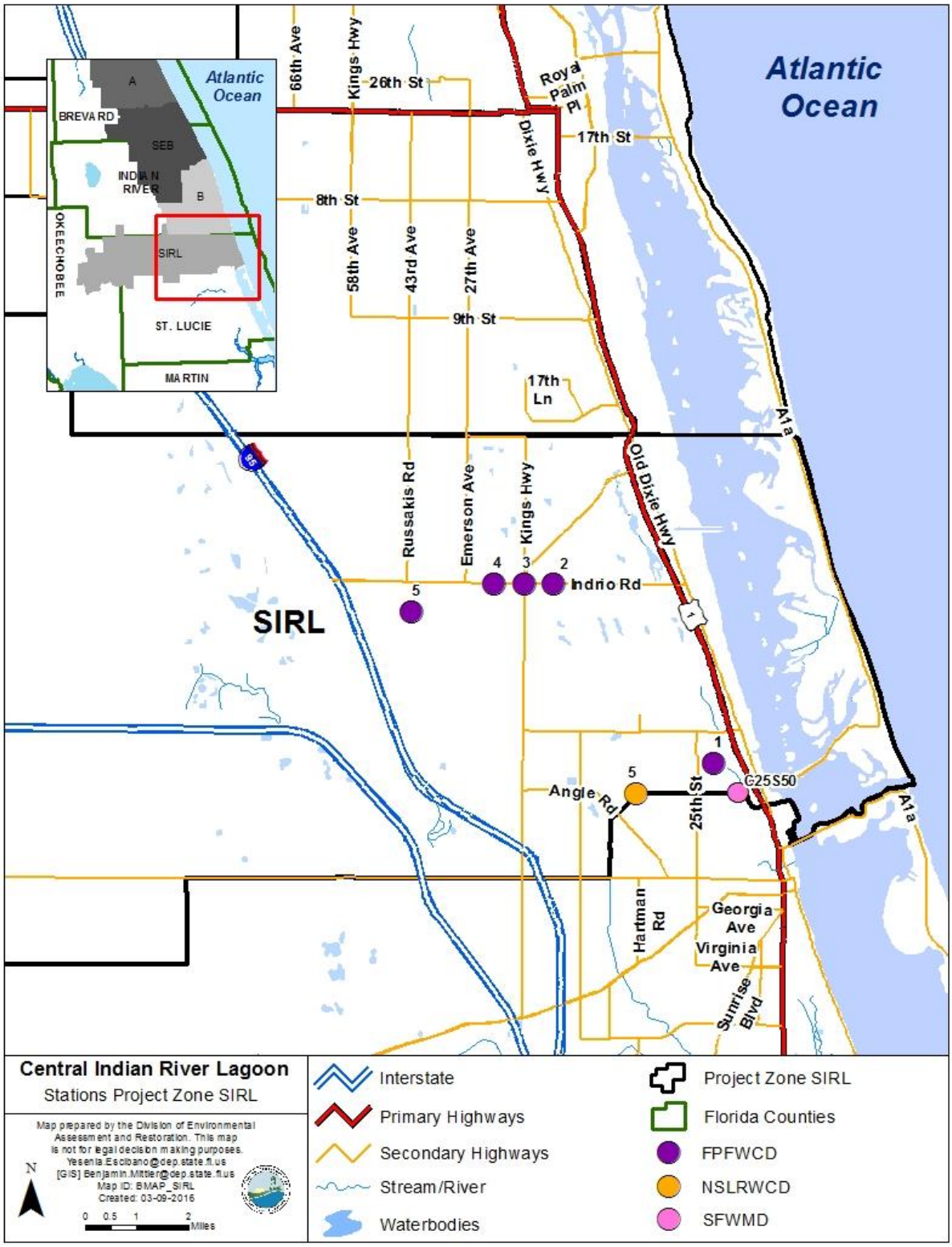

Figure 17: Water quality monitoring stations in the South IRL Subbasin

APPENDICES

Appendix A: BMAP Projects

The BMAP project tables list the implementation status of the BMAP projects as of February 29, 2016. The tables list (in lbs/yr) the nutrient reduction attributable to each individual project. These projects were submitted to provide reasonable assurance to DEP that each entity has a plan on how to meet its allocation. However, the list of projects is meant to be flexible enough to allow for changes that may occur over time, provided that the reduction is still met within the specified period.

Table A-1: Brevard County projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual Operations & Maintenance (O&M)	Project Zone
2013	BC-1	Tadlock and Goat Creek Baffle Box	Baffle Box – 1st Generation	Completed	22.10	TBD	TBD	$43,811		A
2013	BC-2	Oak Street Drainage Improvements	Treatment Train	Completed	0.30	TBD	TBD	$660,285		A
2013	BC-3	Melbourne Shores Ponds	Wet Detention Pond	Completed	135.90	TBD	TBD	$939,543		A
2013	BC-4	Church Street Pond Cleanout	BMP Cleanout	Completed	172.00	TBD	TBD			SEB
2013	BC-5	Education Efforts	Education Efforts	Ongoing		TBD	TBD			Countywide
2013	BC-6	Street Sweeping	Street Sweeping	Ongoing		406.00	261.00			A and SEB
2013	BC-7	Valkaria Lakes	Wet Detention Pond	Completed	457.70	TBD	TBD	$261,000		A
2013	BC-8	Wheeler Properties (Sebastian River Improvements)	Wet Detention Pond	Planned, partially funded	16,403.50	TBD	TBD	$3,500,000	$2,000	SEB
2013	BC-9	Micco I	Treatment Train	Completed	7.60	TBD	TBD	$175,599	$1,000	SEB
2013	BC-10	Micco B	Dry Detention Pond	Cancelled						SEB
2013	BC-11	Mockingbird Pond	MAPS	Funded	26.70	27.00	3.30	$10,923	$2,385	SEB
2013	BC-12	Church Street Pond MAPS	MAPS	Completed	172.10	217.00	37.10	$4,212	$2,106	SEB
2013	BC-13	Wheeler Flemming Grant	Wet Detention Pond	Completed	310.00	TBD	TBD	$645,073	$2,000	SEB
2014	BC-14	Fountainhead	Aquatic Vegetation Harvesting	Completed	149.35	489.00	79.10	$39,274		A
2014	BC-15	Corey Road at Hall	Baffle Box – Type 1 Retrofit	Completed	51.80	TBD	TBD	$12,507		A
2014	BC-16	430 Riverview	Baffle Box – Type 1 Retrofit	Completed	7.50	TBD	TBD	$30,508		A
2014	BC-17	C-1 Rediversion	Canal Rediversion	Completed	53,783.22	TBD	TBD	$531,051		A
2015	BC-18	Baffle Box/ Sediment Trap Cleaning	BMP Cleanout	Ongoing						A

Table A-2: City of Fellsmere projects

TBD= To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	F-1	State Street Improvements and Stormwater Lake Project	Wet Detention Pond	Completed	49.60	TBD	TBD			SEB
2013	F-2	Senior League Field Park Improvements	Wet Detention Pond	Completed	11.50	TBD	TBD			SEB
2013	F-3	City Hall/Orange Street Project	Wet Detention Pond	Envisioned, not funded	7.60	TBD	TBD			SEB
2013	F-4	Sonrise Apartments Phase 1 and 2	Wet Detention Pond	Completed	36.20	TBD	TBD			SEB
2013	F-5	Grace Meadows Subdivision	Wet Detention Pond	Completed	18.30	TBD	TBD			SEB
2013	F-7	Solid Waste Transfer Station	Wet Detention Pond	Completed	5.10	TBD	TBD			SEB
2014	F-8	Fertilizer Ordinance	Education Efforts	Completed		TBD	TBD			SEB
2015	F-9	North Regional Lake	Treatment Train	Envisioned, not funded	150.00	TBD	TBD	$2,000,000	$20,000	SEB
2015	F-10	South Regional Lake	Wet Detention Pond	Planned, funded	88.00	TBD	TBD	$2,000,000	$5,000	SEB

Table A-3: City of Fort Pierce projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	FP-1	Heathcote Botanical Gardens	Treatment train	Completed	TBD	TBD	TBD			Outside BMAP Boundary
2013	FP-2	Moore's Creek Retrofit Phases 3 and 4	Wet Detention Pond	Completed	TBD	TBD	TBD			Outside BMAP Boundary
2013	FP-3	South Beach Baffle Boxes	Baffle Box – 1st Generation	Completed	TBD	TBD	TBD			Outside BMAP Boundary
2013	FP-4	Moore's Creek Retrofit Phase 2	Baffle Box – 1st Generation	Completed	TBD	TBD	TBD			Outside BMAP Boundary
2013	FP-5	Street Sweeping	Street Sweeping	Ongoing		571.00	257.20			SIRL
2013	FP-6	Inlet Cleaning	BMP Cleanout	Completed						Outside BMAP Boundary
2013	FP-7	Education Efforts	Education Efforts	Ongoing		TBD	TBD			SIRL
2014	FP-8	Veterans Park Stormwater Improvements	Treatment Train	Started	TBD	TBD	TBD			Outside BMAP Boundary

Table A-4: City of Melbourne projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	MEL-1	Fee and Apollo Drainage Improvements	Wet Detention Pond	Completed	77.06	TBD	TBD	$525,161		A
2013	MEL-2	Education Efforts	Education Efforts	Ongoing		TBD	TBD			A
2013	MEL-3	Street Sweeping	Street Sweeping/ Inlet Cleaning	Ongoing		TBD	TBD			A
2013	MEL-4	Participation in Florida Yards and Neighborhoods (FYN) Program	Education Efforts	Ongoing		TBD	TBD			A
2015	MEL-5	South Croton Baffle Box	Treatment Train	Under construction	4.91	TBD	TBD	$285,000		A
2016	MEL-6	Southwest Park Improvements near Florida Ave.	Baffle Box – 2nd Generation with Media Filter	Under construction	TBD	TBD	TBD	$438,000		A
2016	MEL-7	Melbourne Ave. Existing Baffle Box Upgrade	Baffle Box – 2nd Generation with Media Filter	Started	TBD	TBD	TBD	$12,000		A

Table A-5: City of Palm Bay projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	PB-1	Basin 11	Dredging	Completed				$1,866,695		A
2013	PB-2	Chace Lane Pond Modifications	Dry Detention Pond	Completed	91.19	TBD	TBD	$20,290		A
2013	PB-3	Glenham Drive Sidewalks Improvements	Dry Detention Pond	Completed	12.20	TBD	TBD			A
2013	PB-4	Basin 7 Stormwater Improvements Phase II	Wet Detention Pond	Completed	146.50	TBD	TBD	$79,109		A
2013	PB-5	Boundary Canal Trail Phase 3	Baffle Box – 1st Generation	Completed	365.90	TBD	TBD			A
2013	PB-6	Boundary Canal Phase II, Stormwater Improvement	Retention BMP	Completed	632.70	TBD	TBD			A
2013	PB-7	Boundary Canal Phase I Baffle Box Installation	Baffle Box – 1st Generation	Completed	632.70	TBD	TBD			A
2013	PB-8	Norwood Street Baffle Box Installation	Baffle Box – 1st Generation	Completed	461.00	TBD	TBD			A
2013	PB-9	Basin 1 Drainage Improvements Phase 1 (East of US 1)	Wet Detention Pond	Completed	175.0	TBD	TBD	$22,247		A
2013	PB-10	Basin 13 Stormwater Improvements	Wet Detention Pond	Completed	659.21	TBD	TBD	$200,419		A
2013	PB-11	Powell's Subdivision Paving and Drainage Improvements	Wet Detention Pond	Completed	123.56	TBD	TBD	$147,478		A
2013	PB-12	Port Malabar Unit 40 Drainage Improvements North	Wet Detention Pond	Completed	224.33	TBD	TBD	$23,778		A
2013	PB-13	Mandarin Ditch (South)	Swales	Completed	41.23	TBD	TBD	$308,797		A
2013	PB-14	Basin 3 Main Street Parking Lot	Pervious Pavement	Completed	346.05	TBD	TBD	$4,845		A
2013	PB-15	Basin 3 Main Street Improvements Channel Alignment	Other Structural BMP	Completed	346.05	TBD	TBD	$403,561		A
2013	PB-16	Street Sweeping	Street Sweeping	Ongoing		57.00	36.00	$8,900		A

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	PB-17	Turkey Creek Maintenance Dredging	Dredging	Completed				$255,241		A
2013	PB-18	Turkey Creek Maintenance Dredging – Sump	Dredging	Completed						A
2013	PB-19	Anglers Drive	Baffle Box – 1st Generation	Completed	19.14	TBD	TBD	$85,000		A
2013	PB-20	Worth Court	Inlet Inserts	Completed	5.00	TBD	TBD			A
2013	PB-21	Basin 9 (Harris Pond)	Wet Detention Pond	Completed	442.52	TBD	TBD	$294,519		A
2013	PB-22	Wild Rose BMP	Baffle Box – 1st Generation	Completed	4.59	TBD	TBD			A
2013	PB-23	C-1 Canal Rediversion	Canal Rediversion	Completed	TBD	TBD	TBD			A
2013	PB-24	Port Malabar Inlet Inserts	Inlet Inserts	Completed	29.25	TBD	TBD	$19,518		A
2013	PB-25	Kent Street Baffle Box	Baffle Box – 1st Generation	Completed	20.94	TBD	TBD	$50,000		A
2013	PB-26	PMU1 North (Florin Pond)	Dry Detention Pond	Completed	TBD	TBD	TBD	$150,000		A
2013	PB-27	Education Efforts	Education Efforts	Ongoing		TBD	TBD	$1,866,695		A
2016	PB-28	Vance Circle-Drainage Improvements	Inlet Inserts	Under way	TBD	TBD	TBD			A
2016	PB-29	Basin 1 Drainage Improvements Phase 2 (Victoria Pond)	Treatment Train	Design	175.0	TBD	TBD	$250,000		A
2016	PB-30	Troutman/ Clearmond Drainage Pond	Dry Detention Pond	Completed	7.9	TBD	TBD	$5,400,000		A
2016	PB-31	Port Malabar Drainage Improvements Central	Other Structural BMP	Completed	11.8	TBD	TBD			A
2016	PB-32	Kingswood Drainage Pond	Dry Detention Pond	Completed	62.4	TBD	TBD	50000.0		A

Table A-6: City of Sebastian projects

BD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	SEB-1	Main Street/Indian River Drive Improvements	Dry Retention Pond	Completed	4.19	TBD	TBD			SEB
2013	SEB-2	Main Street 4	Dry Detention Pond	Planned, funded	TBD	TBD	TBD			SEB
2013	SEB-3	T-Hangar Development/ Access Roads	Dry Detention Pond	Completed	11.56	TBD	TBD			SEB
2013	SEB-4	Louisiana Avenue Improvements Projects	Dry Retention Pond	Completed	3.08	TBD	TBD			SEB
2013	SEB-5	Twin Ditches Stormwater Retrofit	Wet Detention Pond	Completed	39.00	TBD	TBD			SEB
2013	SEB-6	Indian River Drive and Davis St. Baffle Box	Baffle Box – 1st Generation	Completed	96.00	TBD	TBD			SEB
2013	SEB-7	Periwinkle Drive Stormwater – City of Sebastian	Wet Detention Pond	Completed	67.60	TBD	TBD			SEB
2013	SEB-8	Collier Canal Stormwater Retrofit	Wet Detention Pond	Completed	531.60	TBD	TBD			SEB
2013	SEB-9	Schumann Park Improvements	Dry Detention Pond	Completed	3.80	TBD	TBD			SEB
2013	SEB-10	Fertilizer Ordinance	Education Efforts	Ongoing		TBD	TBD			SEB
2014	SEB-11	Airport Dr.	Baffle Box – 1st Generation	Cancelled						SEB
2014	SEB-12	Presidential Streets	Baffle Box – 1st Generation	Started	15.00	TBD	TBD			SEB
2014	SEB-13	Powerline Rd.	Baffle Box – 1st Generation	Completed	2.00	TBD	TBD			SEB
2014	SEB-14	STEP Septic System	Septic Tank Improvement	Cancelled						SEB

Table A-7: City of Vero Beach projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	VB-1	Date Palm Baffle Box	Baffle Box – 2nd Generation	Completed	63.60	TBD	TBD	$186,396	$1,000	B
2013	VB-2	10th and 12th Ave. Baffle Boxes	Baffle Box – 2nd Generation	Completed	69.90	TBD	TBD	$97,800	$1,000	B
2013	VB-3	Greytwig Baffle Box	Baffle Box – 2nd Generation	Completed	27.00	TBD	TBD	$75,000	$1,000	B
2013	VB-4	Fertilizer Ordinance	Education Efforts	Ongoing		TBD	TBD			B
2015	VB-5	STEP Septic System	Septic Tank Improvement	Started		TBD	TBD	$500,000		B
2016	VB-6	18th St. Outfall	Baffle Box – 2nd Generation	Completed	131.1	TBD	TBD			B
2016	VB-7	Humiston Park Outfall	Exfiltration	Completed	39.8	TBD	TBD			B
2016	VB-8	Bahia Mar Rd. Outfall	Baffle Box – 2nd Generation	Completed	13.3	TBD	TBD			B
2016	VB-9	Bay Drive Bridge	Baffle Box – 2nd Generation	Completed	1.9	TBD	TBD			B
2016	VB-10	Indian Bay North and South	Baffle Box – 2nd Generation	Completed	20.1	TBD	TBD			B
2016	VB-11	Live Oak Outfall	Baffle Box – 2nd Generation	Completed	11.7	TBD	TBD			B
2016	VB-12	Indian River Dr. E at Conn Way	Baffle Box – 2nd Generation	Completed	68.5	TBD	TBD			B
2016	VB-13	River Drive Bridge	Baffle Box – 2nd Generation	Completed	60.8	TBD	TBD			B
2016	VB-14	Lantana Lane	Flexi-Pave Inlet Retrofits	Completed	38.4	TBD	TBD			B
2016	VB-15	Royal Palm Pointe	Baffle Box – 1st Generation	Completed	TBD	TBD	TBD			B
2016	VB-16	Deep Injection Well	Deep Injection Well	Completed		TBD	TBD			B
2016	VB-17	Street Sweeping	Street Sweeping	Ongoing		683.00	430.00			-
2016	VB-18	Country Club Dr. Outfall	Baffle Box – 1st Generation	Completed	20.1	TBD	TBD			-
2016	VB-19	Mockingbird Dr./	Baffle Box –	Completed	68.5	TBD	TBD			B

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
		Iris Lane	1st Generation							
2016	VB-20	Vero Isles Inlet Retrofits	Flexi-Pave Inlet Retrofits	Under way	51.21	TBD	TBD			B
2016	VB-21	McAnsh Park Inlet Retrofits	Flexi-Pave Inlet Retrofits	Under way	169.67	TBD	TBD			B
2016	VB-22	Original Town Inlet Retrofits	Flexi-Pave Inlet Retrofits	Under way	170.63	TBD	TBD			B
2016	VB-23	BMP Maintenance	Catch Basin Cleanout	Completed		190.00	114.00			B

Table A-8: City of West Melbourne projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	WM-1	Westbrooke	Wet Detention Pond	Completed	169.00	TBD	TBD			A
2013	WM-2	Saddlebrook	Wet Detention Pond	Completed	40.20	TBD	TBD			A
2013	WM-3	Stratford Point	Wet Detention Pond	Completed	83.70	TBD	TBD			A
2013	WM-4	Oak Grove	Wet Detention Pond	Completed	91.40	TBD	TBD			A
2013	WM-5	Manchester Lakes	Wet Detention Pond	Completed	133.30	TBD	TBD			A
2013	WM-6	Havens at Riviera	Wet Detention Pond	Completed	22.90	TBD	TBD			A
2013	WM-7	Cypress/Creek Imagine Schools	Wet Detention Pond	Completed	72.00	TBD	TBD			A
2013	WM-8	Lynnwood	Wet Detention Pond	Completed	28.30	TBD	TBD			A
2013	WM-9	Coastal Commerce	Wet Detention Pond	Completed	59.90	TBD	TBD			A
2013	WM-10	Hammock Landing	Wet Detention Pond	Completed	76.10	TBD	TBD			A
2013	WM-11	Crystal Lakes	Wet Detention Pond	Completed	91.00	TBD	TBD			A
2013	WM-12	Orange View Dr.	Baffle Box – 2nd Generation	Completed	49.10	TBD	TBD			A
2013	WM-13	Stephenson Dr.	Baffle Box – 2nd Generation	Completed	14.10	TBD	TBD			A
2013	WM-14	Parker Rd.	Baffle Box – 2nd Generation	Completed	13.10	TBD	TBD			A
2013	WM-15	Laila Dr.	Baffle Box – 2nd Generation	Completed	21.90	TBD	TBD			A
2013	WM-16	Doherty Dr.	Baffle Box – 2nd Generation	Completed	66.00	TBD	TBD			A
2013	WM-17	Trend Rd.	Baffle Box – 2nd Generation	Completed	8.80	TBD	TBD			A
2013	WM-18	San Paolo	Baffle Box – 2nd Generation	Completed	2.70	TBD	TBD			A

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	WM-19	San Paolo West	Baffle Box – 2nd Generation	Completed	7.70	TBD	TBD			A
2013	WM-20	John Carrol	Baffle Box – 2nd Generation	Completed	74.90	TBD	TBD			A
2013	WM-21	Street Sweeping	Street Sweeping	Ongoing		337.00	216.00			A
2013	WM-22	Inlet Cleaning	BMP Cleanout	Ongoing						A

Table A-9: FDOT District 4 projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	FDOT4-1	FM# 228595-1 (Basin 4B)	Wet Detention Pond	Completed	57.60	TBD	TBD			SEB
2013	FDOT4-2	FM# 228620-1	100 % On-Site Retention	Completed	2.20	TBD	TBD			SEB
2013	FDOT4-3	FM# 228615-1	Baffle Box – 2nd Generation	Completed	59.80	TBD	TBD			B
2013	FDOT4-4	FDOT4 Street Sweeping	Street Sweeping	Ongoing		237.00	151.80			B and SEB
2013	FDOT4-5	FM# 228583-5 (Pond 1)	Wet Detention Pond	Completed	22.40	TBD	TBD			B
2013	FDOT4-6	FM# 228583-5 (Pond 2)	Wet Detention Pond	Completed	11.90	TBD	TBD			B
2013	FDOT4-7	FM# 228627-1 (Pond 1)	Wet Detention Pond	Completed	28.90	TBD	TBD			B
2013	FDOT4-8	FM# 228627-1 (Pond 2)	Wet Detention Pond	Completed	21.60	TBD	TBD			B
2013	FDOT4-9	Education Efforts	Education Efforts	Ongoing		TBD	TBD			B and SEB
2013	FDOT4-10	Fertilizer Cessation	Fertilizer Cessation	Completed		TBD	TBD			B and SEB
2013	FDOT4-11	FM# 230132-1 (System 1)	Dry Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-12	FM# 230132-1 (System 2)	Dry Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-13	FM# 230132-1 (System 3)	Dry Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-14	FM# 230132-1 (System 4)	Dry Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-15	FM# 230132-1 (System 5)	Wet Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-16	FM# 230132-1 (System 6)	Wet Detention Pond	Completed	TBD	TBD	TBD			SIRL
2013	FDOT4-17	FM# 230132-1 (System 7)	100 % On-Site Retention	Completed	TBD	TBD	TBD			SIRL
2014	FDOT4-18	FM# 228583-3 (SR 5/US-1)	Wet Detention Pond	Completed	17.25	TBD	TBD			B
2014	FDOT4-19	FM#: 230873-1 (27th Ave. Reconstruction)	100 % On-Site Retention	Completed	10.44	TBD	TBD			B

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2014	FDOT4-20	FM#: 229966-1 (SR A1A at the Moorings)	Swales	Completed	1.29	TBD	TBD			B
2014	FDOT4-21	FM#: 413048-1 (Interstate 95 from St. Lucie/Indian River County Line to North of SR 60)	100 % On-Site Retention	Completed	181.75	TBD	TBD			B
2014	FDOT4-22	FM# 411476-1 (Sebastian River Bridge Replacement Project)	Swales	Completed	0.48	TBD	TBD			SEB
2014	FDOT4-23	FM# 413049-2	Swales	Started	152.44	TBD	TBD			SEB
2014	FDOT4-24	FM# 230279-1 (Kings Highway)	Dry Detention Pond	Completed	TBD	TBD	TBD			SIRL
2014	FDOT4-25	FM# 413046-1	Swales	Completed	TBD	TBD	TBD			SIRL
2014	FDOT4-26	FM# 413047-1	Swales	Completed	TBD	TBD	TBD			SIRL
2015	FDOT4-27	FM# 230108-1 (Pond 1)	Wet Detention Pond	Completed	TBD	TBD	TBD			SIRL
2015	FDOT4-28	FM# 230108-1 (Pond 4)	Wet Detention Pond	Completed	TBD	TBD	TBD			Outside BMAP boundary
2015	FDOT4-29	FM# 228583-2 US 1 Widening (Pond 3)	Wet Detention Pond	Completed	39.62	TBD	TBD			SEB
2016	FDOT4-30	FM# 403596-1: SR 60 Resurfacing (20th St. Outfall)	Baffle Box – 2nd Generation	Completed	110.59	TBD	TBD			SIRL
2016	FDOT4-31	FM# 403596-1: SR 60 Resurfacing (21st St. Outfall)	Baffle Box – 2nd Generation	Completed	23.40	TBD	TBD			SIRL
2016	FDOT4-32	FM# 403596-1: SR 60 Resurfacing (23rd St. Outfall)	Baffle Box – 2nd Generation	Completed	144.25	TBD	TBD			SIRL
2016	FDOT4-33	FM# 403596-1: SR 60 Resurfacing (25th and Royal Palm Outfall) – Baffle Box #1	Baffle Box – 2nd Generation	Completed	50.97	TBD	TBD			SIRL
2016	FDOT4-34	FM# 403R96-1: SR 60 Resurfacing (25th and Royal Palm Outfall) – Baffle Box #2	Baffle Box – 2nd Generation	Completed	50.97	TBD	TBD			SIRL

Table A-10: FDOT District 5 projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	FDOTD5-1	D5_70010-3528-01	Wet Detention Pond	Completed	15.60	TBD	TBD			A
2013	FDOTD5-2	D5_70010-3528-02	Wet Detention Pond	Completed	8.40	TBD	TBD			A
2013	FDOTD5-3	D5_70012-3503-01 (Missing from model)	Wet Detention Pond	Completed	21.70	TBD	TBD			A
2013	FDOTD5-4	D5_70012-3503-02 (Missing from model)	Wet Detention Pond	Completed	9.10	TBD	TBD			A
2013	FDOTD5-5	D5_70012-3503-03 (Missing from model)	Dry Detention Pond	Completed	7.30	TBD	TBD			A
2013	FDOTD5-6	D5_70050-3544-03	Wet Detention Pond	Completed	5.10	TBD	TBD			A
2013	FDOTD5-7	D5_70100-3517-01 (Missing from model)	100 % On-Site Retention	Completed	3.40	TBD	TBD			A
2013	FDOTD5-8	D5_70220-3433-01	Wet Detention Pond	Completed	9.30	TBD	TBD			A
2013	FDOTD5-9	D5_70220-3429-01 (Missing from model)	Wet Detention Pond	Completed	20.00	TBD	TBD			A
2013	FDOTD5-10	D5_70220-3429-02 (Missing from model)	Wet Detention Pond	Completed	25.60	TBD	TBD			A
2013	FDOTD5-11	D5_70220-3429-03 (Missing from model)	Wet Detention Pond	Completed	26.10	TBD	TBD			A
2013	FDOTD5-12	D5_70220-3429-04 (Missing from model)	Wet Detention Pond	Completed	21.70	TBD	TBD			A
2013	FDOTD5-13	D5_409034-01	100 % On-Site Retention	Completed	0.40	TBD	TBD			A
2013	FDOTD5-14	Education Efforts	Education Efforts	Ongoing		TBD	TBD			A
2013	FDOTD5-15	Fertilizer Cessation	Fertilizer Cessation	Completed		1,586.00	0.00			A
2015	FDOTD5-16	Street Sweeping	Street Sweeping	Ongoing		80.00	51.00			A

Table A-11: Fellsmere WCD projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	FWCD-1	Sonrise Villas	Wet Detention Pond	Completed	13.60	TBD	TBD			SEB
2013	FWCD-2	St. Johns Land Purchase	Land Use Change	Completed	2,390.60	TBD	TBD			SEB
2013	FWCD-3	Fellsmere Stormwater Lake and State St. Improvements	Wet Detention Pond	Completed	48.10	TBD	TBD			SEB
2013	FWCD-4	Grace Meadows	Wet Detention Pond	Completed	7.70	TBD	TBD			SEB
2013	FWCD-5	2-Inch Limitation Discharges	Retention BMP	Ongoing		TBD	TBD			SEB
2013	FWCD-6	Fellsmere WCD Mechanical Canal Maintenance	Retention BMP	Started		TBD	TBD			SEB
2014	FWCD-7	Historic Fellsmere Master Drainage Plan	Regional Stormwater Treatment Lake	Design and permitting phase	1,661.33	TBD	TBD			SEB
2015	FWCD-8	South Regional Lake Project	Regional Stormwater Treatment Lake	Design and permitting phase	627.40	TBD	TBD			SEB
2016	FWCD-9	North Regional Lake	Regional Stormwater Treatment Lake	Design and permitting phase	367.36	TBD	TBD			SEB

Table A-12: FPFWCD projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	FPF-1	Swale along Canal 1 Top of Bank (St. Lucie River Issues Team [SLRIT] Grant 2006–07)	Swales	Completed	0.19	TBD	TBD			SIRL
2013	FPF-2	Dry Detention Area along Canal 1 Top of Bank (SLRIT Grants 2006–07 and 2007–08)	Dry Detention Pond	Completed	2.58	TBD	TBD			SIRL
2013	FPF-3	Discharge Criteria Adopted as Part of FPFWCD Permit Application Criteria	Ordinance/ Rule Change	Ongoing	TBD	TBD	TBD			SIRL

Table A-13: Indian River County projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	IRC-1	Vero Lake Estates Stormwater Improvements – Phase 1	Wet Detention Pond	Completed	2,384.37	TBD	TBD	$1,572,829		SEB
2013	IRC-2	East Roseland Stormwater Improvements	Wet Detention Pond	Completed	73.08	TBD	TBD	$433,134	$2,176	SEB
2013	IRC-3	East Gifford Stormwater Improvements	Wet Detention Pond	Completed	43.28	TBD	TBD	$686,136	$2,471	B
2013	IRC-4	PC Main (formerly Main Relief Canal Pollution Control Facility)	Other Structural BMP	Completed	22,800.50	2,079.30	528.30	$5,331,908	$63,260	B
2013	IRC-5	Egret Marsh Stormwater Park	Other Structural BMP	Completed	10,104.24	19,948.00	4,049.00	$7,563,274	$200,189	B
2013	IRC-6	PC South (Osprey Marsh) Algal Nutrient Removal Facility	Other Structural BMP	Operating	9,781.88	13,200.00	3,300.00	$10,000,000	175,000 (estimated)	B
2013	IRC-7	Moorhen Marsh (formerly PC North Aquatic Plant Based Nutrient Removal System)	Other Structural BMP	Envisioned, not funded	6,301.15	20,700.00	4,000.00	$5,000,000	84,000 (estimated)	B and SEB
2013	IRC-8	Education Efforts	Education Efforts	Ongoing		TBD	TBD		$52,000	B and SEB
2013	IRC-9	Street Sweeping	Street Sweeping	Ongoing		214.00	138.00		$22,050	B and SEB
2013	IRC-10	Storm Drain Cleaning with Vacuum Trucks	Other Structural BMP	On hold					$19,067	B and SEB

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	IRC-11	Floating Aquatic Plant Islands in County Stormwater Ponds and Lakes	Floating Aquatic Vegetation Treatment	Envisioned, not funded		TBD	TBD			B and SEB
2013	IRC-12	Spoonbill Marsh Project	Other Structural BMP	Completed	359.45	12,450.49	2,157.67	$4,200,000	$93,911	B
2016	IRC-13	North Relief Canal Mechanical Vegetation/Debris Removal System	Aquatic Vegetation Harvesting	Started	6,301.15	TBD	TBD	$1,000,000	$50,000	SEB
2016	IRC-14	South Relief Canal Mechanical Vegetation/Debris Removal System	Aquatic Vegetation Harvesting	Started	7,154.84	TBD	TBD	$1,000,000 (estimated)	50,000 (estimated)	SEB
2016	IRC-15	Osprey Acres (Coyote Run)	Treatment Train	Started	9,783.61	TBD	TBD			SEB

Table A-14: IRFWCD Projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	IRF-1	Tilting Weir Gates	Other Structural BMP	Completed		TBD	TBD			B and SEB
2013	IRF-2	Mechanical Removal of Floating Vegetation	Other Nonstructural BMP	Ongoing	TBD	TBD	TBD			B and SEB
2013	IRF-3	Establishment of 2-Inch Discharge Rule	Other Nonstructural BMP	Ongoing	TBD	TBD	TBD			B and SEB

Table A-15: Melbourne-Tillman WCD Projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
	MT-1	C-1 Rediversion Project	Canal Rediversion	Completed	TBD	TBD	TBD			A
2016	MT-2	Weir Construction C-69 @ C-1	Weir	Completed	3,830.00	TBD	TBD			A
2016	MT-3	Weir Construction C-69 @ C-75	Weir	Completed	2,940.00	TBD	TBD			A
2016	MT-4	Weir Construction C-74 @ C-69	Weir	Completed	840.00	TBD	TBD			A
2016	MT-5	Windmill	Other Structural BMP	Completed	516.00	TBD	TBD			A
2016	MT-6	C-9R	Other Nonstructural BMP	Completed	205.00	TBD	TBD			A
2016	MT-7	C-49 Pond	Biological/ Bacteria Treatment	Completed	238.00	TBD	TBD			A
2016	MT-8	C-47	Biological/ Bacteria Treatment	Completed	480.00	TBD	TBD			A
2016	MT-9	C-62	Other Nonstructural BMP	Completed	120.00	TBD	TBD			A
2016	MT-10	C-84	Biological/ Bacteria Treatment	Completed	152.00	TBD	TBD			A

Table A-16: NSLRWCD projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	NSLR-1	C-25 Diversion Structure	Control Structure	Completed						SIRL
2013	NSLR-2	Invasive Vegetation Removal at Canals 33 and 42	Aquatic Vegetation Harvesting	Completed		TBD	TBD			SIRL
2013	NSLR-3	Canal Maintenance Program	Aquatic Vegetation Harvesting	Ongoing		TBD	TBD		$9,400	SIRL

Table A-17: SRID projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	SRID-1	Establishment of 2-Inch Discharge Rule	Other Nonstructural BMP	Ongoing	TBD	TBD	TBD			B and SEB
2013	SRID-2	Radial Arm Control Gates	Other Structural BMP	Envisioned, not funded	TBD	TBD	TBD			B and SEB
2013	SRID-3	Vegetation and Sediment/Muck Removal from Canals	Other Nonstructural BMP	Ongoing	TBD	TBD	TBD			B and SEB
2013	SRID-4	Education Efforts	Education Efforts	Ongoing		TBD	TBD			B and SEB
2013	SRID-5	Large Regional Water Conservation/ Storage Areas	Other Nonstructural BMP	Envisioned, not funded	TBD	TBD	TBD			B and SEB
2014	SRID-6	200-Acre Pilot Project/Water Farming	Other Nonstructural BMP	Conceptually funded; contract in development	TBD	TBD	TBD			B and SEB
2014	SRID-7	Lateral D System Stormwater Management	Other Nonstructural BMP	Ongoing	TBD	TBD	TBD			B and SEB

Table A-18: St. Lucie County projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	SLC-1	Education Efforts	Education Efforts	Ongoing		TBD	TBD			SIRL
2013	SLC-2	Street Sweeping	Street Sweeping	Ongoing		664.00	299.10			SIRL
2013	SLC-3	Paradise Park Stormwater Improvement	Dry Retention Pond	Started	168.10	TBD	TBD	$1,500,000		SIRL
2013	SLC-4	Harmony Heights Stormwater Improvement	Dry Retention Pond	Started	3,000	TBD	TBD	$3,000,000		SIRL
2013	SLC-5	Taylor Creek Dredging	Dredging	Ongoing				$7,500,000		SIRL
2013	SLC-6	Stan Blum Memorial Boat Launch	Wet Detention Pond	Completed	4.00	TBD	TBD			SIRL
2015	SLC-7	San Lucie Plaza Stormwater Master Plan	Retention BMP	Envisioned, not funded	TBD	TBD	TBD			SIRL
2016	SLC-8	Georgia Ave. Basin Water Quality Improvement	Baffle Box – 2nd Generation	Envisioned, not funded	TBD	TBD	TBD			SIRL

Table A-19: St. Lucie Village projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	SLV-1	Peninsula Dr.	Detention	Completed	TBD	TBD	TBD			SIRL

Table A-20: Town of Indialantic projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	TI-1	Education Efforts	Education Efforts	Ongoing		TBD	TBD			A
2014	TI-2	Swale Construction	Swales	Started	TBD	TBD	TBD			A
2014	TI-3	Drainage Inlet Cleaning	BMP Cleanout	Ongoing						A
2014	TI-4	Street Sweeping	Street Sweeping	Ongoing		28.00	18.20			A
2016	TI-5	Lily Park	Retention BMP	Planned	TBD	TBD	9.00			A

Table A-21: Town of Melbourne Beach projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	MB-1	Basin 9 – Oak St. Pedway	Exfiltration	Completed	13.10	127.00	21.00	$146,000		A
2013	MB-2	Basin 9 – Oak St. Pedway – Improvement Project	Baffle Box – 2nd Generation	Completed	85.70	TBD	TBD	$146,000		A
2013	MB-3	Basin 8, 9, and 11 – Oak St. Pedway Improvement Project	Swales	Completed	45.10	TBD	TBD	$146,000		A
2013	MB-4	Basin 1 – Hazard Mitigation Grant Program (HMGP) Flood Water Improvements Project	Baffle Box – 2nd Generation	Completed	83.70	TBD	TBD	$500,000		A
2013	MB-5	Basin 1 – HMGP Flood Water Improvements Project	Swales	Completed	0.90	TBD	TBD	$500,000		A
2013	MB-6	Basin 9 – HMGP Flood Water Improvements Project	Swales	Completed	1.00	TBD	TBD	$500,000		A
2013	MB-7	Anchor Key Drainage Improvements – Basin 16	Baffle Box – 1st Generation	Completed	3.30	TBD	TBD			A
2013	MB-8	Pelican Key Drainage Improvements – Basin 14	Baffle Box – 1st Generation	Completed	1.80	TBD	TBD			A
2013	MB-9	Basin 5 – Ocean Ave. Baffle Box	Baffle Box – 1st Generation	Completed	58.30	TBD	TBD			A
2013	MB-10	Basin 10 – Cherry Dr. Baffle Box	Baffle Box – 1st Generation	Completed	87.40	TBD	TBD			A
2013	MB-11	Basin 15 – Neptune Dr. Baffle Box	Baffle Box – 1st Generation	Completed	5.80	TBD	TBD			A
2013	MB-12	Basin 17 – Riverview Lane Baffle Box	Baffle Box – 1st Generation	Completed	1.10	TBD	TBD			A
2013	MB-13	Basin 18 – Riverview Lane Baffle Box	Baffle Box – 1st Generation	Completed	5.90	TBD	TBD			A
2013	MB-14	Curb Inlet Baskets – Basins 4, 6, 10, and 15	Curb Inlet Baskets	Completed		5.00	3.50			A
2013	MB-15	Melbourne Beach Chevron	100 % On-Site Retention	Completed	0.60	TBD	TBD			A
2013	MB-16	Melbourne Beach Library	Dry Detention Pond	Completed	1.50	TBD	TBD			A
2013	MB-17	Melbourne Beach Town Hall	100 % On-Site Retention	Completed	1.80	TBD	TBD			A

Table A-22: Town of Melbourne Village projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	MV-1	Platt Circle	Baffle Box – 2nd Generation	Completed	31.10	TBD	TBD	$124,000		A

Table A-23: Town of Orchid projects

TBD = To be determined

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	TO-1	Education Efforts	Education Efforts	Ongoing		TBD	TBD			SEB

Table A-24: Florida's Turnpike Enterprise projects

Year Project Added	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Project Zone
2013	T-1	Street Sweeping	Street Sweeping	Ongoing		26.00	17.30	$124,000		B

Appendix B: Unfunded Future BMAP Projects

During project collection for this reporting period, DEP requested information from stakeholders on future projects with the potential for additional load reductions in the basin, for which funding has not yet been identified. **Table B-1** list these unfunded future projects, in addition to projects that were committed to by stakeholders in the BMAP and previous annual Progress Reports. The year indicated in the column "Year Project Added" differentiates future projects (2016) from the projects that have already been committed to (2013, 2014, or 2015). The continual funding of projects is a key part of meeting reductions required for future phases. This list will continue to be updated as project collection and verification efforts are refined.

Table B-1: Unfunded future BMAP projects

TBD = To be determined

Year Project Added	Lead Entity	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Start Date
2013	Brevard County	BC-8	Wheeler Properties (Sebastian River Improvements)	Wet Detention Pond	Planned, partially funded	16,403.5	TBD	TBD	$3,500,000	$2,000	
2013	City of Fellsmere	F-3	City Hall/ Orange Street Project	Wet Detention Pond	Envisioned, not funded	7.60	TBD	TBD			
2015	City of Fellsmere	F-9	North Regional Lake	Treatment Train	Envisioned, not funded	150	TBD	TBD	$2,000,000	$20,000	
2013	Indian River County	IRC-11	Floating Aquatic Plant Islands in County Stormwater Ponds and Lakes	Floating Aquatic Vegetation Treatment	Envisioned, not funded		TBD	TBD			
2013	Indian River County	IRC-7	Moorhen Marsh (formerly PC North Aquatic Plant Based Nutrient Removal System)	Other Structural BMP	Envisioned, not funded	6,301.15	20,700	4,000	$5,000,000	84,000 (estimated)	2016
2013	Sebastian River Improvement District	SRID-2	Radial Arm Control Gates	Other Structural BMP	Envisioned, not funded	TBD	TBD	TBD			
2013	Sebastian River Improvement District	SRID-5	Large Regional Water Conservation/Storage Areas	Other Nonstructural BMP	Envisioned, not funded	TBD	TBD	TBD			

Year Project Added	Lead Entity	Project Number	Project Name	Project Type	Project Status	Acres Treated	TN Reduction (lbs/yr)	TP Reduction (lbs/yr)	Cost	Cost Annual O&M	Start Date
2014	Sebastian River Improvement District	SRID-6	200-Acre Pilot Project/Water Farming	Other Nonstructural BMP	Conceptually funded, contract in development	TBD	TBD	TBD			
2015	St. Lucie County	SLC-7	San Lucie Plaza Stormwater Master Plan	Retention BMP	Envisioned, not funded	TBD	TBD	TBD			
2016	St. Lucie County	SLC-8	Georgia Ave. Basin Water Quality Improvement	Baffle Box – 2nd Generation	Envisioned, not funded	TBD	TBD	TBD			2017