

2013 PROGRESS REPORT

For the Lake Jesup Basin Management Action Plan

developed by the
Lake Jesup Basin Working Group

in cooperation with the
Division of Environmental Assessment and Restoration
Watershed Restoration Program
Florida Department of Environmental Protection
Tallahassee, Florida 32399

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LIST OF ACRONYMS AND ABBREVIATIONS

BMAP	Basin Management Action Plan
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CDS	Continuous Deflective Separation (Unit)
Department	Florida Department of Environmental Protection
FDACS	Florida Department of Agriculture and Consumer Services
FDOT	Florida Department of Transportation
FWC	Florida Fish and Wildlife Conservation Commission
FYN	Florida Yards and Neighborhood (Program)
HSPF	Hydrologic Simulation Program – FORTRAN (model)
I/I	Inflow and Infiltration
MS4	Municipal Separate Storm Sewer System
OOCEA	Orlando Orange County Expressway Authority
PSA	Public Service Announcement
RSF	Regional Stormwater Facility
SAV	Submerged Aquatic Vegetation
SJRWMD	St. Johns River Water Management District
STORET	STOrage and RETrieval (Database)
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TSI	Trophic State Index
UF–IFAS	University of Florida–Institute of Food and Agricultural Sciences
WBID	Waterbody identification

EXECUTIVE SUMMARY

TOTAL MAXIMUM DAILY LOADS

Lake Jesup is one of the largest lakes in Central Florida and is part of the St. Johns River system. Lake Jesup has a surface area of about 10,660 acres and drains a watershed of about 86,382 acres, including a large portion of Seminole County, a small portion of Orange County, the entire City of Winter Springs, and portions of the following municipalities: Altamonte Springs, Casselberry, Eatonville, Lake Mary, Longwood, Maitland, Orlando, Oviedo, Sanford, and Winter Park. The Florida Department of Environmental Protection identified Lake Jesup to be impaired for nutrients, and, in 2006, adopted total maximum daily loads (TMDLs) for total phosphorus (TP) and total nitrogen (TN) for the lake. The TMDLs required a 34% reduction in TP to achieve the target concentration of 0.096 mg/L and a 50% reduction in TN to achieve the target concentration of 1.27 mg/L.

The Lake Jesup Basin Management Action Plan (BMAP) was adopted in May 2010 to implement the TP TMDL. The focus on the TP loads was driven by the significant role of nitrogen fixation in Lake Jesup and several unknowns regarding internal nutrient cycling in the lake. However, the stakeholders have been conducting studies to evaluate the unknowns and plan to include TN load reductions in the second iteration of the BMAP. The BMAP allocated the required surface runoff and septic tank reductions to the responsible entities. To allow time for additional monitoring and research studies to address the unknowns identified, the required reductions were split into three, five-year time periods. The adopted BMAP addresses the first one-third of the required reductions.

This 2013 Progress Report is the third annual progress report for the Lake Jesup BMAP, and it describes the accomplishments and issues identified during the reporting period from June 1, 2012 through May 31, 2013.

ACCOMPLISHMENTS

The third year of BMAP implementation has been very successful. The total reductions during the reporting period were 3,651.2 lbs/yr of TP. During the second annual reporting period, the total reductions achieved were 863.3 lbs/yr of TP. A total of 133.9 lbs/yr of TP reductions occurred during the first annual reporting period. In addition, of 8,001.5 lbs/yr of TP reductions were accounted for in the period between the TMDL and BMAP adoption. Therefore, the total project reductions are 12,649.9 lbs/yr of TP, which are greater than the required reduction in the first BMAP iteration of 6,249.5 lbs/yr of TP.

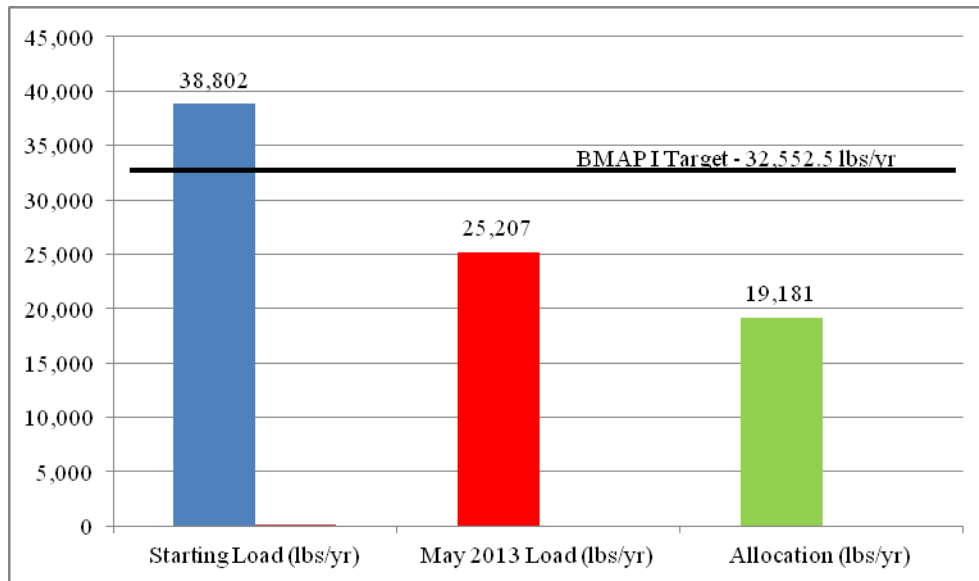


FIGURE ES-1: PROGRESS TOWARDS THE LAKE JESUP TP TMDL THROUGH MAY 31, 2013

During the reporting period, the City of Longwood completed a stormwater retrofit project with a reduction of 0.7 lbs/yr of TP. The City of Orlando completed an exfiltration project that resulted in a reduction of 1.3 lbs/yr of TP. The City of Oviedo also completed a wet detention pond project that resulted in 13.5 lbs/yr of TP reductions. The Town of Eatonville implemented education and outreach efforts that achieve 1.9 lbs/yr of TP reductions. The Florida Department of Agriculture and Consumer Services (FDACS), through field staff and contracted staff with the East Central Florida Resource Conservation and Development Council, has been working on enrolling growers in the container nursery, citrus, and cow/calf best management practice (BMP) programs. Most of the efforts so far have concentrated on the container nurseries and cow/calf operations. BMP implementation during the reporting period resulted in an estimated 35.4 lbs/yr of TP reductions. In addition, since the BMAP was adopted, the Department worked with the Florida Stormwater Association to more accurately quantify credits associated with municipal separate storm sewer system (MS4) maintenance activities, such as street sweeping, catch basin clean out, and clean out of other BMPs. This improved process for estimating reductions resulted in greater TP reductions for street sweeping than were originally calculated in the BMAP. The TP credits for street sweeping and BMP clean out calculated by the updated method accounted for additional reductions of 3,598.4 lbs/yr.

Several of the research studies to gather additional data for the next iteration of the TMDL and BMAP were also completed. In addition, the responsible stakeholders implemented the BMAP monitoring plan to gather water quality data for Lake Jesup and its tributaries.

ISSUES

Several entities have encountered delays with their project implementation. However, these delays are not causing an issue with BMAP compliance because the delayed projects are either additional reductions not required in this five-year iteration or the projects will be completed within the five-year period as allowed. Consequently, stakeholders are on track to achieve or exceed load reductions allocated in the BMAP during the period. The stakeholders also noted that obtaining funding to implement the projects has been an issue.

ACTIVITIES FOR THE UPCOMING YEAR

The fourth annual BMAP progress report will encompass the period of June 1, 2013 through May 31, 2014. The City of Maitland will complete two baffle box projects for a reduction of 8.8 lbs/yr of TP. Seminole County will complete one wet detention pond project for a reduction of 156.8 lbs/yr of TP. The City of Casselberry, City of Longwood, City of Orlando, and Seminole County will each begin construction on projects. FDACS will continue to sign up growers for BMPs under the citrus and cow/calf manuals. In addition, the BMAP monitoring will continue.

In addition, a Hydrologic Simulation Program – FORTRAN (HSPF) model is being created for the Lake Jesup Basin. This model will include data collected by the stakeholders from the research studies and BMAP monitoring to revise the estimates of loading to the lake. Using this model, better estimates of watershed loadings will be determined by April 2014. Results from this modeling exercise will facilitate the recalculation of the TMDLs for TP and TN, as needed, in time to discuss changes in BMAP allocations and the related projects with stakeholders during the summer of 2014 so that the stakeholders can be prepared for the second BMAP iteration.

Section 1: INTRODUCTION

1.1 PURPOSE OF THE REPORT

This is the third annual progress report for the Lake Jesup Basin Management Action Plan (BMAP). **Section 2** describes the accomplishments and the incremental progress toward meeting the total maximum daily load (TMDL) during the period from June 1, 2012 through May 31, 2013. **Section 3** describes the issues identified during the reporting period. A summary of efforts scheduled for the upcoming year (June 1, 2013 through May 31, 2014) is included in **Section 4**.

1.2 TMDLS FOR THE LAKE JESUP BASIN

Lake Jesup is one of the largest lakes in Central Florida and is part of the St. Johns River system. Lake Jesup has a surface area of about 10,660 acres (16.7 square miles) and drains a watershed of about 87,322 acres (136.4 square miles), including a large portion of Seminole County, a small portion of Orange County, the entire City of Winter Springs, and portions of the following municipalities: Altamonte Springs, Casselberry, Eatonville, Lake Mary, Longwood, Maitland, Orlando, Oviedo, Sanford, and Winter Park. At high stage levels, Lake Jesup has surface area up to 16,000 acres. Lake Jesup includes waterbody identification numbers (WBIDs) 2981 and 2981A. The subbasins and local governments located in the Lake Jesup Basin are shown in **Figure 1**.

The TMDLs for the Lake Jesup Basin were adopted by the Florida Department of Environmental Protection in April 2006 for total phosphorus (TP) and total nitrogen (TN). The focus of the BMAP is to achieve reductions in external TP loads to the lake. The focus on external TP loads was driven by the significant role of nitrogen fixation in Lake Jesup and several unknowns regarding internal nutrient cycling in the lake. The stakeholders have been conducting studies to evaluate TN loading and in-lake processes and plan to include TN load reductions in the second iteration of the BMAP.

Table 1 lists the TMDLs and pollutant load allocations adopted by rule for the Lake Jesup Basin.

TABLE 1: TMDLS IN THE LAKE JESUP BASIN

WBID(s)	TMDL (LBS/YR)	TARGET CONCENTRATION (MG/L)	WASTELOAD ALLOCATION STORMWATER	LOAD ALLOCATION (NONPOINT)
2981 (Including 2981A)	41,888 TP	0.096	34%	34%
2981 (Including 2981A)	545,203 TN	1.27	50%	50%

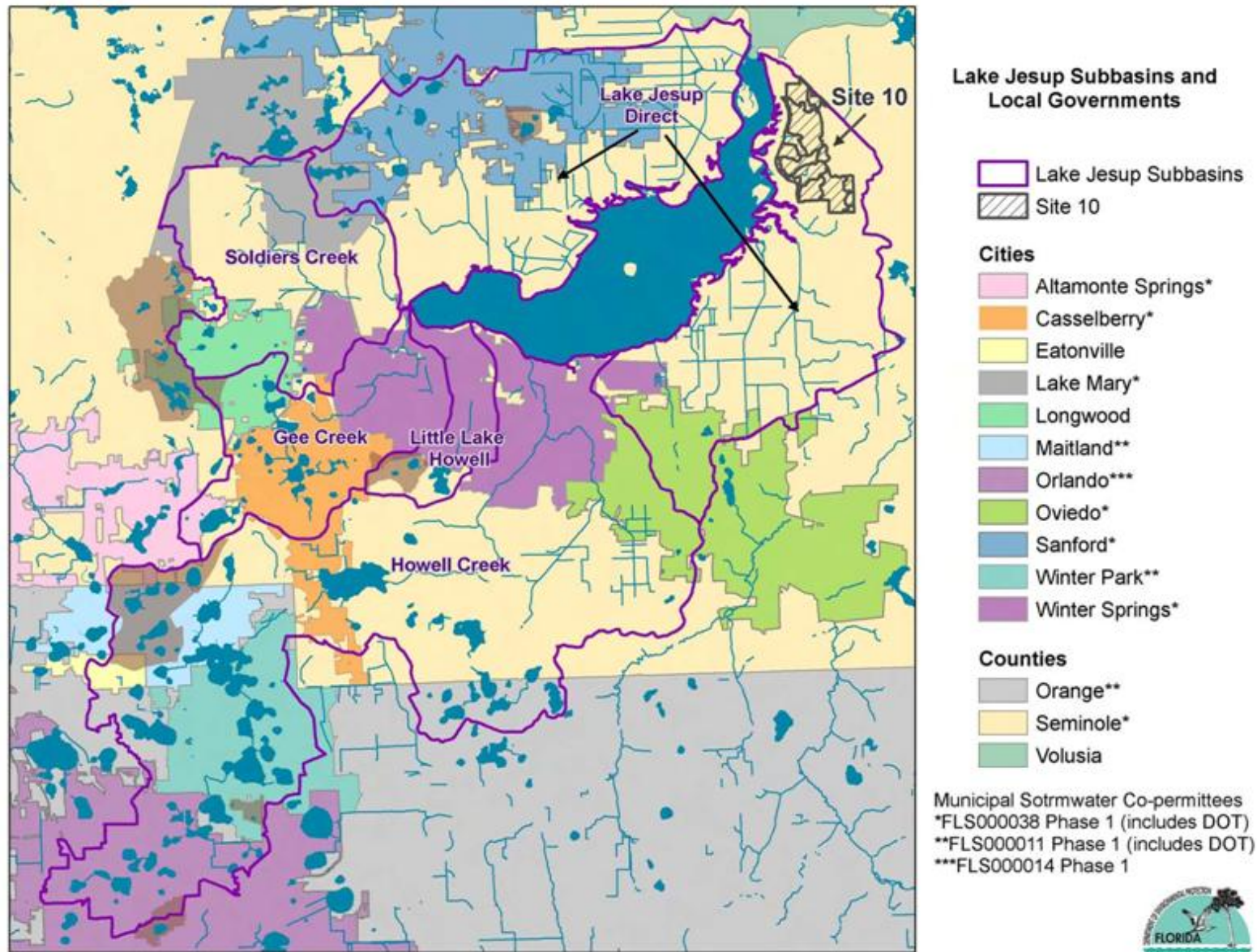


FIGURE 1: LAKE JESUP AND LOCAL GOVERNMENT JURISDICTIONS IN THE BASIN

1.3 RESPONSIBLE PARTIES AND KEY STAKEHOLDERS

The Lake Jesup BMAP identified municipal separate storm sewer systems (MS4s), septic tanks, and agricultural sources of TN and TP in the basin. Those entities that are responsible for achieving the load reductions are:

- *Agriculture*
- *City of Altamonte Springs*
- *City of Casselberry*
- *City of Lake Mary*
- *City of Longwood*
- *City of Maitland*
- *City of Orlando*
- *City of Oviedo*
- *City of Sanford*
- *City of Winter Park*
- *City of Winter Springs*
- *Florida Department of Transportation (FDOT) District 5*
- *Orange County*
- *Orlando Orange County Expressway Authority (OOCEA)*
- *Seminole County*
- *Town of Eatonville*
- *Turnpike Authority*

In addition to these entities, the Florida Department of Agriculture and Consumer Services (FDACS), the Department, and St. Johns River Water Management District (SJRWMD) are essential to the implementation of the BMAP activities.

1.4 BMAP ALLOCATIONS

Stakeholders in the Lake Jesup Basin agreed that a fair approach for allocations would be to determine the relative contribution of each entity to the surface runoff and septic tank (if applicable) loadings and use this relative contribution to apportion the required reductions. This percentage was separately calculated for each entity for the surface runoff load and septic tank load. To allow time for additional monitoring and research studies (see **Section 2.4**) to address the unknowns identified in the BMAP, the required reductions were split into three, five-year time periods. The adopted BMAP addresses the first one-third of the required reductions over the period from BMAP adoption (May 2010) through May 31, 2015, as shown in **Table 2**.

TABLE 2: TP WASTELOAD ALLOCATIONS FOR 2010-2015

ALLOCATION ENTITY	2010-2015 TOTAL REQUIRED REDUCTION (LBS/YR)
Agriculture	254.7
City of Altamonte Springs	19.0
City of Casselberry	342.7
City of Lake Mary	264.3
City of Longwood	205.3
City of Maitland	124.8
City of Orlando	326.3
City of Oviedo	258.7
City of Sanford	602.2
City of Winter Park	370.5
City of Winter Springs	513.0
FDOT District 5	132.3
OOCEA	5.2
Orange County	569.0
Seminole County	2,137.0
Town of Eatonville	23.4
Turnpike Authority	101.1
Total	6,249.5

Section 2: ACCOMPLISHMENTS

2.1 SUMMARY OF EFFORTS

The third year of BMAP implementation has been very successful. The City of Longwood completed a stormwater retrofit project with a reduction of 0.7 lbs/yr of TP. The City of Orlando completed an exfiltration project that resulted in a reduction of 1.3 lbs/yr of TP. The City of Oviedo also completed a wet detention pond project that resulted in 13.5 lbs/yr of TP reductions. The Town of Eatonville implemented education and outreach efforts that achieve 1.9 lbs/yr of TP reductions. FDACS, through field staff and contracted staff with the East Central Florida Resource Conservation and Development Council, has been working on enrolling growers in the container nursery, citrus, and cow/calf best management practice (BMP) programs. Most of the efforts so far have concentrated on the container nurseries and cow/calf operations. BMP implementation during the reporting period resulted in an estimated 35.4 lbs/yr of TP reductions. In addition, since the BMAP was adopted, the Department worked with the Florida Stormwater Association to more accurately quantify credits associated with MS4 maintenance activities, such as street sweeping, catch basin clean out, and clean out of other BMPs. This improved process for estimating reductions resulted in greater TP credits for street sweeping than were originally calculated in the BMAP. The adjustments for street sweeping and BMP clean out calculated by the updated method account for an additional reduction of 3,598.4 lbs/yr.

Several of the research studies to gather additional data for the next iteration of the TMDL and BMAP have been completed. In addition, the responsible stakeholders implemented the BMAP monitoring plan to gather water quality data for Lake Jesup and its tributaries.

Additional details about the accomplishments over the past year are described in **Section 2.2** through **Section 2.4**. The individual project tables are included in **Appendix A**, and photographs of project implementation efforts are included in **Section 2.2**.

2.2 ACCOMPLISHMENTS BY ENTITY

2.2.1 CITY OF ALTAMONTE SPRINGS

The City of Altamonte Springs continues to fund and participate in the Florida Yards and Neighborhoods (FYN) Program through Seminole County and University of Florida–Institute of Food and Agricultural Sciences (UF-IFAS) Extension office. The city hosted a class on maintaining

waterfront property at Eastmonte Park (located in the Lake Jesup Basin) in November 2012. In addition, the city's street sweeping program continues to operate year-round and citywide.

2.2.2 CITY OF CASSELBERRY

As reported in the 2012 Progress Report, a series of whole lake alum treatments was proposed for two lakes to cost-effectively bind phosphorus in the sediments, reducing loads and water quality impacts due to internal nutrient recycling and groundwater seepage. In 2013, the City of Casselberry expanded this project to include a total of four lakes (Middle, North, and South Lake Triplet, and Queen's Mirror Lake). Altogether, six treatments have been completed so far (see **Figure 2**), with approximately ten more planned over the next year. The total cost of the project is anticipated to be \$294,531 and is now fully funded. Together these treatments are anticipated to bind a total of over 5,100 pounds of TP over a ten-year period. The city hopes that significant water quality improvements in these lakes, as well as positive downstream effects, will be evidenced by the city's long term monitoring data. At a total cost of \$58 per pound of TP removed, this project is substantially more cost effective than most conventional stormwater treatment projects.



FIGURE 2: CITY OF CASSELBERRY QUEENS MIRROR LAKE ALUM TREATMENT IN SEPTEMBER 2012

The city has continued to enhance its public education programs related to water quality. The city continues to partner in the FYN Program and to grow its conservation/environmental branding program called "Green Up Casselberry." In February 2013, the city held a joint educational lakefront workshop with the Department and the Florida Fish and Wildlife Conservation Commission (FWC). The workshop was well attended and the audience was highly engaged. In April 2013, the city held its first aquascaping demonstration at Secret Lake, featuring both an educational component and hands-on shoreline restoration of a portion of the lake (see **Figure 3**). Also in April, the city once again hosted an

Earth Day event called “Earth Fest” at Lake Concord Park (see **Figure 4**). The event was the most successful yet and included several well-attended educational workshops, which covered Florida-friendly landscaping, shoreline plants, rain gardens, rain barrels, water conservation, and more. The event once again resulted in high public exposure to Lake Concord Park’s permanent stormwater educational features.



FIGURE 3: CITY OF CASSELBERRY SECRET LAKE AQUASCAPING DEMONSTRATION ON APRIL 13, 2013



FIGURE 4: CITY OF CASSELBERRY LANDSCAPING EDUCATIONAL SESSION FEATURING TOM MACCUBBIN AT EARTH FEST ON APRIL 27, 2013

The city continued work on an effectiveness evaluation of multiple baffle boxes, inlet filter baskets, and a continuous deflective separation (CDS) unit. The quality assurance project plan was approved by the Department, equipment was installed, and monitoring will begin in mid-June 2013. Design differences between the various baffle boxes being studied amplify the importance of the study (e.g., some feature

media filters and some feature additives to prevent anoxic conditions). The city hopes the results of this study, expected to be completed in late 2013, will provide valuable information statewide in helping agencies choose the most cost effective forms of pollutant reduction for particular applications. This study will also help guide the city in modifying its future proposed projects for the BMAP, as necessary, to improve their cost effectiveness.

2.2.3 CITY OF LAKE MARY

The City of Lake Mary continued its street sweeping, education and outreach efforts, and catch basin clean out over the last year.

2.2.4 CITY OF LONGWOOD

The City of Longwood completed the Fairy Lake outfall (project L-1), which had a reduction of 0.7 lbs/yr of TP. This outfall was successfully retrofitted with only a few hurdles along the way (see **Figure 5** and **Figure 6**). An issue the city ran into during the construction phase was that of pipe elevation as it relates to lake level; however, the appropriate adjustments were made with minimal setback to the project schedule. The city has continued to street sweep quarterly through a contract that covers 11.1 miles of curbed roads throughout the city. The city has also continued to partner with Seminole County for the funding of the FYN Program. The city advertised FYN events and practices on its website, and pamphlets and flyers are on display in various public buildings.



FIGURE 5: CITY OF LONGWOOD FAIRY LAKE OUTFALL UNDER CONSTRUCTION



FIGURE 6: CITY OF LONGWOOD FAIRY LAKE OUTFALL COMPLETED

2.2.5 CITY OF MAITLAND

The City of Maitland has found that street sweeping (see **Figure 7**) and education (see **Figure 8**) continue to be very successful components in the city's nutrient reduction goals. Ownership of the ditch to be treated for the Lake Park/Gem Co-op (projects M-2, M-3, M-4, M-5, and M-6) was transferred from FDOT to the City of Maitland.



FIGURE 7: CITY OF MAITLAND STREET SWEEPER



FIGURE 8: CITY OF MAITLAND MACROINVERTEBRATE COLLECTION AND COOPERATIVE EDUCATIONAL BOOTH AT EARTH DAY

2.2.6 CITY OF ORLANDO

The City of Orlando successfully completed the Ivanhoe Plaza Park exfiltration project (project ORL-8). The educational outreach efforts included going into schools to teach students about pollution prevention and completing a large mailing informing numerous neighborhoods within the basin of proper yard waste disposal. In addition, the city coordinated with the FYN Program to conduct four citizen workshops on Florida-friendly landscaping and turf alternatives, which always included a fertilizer education component.

2.2.7 CITY OF OVIEDO

The City of Oviedo completed the Aulin regional stormwater treatment pond (OV-1) in December 2012. The city has also continued to sweep its roadways monthly. The city added to its education efforts by including the Adopt A Pond Program, which encourages local groups to adopt ponds to pick up trash and pet waste, provide minor vegetation rehabilitation, and identify faded inlet markers that need replacing. In addition, the city has an ongoing effort to clean stormwater inlets and pipes.

2.2.8 CITY OF SANFORD

The City of Sanford has continued with the street sweeping program, which includes sweeping 37.7 miles of roadways weekly in the Lake Jesup Basin. The city has also continued to participate in the FYN Program, which provides the ongoing public education that takes place in the city. In addition, the city has conducted an evaluation of sewer system stormwater inflow and infiltration (I/I) and made improvements to the sewer system to reduce I/I. Since 2004, there has been a reduction of 64% in stormwater I/I into the sewer system (see **Figure 9**).

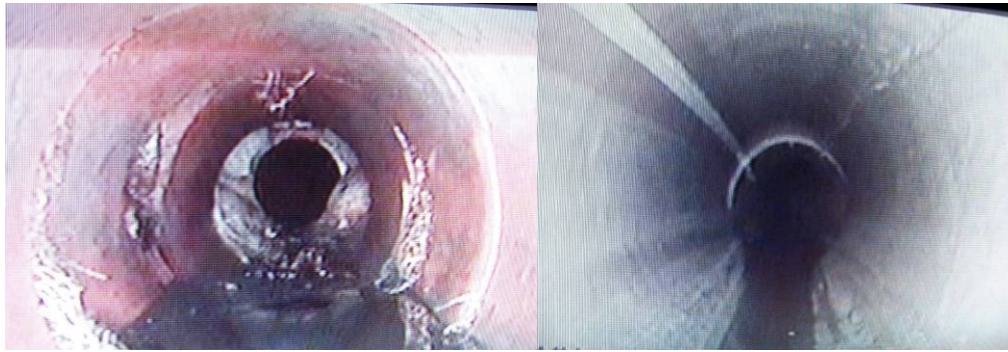


FIGURE 9: CITY OF SANFORD SEWER SYSTEM I/I PROJECTS BEFORE REPAIRS (LEFT) AND AFTER REPAIRS (RIGHT)

2.2.9 CITY OF WINTER PARK

The City of Winter Park continued its street sweeping two times per month, education and outreach efforts, and implementation of the stormwater and lake management program. In addition, the city initiated a study and design project for the Howell Branch retention pond upgrades. The city also began the design of alum station rehabilitation projects and several other retrofit projects.

2.2.10 CITY OF WINTER SPRINGS

The City of Winter Springs continued its education and outreach activities (see **Figure 10**) and quarterly street sweeping of roads within the city. During the reporting period, the city improved the performance of its street sweeping operation, and increased the total mileage swept.



FIGURE 10: CITY OF WINTER SPRINGS FYN CLASS IN 2013

In addition, the Solary Canal Regional Stormwater Treatment Facility (WS-1) has been complete for about one year, and has performed successfully with minimal maintenance needed (see **Figure 11**).



FIGURE 11: CITY OF WINTER SPRINGS SOLARY CANAL PROJECT INFLOW (LEFT) AND OUTFLOW (RIGHT)

2.2.11 FDOT DISTRICT 5

FDOT District 5 has continued its public education efforts. In addition, the Soldiers Creek Alum Treatment Facility (project FDOT-2) was approved by the Seminole County Board of County Commissioners on June 11, 2013.

2.2.12 ORANGE COUNTY

Orange County has continued its street sweeping and education efforts. Orange County installed a new pressure transducer at Lake Burkett that is transmitting data real time to the water atlas (www.orange.wateratlas.org). The discrete discharge values for samples taken at the Lake Burkett discharge are included in **Appendix B**. Orange County also provided some education to Trinity Preparatory School regarding the monitoring station at Lake Burkett. In addition, Orange County will be moving forward to install approximately 40-50 curb inlet baskets in the area by the end of summer 2013 as part of a multiphase effort.

2.2.13 SEMINOLE COUNTY

Seminole County continues to conduct the educational efforts and public service announcements (PSAs). The county is in the process of adopting a fertilizer ordinance and potentially adopting a shoreline protection ordinance by the end of 2013. The county has had success with its submerged aquatic vegetation (SAV) plantings of Suwannee narrow leaf biotype eelgrass in two, one-acre plots. There has been an 80% survival rate, which is the first success seen in efforts to reestablish desirable native SAV in Lake Jesup. In addition, the county largely completed the Cassel Creek Regional Stormwater Facility (RSF) (project SC-1), and the project will be fully completed in July 2013 (see **Figure 12**).



FIGURE 12: SEMINOLE COUNTY CASSEL CREEK RSF IN CONSTRUCTION

2.2.14 TOWN OF EATONVILLE

The Town of Eatonville continued with its street sweeping of all town roads and its public education and outreach activities. The town has also been looking into options for a regional project.

2.2.15 TURNPIKE AUTHORITY

The Turnpike Authority has continued its monthly street sweeping in the basin. In addition, it has continued its education and outreach efforts of presentations and an illicit discharge program.

2.2.16 AGRICULTURE

FDACS, through field staff and contracted staff with the East Central Florida Resource Conservation and Development Council, has been working on enrolling growers in the container nursery, citrus, and cow/calf BMP programs. Most of the efforts so far have concentrated on the container nurseries and cow/calf operations.

The land use table in the BMAP shows significant acreage in the nurseries and vineyards category that still needs to be enrolled. As discussed in the agriculture section of the BMAP, most of the remainder of this acreage is an in-ground palm nursery in the Black Hammock area. This operation will be contacted once the existing nursery manual is revised to include in-ground operations, which is expected to be completed in 2014. A large citrus operation in the same area was not within one of the areas originally covered by the FDACS citrus BMP programs. However, the statewide citrus manual was adopted in January 2013, and the citrus producer will be contacted in the near future. The table also shows just over 200 acres of row/field crops, but field verification of the basin shows only one small row crop operation, which was enrolled prior to BMAP adoption. The majority of the remaining acres designated as row/field crops are now a sod farm, which was enrolled in the sod BMP program in 2009.

The basin also has several small equine operations that may or may not be eligible to enroll in the equine manual, depending on whether they are commercial agriculture or residential/hobby operations. However, the equine manual enrollments have been focused on heavily commercial equine regions within the state, and no assessments have yet taken place in the Lake Jesup Basin.

TABLE 3: AGRICULTURAL ACRES ENROLLED IN FDACS BMPs IN THE LAKE JESUP BMAP AREA

*Note: 2,197.6 of the cow/calf acres were categorized as wetlands in the 2004 SJRWMD land use coverage.

LAND USE DESCRIPTION	LAND USE ACRES (2004 SJRWMD)	BMP PROGRAM	ACRES ENROLLED AS OF JULY 2009	ACRES ENROLLED AS OF MARCH 2013
Citrus	1,340.8	Citrus	100.0	100.0
Unimproved, improved, and woodland pasture	2,425.3	Cow/Calf	Not applicable	2,558.0*
Row crops, field crops, and mixed crops	212.1	Vegetable and Agronomic Crops	15.0	7.5
Nurseries and vineyards, ornamentals	475.0	Container Nurseries; Specialty Fruit and Nut	93.5	61.6
Floriculture	2.3	Not applicable – Comprehensive nursery manual under development	Not applicable	Not applicable
Sod farm	278.0	Sod	0.0	609.0
Horse farm	88.2	Equine	Not applicable	0.0
Poultry feeding	2.5	Conservation Plan Rule	Not applicable	0.0
Total Acres	4,824.2	BMP Implementation Total	208.5	3,336.1

In the BMAP, FDACS and the Department used a spreadsheet model tool to estimate the total possible load reduction via BMPs to be 277.9 lbs/yr of TP. Using the same spreadsheet model, FDACS estimates that the load reduction achieved via BMPs to date is approximately 72.5 lbs/yr of TP. This estimation does not include the majority of the acres enrolled in cow/calf BMPs, as those acres were not initially included in the 2004 SJRWMD agricultural acres used to calculate the starting loads and associated load reduction estimates. Those acres were identified as wetlands, but the more recent land use/land cover identifies most of the acreage as unimproved pasture.

Estimated load reductions from agricultural BMPs were based on implementation of BMPs by enrolled agricultural operations. Based on enrollment and assessment figures, BMPs are being implemented on about 3,336 acres within the BMAP basin (excluding silviculture and aquaculture). It should be noted that the acreage appears to have decreased in two commodities, container nurseries and vegetable and agronomic crops; however, this is only due to a refinement in the calculation of acres for operations that are partially within the basin. This does not represent an actual decrease of enrollment within BMP programs. These figures are assumed to underestimate the actual acreage on which BMPs are being implemented.

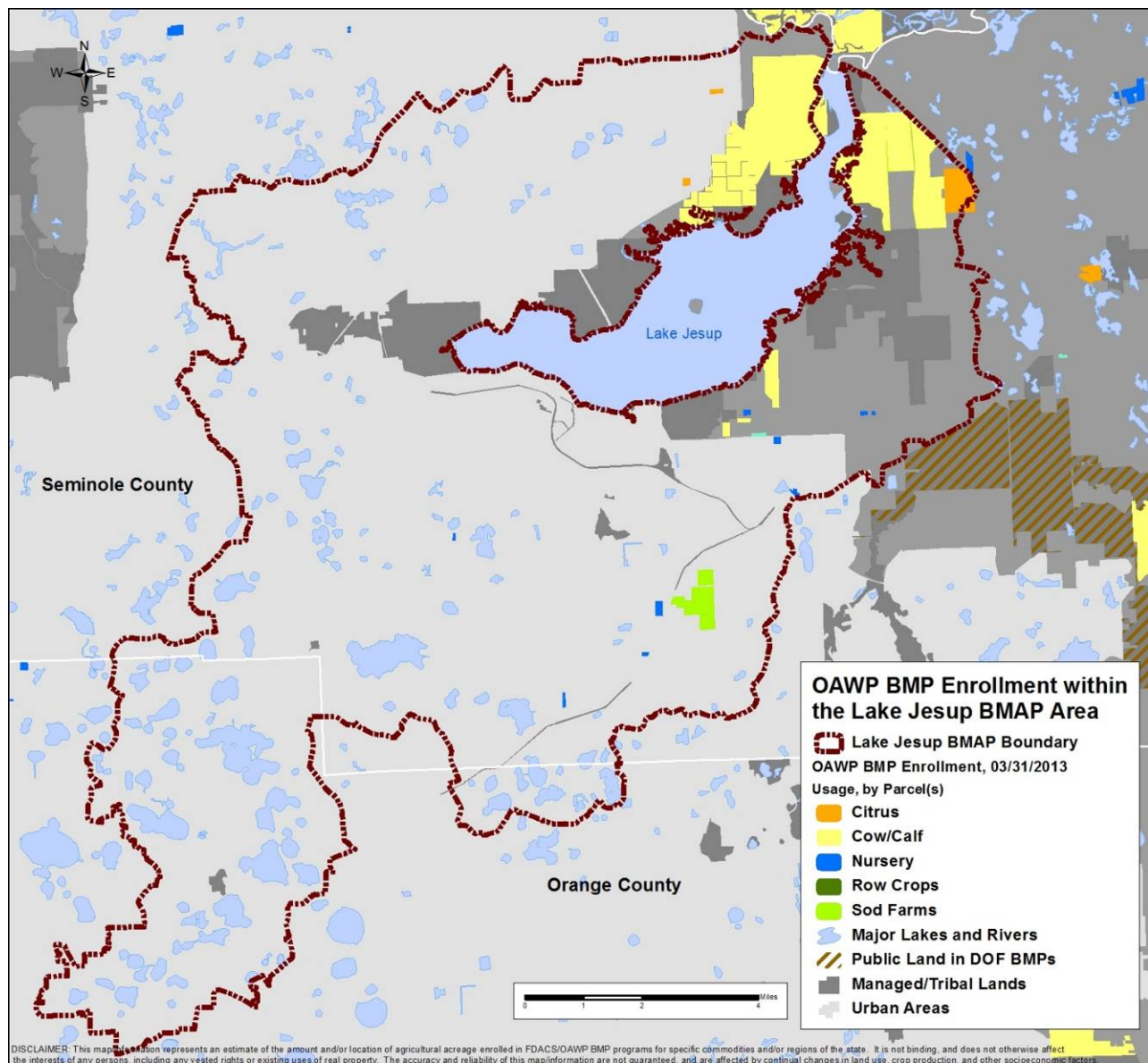


FIGURE 13: AGRICULTURAL OPERATIONS ENROLLED IN FDACS BMP PROGRAMS IN THE LAKE JESUP BMAP AREA AS OF MAY 31, 2013

In more recent BMAPs, FDACS has worked with the Department to calculate an estimated load reduction credit based on loss of agricultural production acreage. During the development of this BMAP, FDACS identified approximately 2,650 acres classified as agricultural land in the 2004 land use/land cover that appeared to be no longer in production. However, no agricultural credit was calculated due to the limitations listed in the BMAP document, including the absence of commodity-specific load estimates. During the 2013-2014 reporting year, FDACS will compare the 2004 land use with the most recent land use available in the basin, and work with the Department to refine the agricultural loading information in order to calculate an estimated load reduction associated with the loss

of production acreage, which should exceed the remaining reductions needed in this phase of the BMAP.

TABLE 4: AGRICULTURAL TP LOAD REDUCTION ALLOCATION AND ESTIMATED REDUCTIONS IN TP LOADS

ESTIMATED LOADS	TP (LBS/YR)
Agricultural Load Reduction Allocation	764.0
Agricultural Reduction Needed per BMAP Allocation Scenario, 2010-2015	254.7
Estimated Load Reductions via BMPs, 100% Target Enrollment, 2010-2015	235.9
Reductions from Land Use Changes	To be determined
Total Estimated Load Reductions	235.9
Estimated Load Reductions Needed for BMAP, 2010-2015	18.8

2.3 SUMMARY OF ACCOMPLISHMENTS

The projects completed during the second annual BMAP reporting period are summarized in **Table 5**. This table includes the projects listed above, credit for structures clean out, and updated street sweeping credit. Since the BMAP was adopted, the Department worked with the Florida Stormwater Association to quantify credits associated with MS4 maintenance activities, such as street sweeping, catch basin clean out, and clean out of other BMPs. This updated process for estimating reductions resulted in greater TP reductions for street sweeping than were originally calculated in the BMAP. **Table 5** reflects this additional credit for street sweeping.

The projects listed in **Table 5** resulted in an estimated 3,651.1 lbs/yr of TP reductions. These reductions are in addition to those projects given credit before BMAP adoption and the projects that were completed during the first and second annual progress report periods. Therefore, the total project reductions to date are 12,649.9 lbs/yr of TP, which is greater than the required reduction in the first BMAP iteration of 6,249.5 lbs/yr of TP. **Table 6** shows the completed project credit by entity and the credits that have already been achieved towards reductions in future BMAP iterations, where applicable. In addition, **Table 7** summarizes the public education and outreach efforts currently implemented by each of the stakeholders.

The progress towards the total TMDL load reductions are shown in **Figure 14**. The first bar in this figure shows the starting load for stormwater runoff and septic tanks from the TMDL. The second bar shows the current estimated loading with the implementation of projects and the removal of non-contributing areas. The third bar shows the total allocation for stormwater runoff and septic tanks to meet the TMDL. The line shows the target for the first BMAP, which is a reduction of 6,249.5 lbs/yr of TP.

TABLE 5: SUMMARY OF PROJECTS COMPLETED IN THE REPORTING PERIOD (JUNE 1, 2012 THROUGH MAY 31, 2013)

ENTITY	PROJECT NUMBER	PROJECT NAME	TP REDUCTION (LBS/YR)
Agriculture	N/A	BMP Implementation – during reporting period	35.4
City of Altamonte Springs	A-2	Street Sweeping – additional credit	219.5
City of Casselberry	C-27	Street Sweeping – additional credit	910.7
City of Casselberry	C-30	Structures Cleaning	26.0
City of Lake Mary	LM-2	Street Sweeping – additional credit	14.3
City of Lake Mary	LM-5	Catch Basin Clean Out	57.0
City of Longwood	L-1	Fairy Lake Outfall	0.7
City of Longwood	L-3	BMP Clean Out	5.0
City of Longwood	L-4	Street Sweeping – additional credit	3.4
City of Maitland	M-16	Street Sweeping – additional credit	390.6
City of Orlando	ORL-8	Ivanhoe Plaza Park Exfiltration	1.3
City of Orlando	ORL-19	Street Sweeping – additional credit	413.7
City of Orlando	ORL-29	Catch Basin Clean Out	19.0
City of Orlando	ORL-30	BMP Clean Out	4.0
City of Oviedo	OV-1	Aulin Regional Stormwater Pond	13.5
City of Oviedo	OV-5	Street Sweeping – additional credit	589.2
City of Oviedo	OV-8	Inlets and Pipe Cleaning	220.0
City of Sanford	S-1	Street Sweeping – additional credit	423.4
City of Winter Springs	WS-7	Street Sweeping – additional credit	50.7
Seminole County	SC-9	Street Sweeping – additional credit	110.9
Seminole County	SC-20	BMP Clean Out	141.0
Town of Eatonville	E-4	Public Education	1.9
Total	Not applicable	Total Reductions in Reporting Period	3,651.2

TABLE 6: SUMMARY OF COMPLETED PROJECTS CREDIT AND CREDIT FOR FUTURE BMAPS

ALLOCATION ENTITY	2010-2015 TOTAL TP REQUIRED REDUCTION (LBS/YR)	COMPLETED PROJECTS TP REDUCTION (LBS/YR)	TP CREDIT FOR FUTURE BMAPS (LBS/YR)
Agriculture	254.7	72.5	-182.2
City of Altamonte Springs	19.0	259.6	240.6
City of Casselberry	342.7	1,360.3	1,017.6
City of Lake Mary	264.3	450.4	186.1
City of Longwood	205.3	113.5	-91.8
City of Maitland	124.8	489.3	364.5
City of Orlando	326.3	1,391.1	1,064.8
City of Oviedo	258.7	1,455.5	1,196.8
City of Sanford	602.2	1,057.1	454.9
City of Winter Park	370.5	760.0	389.5
City of Winter Springs	513.0	1,103.5	590.5
FDOT District 5	132.3	223.2	90.9
OOCEA	5.2	12.8	7.6
Orange County	569.0	386.5	-182.5
Seminole County	2,137.0	3,238.3	1,101.3
Town of Eatonville	23.4	11.8	-11.6
Turnpike Authority	101.1	264.5	163.4
Total	6,249.5	12,649.9	6,400.4

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TABLE 7: SUMMARY OF PUBLIC EDUCATION AND OUTREACH ACTIVITIES

N/A = Not applicable

ENTITY	FYN PROGRAM	FERTILIZER ORDINANCE	LANDSCAPE ORDINANCE	IRRIGATION ORDINANCE	PET WASTE ORDINANCE	PSAs	PAMPHLETS/ PRESENTATIONS	WEBSITE	ILLICIT DISCHARGE PROGRAM
City of Altamonte Springs	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
City of Casselberry	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes
City of Lake Mary	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City of Longwood	Yes	Yes	No	No	No	No	Yes	Yes	Yes
City of Maitland	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
City of Orlando	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City of Oviedo	Yes	Yes	No	No	No	No	No	Yes	Yes
City of Sanford	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
City of Winter Park	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
City of Winter Springs	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
FDOT District 5	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes
OOCEA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Orange County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Seminole County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Town of Eatonville	No	No	No	No	No	No	Yes	No	Yes
Turnpike Authority	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes

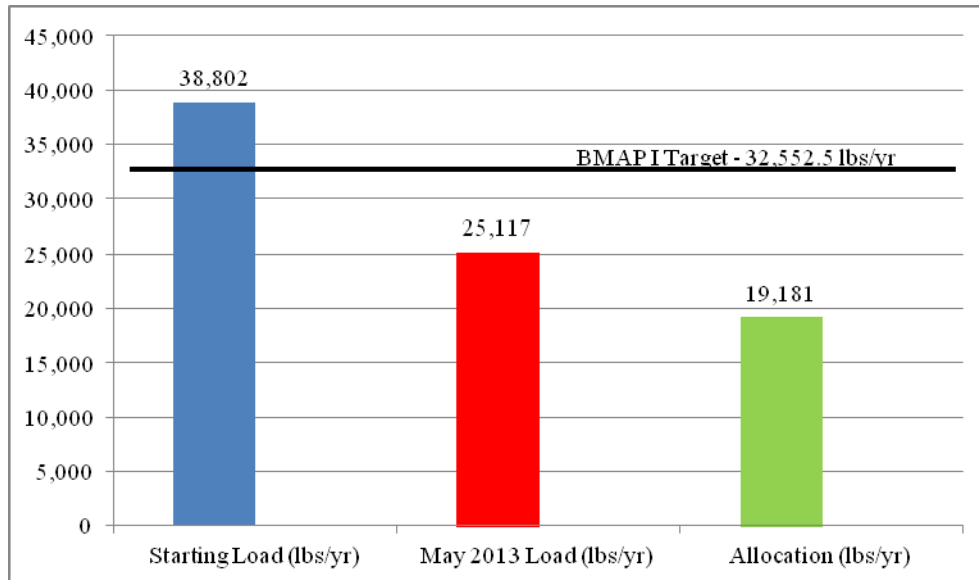


FIGURE 14: PROGRESS TOWARDS THE LAKE JESUP TP TMDL THROUGH MAY 31, 2013

2.4 IMPROVING SCIENTIFIC UNDERSTANDING

2.4.1 WATER QUALITY MONITORING

The Lake Jesup BMAP monitoring plan was designed to enhance the understanding of basin loads, track project implementation, and identify long-term water quality trends. The information gathered through the monitoring plan will measure progress toward achieving the TP TMDL and provide a foundation for continued improvement in cost-effective project implementation. The BMAP monitoring plan consists of ambient water quality sampling, storm event sampling, and biological monitoring. All responsible stakeholders participated in the monitoring plan in the third year of BMAP implementation. A few highlights of the monitoring efforts are described below.

The City of Altamonte Springs continued to fulfill its commitment to perform surface water sampling in Prairie Lake. Although the city has contracted with the University of South Florida to upload the sampling data to STORET, there may be a lag in the reported results between sampling and upload; therefore, the sampling results for the reporting period are included in **Appendix B**. The city determined that some of the laboratory results for total Kjeldahl nitrogen (TKN) are erroneous. These data are shown as “ERR” in the summary of water quality results in **Appendix B**.

The City of Casselberry continued to conduct quarterly ambient water quality sampling of 12 of its lakes. In addition, the city continued to partner with Seminole County by funding monthly sampling at the Gee Creek weir and partially funding ambient sampling for Lake Howell. The city uploads its

quarterly ambient water quality data twice annually to the Seminole County Watershed Atlas, which is then uploaded to STORET. A city data upload to the Watershed Atlas is scheduled for June 2013.

The City of Longwood and Seminole County signed a Letter of Understanding for Lake Jesup BMAP sampling at the Fairy Lake outfall. Samples have been collected monthly at this site.

The City of Maitland has collected monthly water quality data at the Lake Waumpi site. The city has not yet uploaded the data into STORET but the data are included in **Appendix B**.

The City of Orlando has collected monthly water quality data at the Lake Rowena Canal site. The city is in the process of uploading their data into STORET, and the data are included in **Appendix B**.

The City of Sanford has continued with the Letter of Understanding with Seminole County for ambient environmental monitoring, which allows the Seminole County Water Quality Division to pull samples for the Chub Creek and Navy Creek sites. The county uploads the data to STORET.

The City of Winter Park was able to collect monthly water quality samples from its station at the Howell Branch weir. The data have not yet been uploaded to STORET but are included in **Appendix B**.

Orange County has been collecting water quality and flow data from the Burkett Canal site. The data will be added to STORET in the next upload.

Seminole County has continued its ambient monitoring, which is cooperatively funded by several other local governments. The county also continued the biological and vegetative monitoring, mapping, and restoration both in-lake and in-basin. As mentioned in the last progress report, storm event monitoring has been discontinued by the county due to budget cuts. This program was conducted for more than 12 years, and the final analysis of the data and report are currently being completed.

2.4.1.1 Site 10 Monitoring

As of mid-2012, the area upstream of the storm event sampler started to experience disturbance by wildlife resulting in excess sedimentation in the drainage ditch and eventually resulting in the silting in of the pipe. Grab samples were collected at the end of October and December 2012 for qualifying storm events in lieu of flow-paced storm event samples while the city worked to stabilize the upstream ditch. The October event was collected within one hour of the rainfall event (1.18 inches). The December event occurred after hours with sample collection occurring within 12 hours of the rainfall event (0.44 inches). As a result, these samples may represent instantaneous concentrations at different intervals of a

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given storm event hydrograph (i.e. first flush and receding limb). The city has recently stabilized the upstream ditch and replaced the area velocity probe to allow for successful event monitoring and sampling and has resumed storm event sampling. There were no storm events that met thresholds and resulted in sample collection during the first quarter of 2013. The storm water samples that were collected during the reporting period are included in **Table 8**. **Figure 15** and **Figure 16** show the data collected since 2010, when the storm event sampling began.

TABLE 8: SITE 10 STORM WATER SAMPLING RESULTS

DATE	RAINFALL (IN)	pH	TEMPERATURE (°C)	CBOD5 (MG/L)	TSS (MG/L)	TN (MG/L)	AMMONIA (MG/L)	TKN (MG/L)	TP (MG/L)	ORTHO-P (MG/L)
08/08/2012	2.34	6.63	25.5	3.2	14.0	2.0	0.260	1.9	0.93	0.95
08/16/2012	2.03	7.21	24.1	2.5	1.7	2.0	0.047	1.8	1.00	1.10
10/01/2012	1.18	6.94	22.6	<60.0	105.0	3.6	1.100	3.5	1.8	1.80
12/11/2012	0.44	6.91	21.0	3.9	15.5	1.7	<0.020	1.7	2.0	2.90

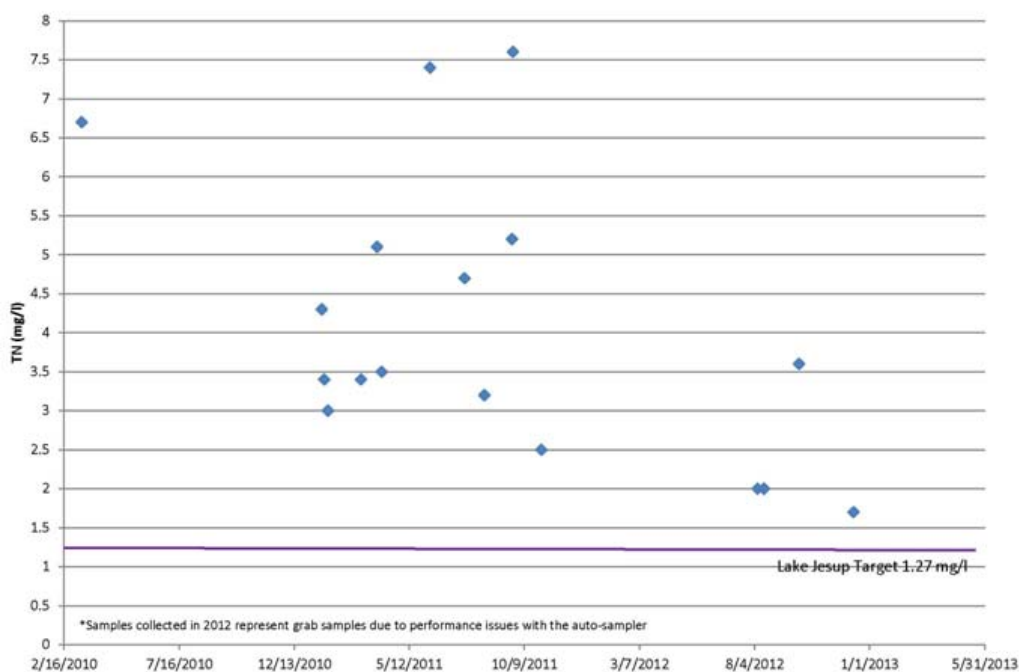


FIGURE 15: SITE 10 STORM EVENT SAMPLES FOR TN

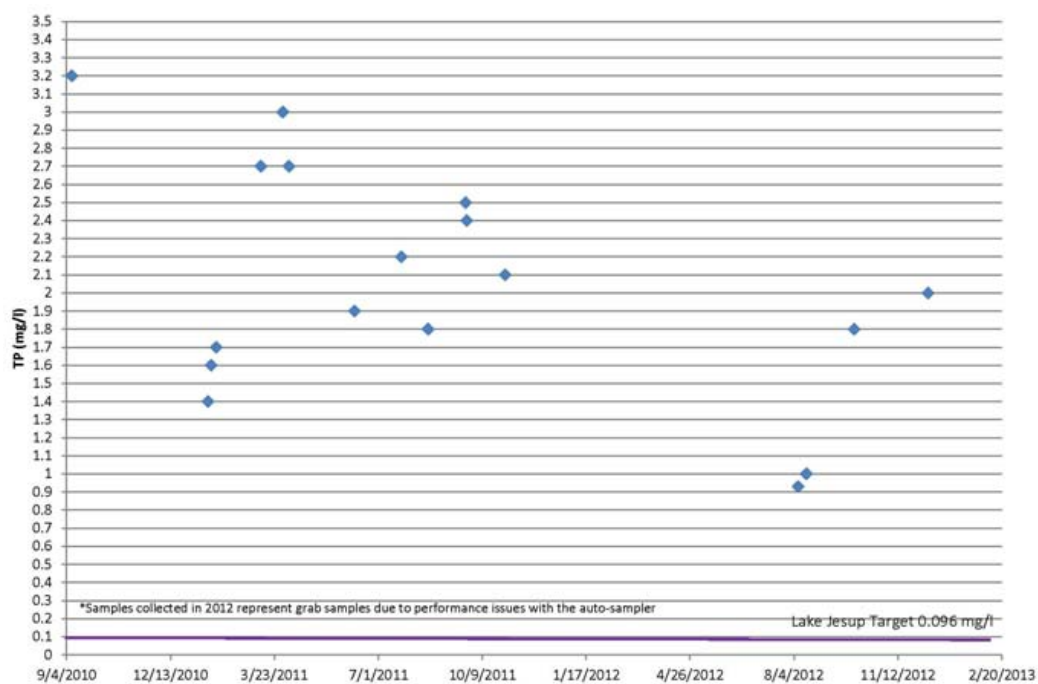


FIGURE 16: SITE 10 STORM EVENT SAMPLES FOR TP

In addition, quarterly surface water grab samples are collected for Site 10. The grab sample data that were collected during the reporting period are included in **Appendix B**. **Figure 17** and **Figure 18** show the grab sample data since 2010, which is when this sampling began.

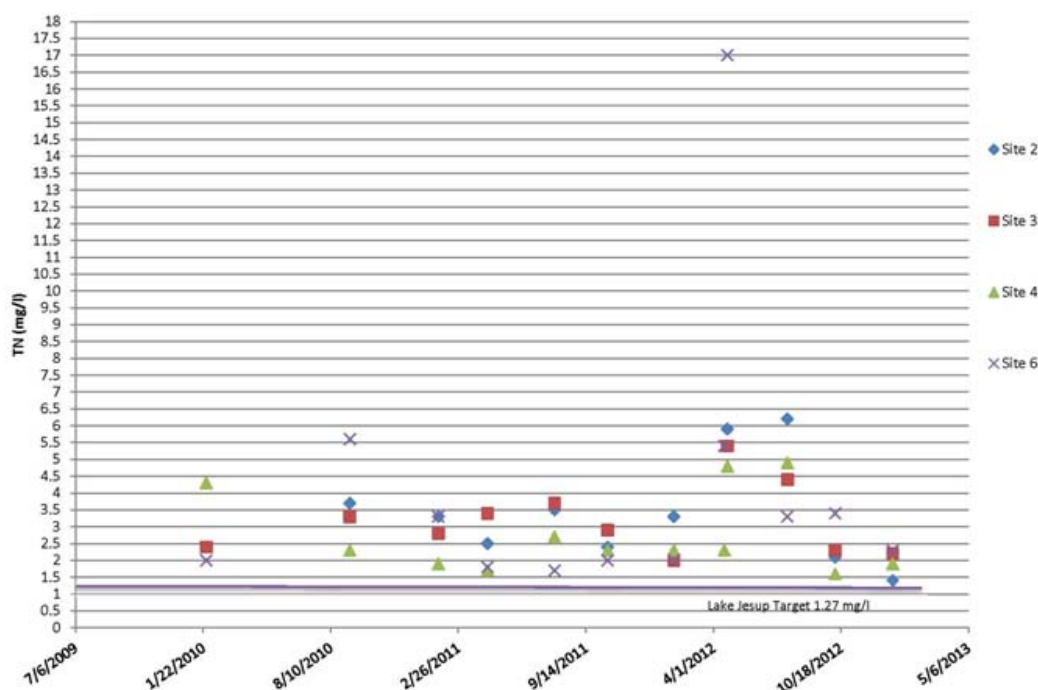


FIGURE 17: SITE 10 GRAB SAMPLES FOR TN

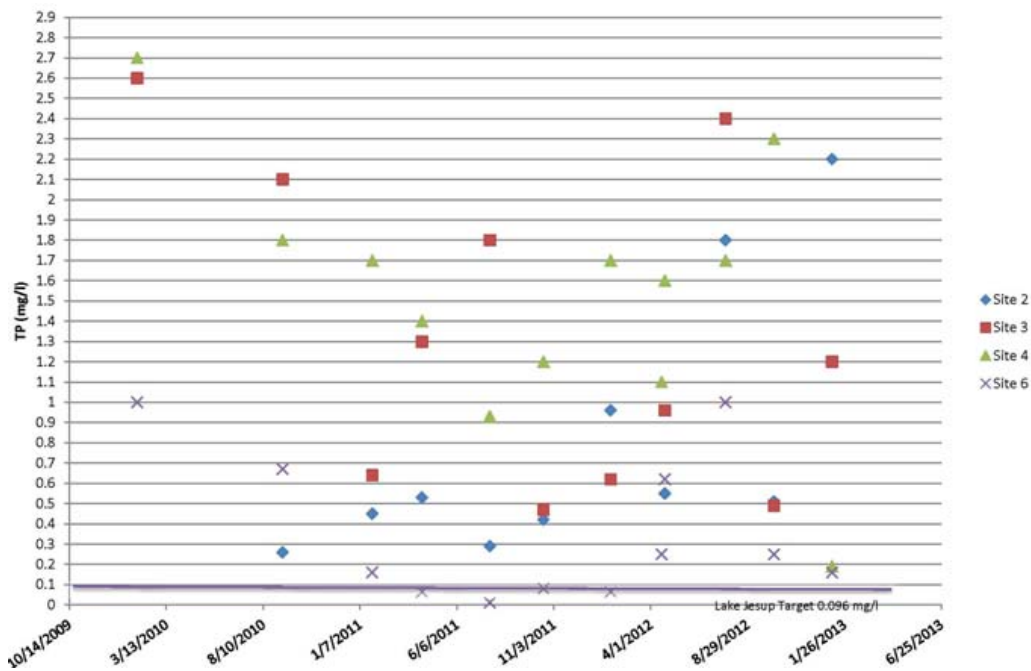


FIGURE 18: SITE 10 GRAB SAMPLES FOR TP

2.4.2 RESEARCH PRIORITIES

Several entities in the basin have completed research projects or are currently implementing studies that will provide information to address the unknowns in the basin that were identified in the BMAP. The applicable data from these studies will be used by the Department in future re-evaluation of the TMDLs (see Section 2.5).

2.4.2.1 Orange County

Orange County has continued with its efforts to determine the pollutant loads being discharged through Lake Burkett. The county also completed the study of Lake Killarney, in conjunction with the City of Winter Park, and determined that the lake rarely discharges; therefore, it is not a source of loading to Lake Jesup. In addition, the county completed the study of Lake Georgia, which determined that the lake discharges to the Econolockhatchee River Basin, not the Lake Jesup Basin. The county also completed a countywide street sweeping study that showed additional benefits could be gained in the Lakes Martha-Burkett area. This study may result in increased street sweeping in this area, which will be determined later this year.

2.4.2.2 Seminole County

Seminole County completed the Phase II seepage study. Significant loading (about 20,000 lbs/yr of TP) has been identified from the ground water. Final review of the Phase II report is underway. The county has also initiated an analysis of the Crow Creek subbasin, which will help to identify and quantify the high nutrient loads discharging from this subbasin of Soldiers Creek. In addition, the county began a

vegetation efficiency study at the Red Bug Outfall RSF to quantify the impact to water quality from submersed and emergent plants provide.

2.4.2.3 SJRWMD

SJRWMD has begun work on the Lake Jesup Pollutant Load Reduction Goal to provide support for the Lake Jesup TMDL update in 2014. SJRWMD has committed to rerunning the watershed loading model and updating the land use, updating the BMP information, and using an in-lake model to determine assimilative capacity.

2.5 TMDL MODEL UPDATE

The Lake Jesup BMAP identified “technical uncertainties,” and stakeholders committed to address these uncertainties within the first BMAP iteration to allow for possible recalculation of the TMDLs and requisite adjustments to the allocations required by the BMAP. With the completion of the third year of BMAP implementation, the Department in collaboration with stakeholders, including SJRWMD, Seminole County, Orange County, and others, is coordinating new modeling efforts to better quantify many of the uncertainties originally expressed in the BMAP. A Hydrologic Simulation Program – FORTRAN (HSPF) model is currently being created for the Lake Jesup Basin. This model will include data collected by the stakeholders from the research studies and BMAP monitoring to revise the estimates of loading to the lake. This collaborative process allows the agencies, local municipalities, and counties to achieve the most efficient and effective use of their resources necessary for data collection, data analysis, and modeling activities and to answer many of the questions related to baseline TP and TN loadings.

Consequently, the Department and other BMAP stakeholders will be establishing more valid estimates of watershed loadings by April 2014. Results from this modeling exercise will facilitate the recalculation of the TMDLs for TP and TN, as needed, in time to discuss changes in BMAP allocations and the related projects with stakeholders during the summer of 2014 so that the stakeholders can be prepared for the second BMAP iteration.

2.6 FUNDING RECEIVED DURING THE REPORTING PERIOD

The City of Winter Park was awarded a Section 319 grant of \$249,000 for the Howard Drive Stormwater Park.

Seminole County received \$808,846 for the Cassel Creek RSF (project SC-1) construction and efficiency monitoring from the Department through agreement S0540. The county also received

\$2,000,000 for the Black Hammock Creek Reclamation and Floodplain Treatment System (project S-15) for design construction and monitoring from the Department through agreement S0636. The Soldiers Creek RSF (project SC-12) received FDOT funding of \$6,500,000 towards construction and \$500,000 towards operational costs for BMAP credits and to meet SJRWMD permit requirements. Seminole County will maintain and operate this project.

FDACS provides BMP implementation assistance through field staff and a contract with the East Central Florida Resource Conservation and Development Council. The contractors work primarily in Orange, Lake, Seminole, and Volusia counties, with a priority focus on BMAP areas within those counties. Lake Jesup Basin costs include staff salary and contract expenditures. An estimated total figure for the contractor cost alone is \$36,000.

Section 3: ISSUES

3.1 SUMMARY OF ISSUES

Several entities have encountered delays with their project implementation. However, these delays are not causing an issue with BMAP compliance because the delayed projects are either additional reductions not required in this five-year iteration or the projects will be completed within the five-year period as allowed. Consequently, stakeholders are on track to achieve or exceed load reductions allocated in the BMAP during the period. The stakeholders also noted that obtaining funding to implement the projects has been an issue. Additional details on the issues encountered this past year are described in **Section 3.2**.

3.2 ISSUES BY ENTITY

3.2.1 *CITY OF CASSELBERRY*

The City of Casselberry's proposed Live Oaks Center baffle box (project C-13) has been deferred at least until fiscal year 2015. This proposed baffle box may not deliver a sufficient cost/benefit ratio to warrant its installation, as Grassy Lake typically has very good overall water quality. The city will be conducting effectiveness evaluation of various baffle boxes through 2013 and in light of those results will revisit the feasibility of this particular project at a later date.

In 2012, the city completed a nutrient and hydrologic budget study for the Triplet Chain of Lakes and Queens Mirror Lake. As a result of this study, the city is now conducting whole lake alum treatments (project C-21). The baffle box projects C-16, C-17, C-24, and C-26 have been indefinitely delayed pending the water quality results of the proposed alum treatments, as well as the results of the baffle box effectiveness evaluation that is currently underway.

The Park Drive drainage/wetland improvements (project C-20) have now been proposed for fiscal year 2014. However, the budget proposed for this project and site/permitting constraints may be too restrictive to produce an effective project. The project (and its budget) will be re-evaluated and modified as needed.

In the 2011 Progress Report, an alternative flocculant system project was proposed and funded to treat flows directly entering Queens Mirror Lake or within the lake system itself (project C-21). As reported previously, design of this system was delayed pending the outcome of the nutrient study for the Triplet Chain of Lakes and Queens Mirror Lake. Completed in 2012, the nutrient study revealed the most cost

effective solution for reducing phosphorus and improving the trophic state index (TSI) in Queens Mirror and South Lake Triplet was to conduct whole lake alum treatments. Thus, in the 2012 Progress Report, the City of Casselberry proposed, at least in the immediate future, to replace the proposed online treatment system with whole lake alum treatments conducted over the course of several months. It is anticipated this method will be a highly effective means of improving water quality within Queens Mirror and South Lake Triplet, two of the city's highest TSI lakes. In 2013, the scope of the project was expanded to include treatments to two additional downstream lakes, Middle and North Lake Triplet. It is anticipated that the project will have additional benefits by reducing loads to downstream waterbodies (e.g., Lake Kathryn, Gee Creek, and Lake Jesup).

The Secret Way baffle box (project C-23) has been delayed at least until fiscal year 2015 pending the outcome of the city's aforementioned baffle box effectiveness evaluation.

The City of Casselberry has already achieved their required reductions for this iteration of the BMAP; therefore, the project delays described above do not cause a BMAP compliance issue.

3.2.2 CITY OF LONGWOOD

The City of Longwood's Raven Avenue project (project L-2) has been delayed following legal action taken by a homeowner. This issue has been resolved; however, litigation has pushed this project back to the planning stages. Construction is expected to begin again early 2014, which is behind the BMAP schedule of 2013. However, since this project will be completed within the BMAP period, this delay does not cause a compliance issue. The sewerage projects to remove septic tanks (previous project L-3) have been suspended indefinitely. Staff is currently discussing a contingency project; therefore, the credit associated with this project was moved to the regional project (project L-7).

3.2.3 CITY OF MAITLAND

The City of Maitland noted that funding for projects has been a significant deterrent during the past year. In addition, the developer responsible for funding a portion of the retrofit for the Lake Gem/Park Lake Co-op (projects M-2, M-3, M-4, M-5, and M-6) has backed out. Project completion is indefinite as the city is completely reliant upon the possibility of grant funding to bid and construct this project. However, the city has already achieved the required reductions for this BMAP iteration, so the delay in these projects is not a compliance issue.

3.2.4 CITY OF SANFORD

The City of Sanford noted that a lack of funding for projects and monitoring was an issue during the reporting period.

3.2.5 FDOT DISTRICT 5

The street sweeping frequencies in FDOT's newly issued maintenance contracts appear to have been modified and replaced with a "performance based" criteria. Therefore, the previous credit of 90 lbs/yr of TP (project FDOT-5) cannot be calculated for the reporting period and is reported as zero until this item can be resolved.

3.2.6 AGRICULTURE

State-level cost-share funding was not available for the BMAP reporting year, and fiscal projections indicate the same for the upcoming year. However, FDACS is exploring the possibility of providing additional staff time to work with farmers one-on-one to demonstrate and implement BMPs.

3.3 WATER QUALITY MONITORING ISSUES

There were no monitoring issues noted for the reporting period.

Section 4: UPCOMING YEAR ACTIVITIES

4.1 SUMMARY OF EFFORTS FOR THE UPCOMING YEAR

The fourth annual BMAP progress report will encompass the period of June 1, 2013 through May 31, 2014. The City of Maitland will complete two baffle box projects for a reduction of 8.8 lbs/yr of TP. Seminole County will complete one wet detention pond project for a reduction of 156.8 lbs/yr of TP. The City of Casselberry, City of Longwood, City of Orlando, and Seminole County will each begin construction on projects. FDACS will continue to sign up growers for BMPs under the citrus and cow/calf manuals. In addition, the BMAP monitoring will continue. Additional details are included in **Section 4.2** and **Section 4.3**.

4.2 UPCOMING EFFORTS BY ENTITY

4.2.1 CITY OF CASSELBERRY

The City of Casselberry will begin construction of the Park Drive drainage/wetlands improvements (project C-20), Middle Lake Triplet shoreline re-vegetation (C-22), and South Lake Triplet swales (C-25) during the next reporting period.

4.2.2 CITY OF LONGWOOD

The City of Longwood will begin construction of the Raven Avenue replace of stormwater pipe (project L-2) in early 2014.

4.2.3 CITY OF MAITLAND

The City of Maitland will complete the Dommerich Lot baffle box (project M-12) and the Minnehaha Circle baffle box (project M-19), which will achieve a combined 8.8 lbs/yr of TP reduction.

4.2.4 CITY OF ORLANDO

The City of Orlando will begin construction of the Lake Concord alum injection retrofit (project ORL-26) during the next reporting period.

4.2.5 SEMINOLE COUNTY

Seminole County will complete the Cassel Creek RSF (project SC-1) in July 2013 for a reduction of 156.8 lbs/yr of TP. The County will also start work on the Soldiers Creek at County Road 427 RSF (project SC-12), Bear Gully RSF at Chapman Road (project SC-13), Eagle Lake RSF at Six Mile Creek (project SC-14), and Black Hammock Creek reclamation and floodplain treatment system (project SC-17).

4.2.6 AGRICULTURE

The target date for enrolling all operations for which an adopted manual exists is June 2015. The target date for enrolling all other commodities is within five years of manual adoption. During the coming year, FDACS will work to enroll the remaining citrus and cow/calf acreage. In addition, FDACS will explore opportunities for more one-on-one work and/or workshops with growers in the basin to ensure the proper implementation of BMPs.

State funding for agricultural BMPs is sorely lacking statewide. FDACS will work with SJRWMD and the Department to explore opportunities for providing cost share and to determine where the monies can be spent most effectively.

4.3 WATER QUALITY MONITORING

All responsible stakeholders in the BMAP monitoring plan will continue to sample their stations at the frequency noted in the BMAP. The stakeholders will continue to upload their data to STORET on a regular basis. Any stakeholder that is not currently loading their data into STORET will work with the Department to set up the capability to do so.

APPENDIX A: BMAP PROJECTS

The BMAP project tables below show the status of the projects as of May 31, 2013. The tables provide information on the nutrient reduction attributed to each individual project, shown in pounds per year (lbs/yr). These projects were submitted to provide reasonable assurance to the Department that each entity has a plan on how they will meet their allocation; however, this 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 timeframe.

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TABLE A-1: CITY OF ALTAMONTE SPRINGS PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	TP REDUCTION (LBS/YR)	STATUS
Altamonte Springs	A-1	Existing BMPs	BMPs in place at the time of the TMDL	35.0	Completed
Altamonte Springs	A-2	Street Sweeping	Street sweeping of 4.4 miles, two times per month	220.0	Ongoing
Altamonte Springs	A-3	Education Efforts	FYN, PSAs, pamphlets, presentations, website, illicit discharge program	4.6	Ongoing
Altamonte Springs	N/A	N/A	Total Projects Reduction	259.6	N/A
Altamonte Springs	N/A	N/A	Total Required Reduction 2010-2015	19.0	N/A
Altamonte Springs	N/A	N/A	Credit for Future BMAPs	240.6	N/A

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TABLE A-2: CITY OF CASSELBERRY PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Casselberry	C-1	Lake Concord Stormwater Park/Anniversary Park - Plumosa Baffle Box	Redevelopment and retrofit of city-owned property into an educational stormwater park; 2nd generation baffle box	10/2007	09/2009	0.5	\$43,250	8.5	Stormwater retrofit	Completed
Casselberry	C-2	Lake Concord Stormwater Park/Anniversary Park - Exfiltration Trench	Redevelopment and retrofit of city-owned property into an educational stormwater park; an exfiltration trench	10/2007	09/2009	0.4	\$143,200	1.7	Exfiltration	Completed
Casselberry	C-3	Lake Concord Stormwater Park/Anniversary Park - Dry Detention	Redevelopment and retrofit of city-owned property into an educational stormwater park; dry detention	10/2007	09/2009	0.0	\$75,000	1.0	Dry detention pond	Completed
Casselberry	C-4	Lake Concord Stormwater Park/Anniversary Park - Swale, Wetland Revegetation, & Boardwalk	Redevelopment and retrofit of city-owned property into an educational stormwater park; swale, lakeshore revegetation, educational boardwalk	10/2007	09/2009	0.1	\$742,000	1.7	Swales	Completed
Casselberry	C-5	Lake Concord Stormwater Park/Anniversary Park	Redevelopment and retrofit of city-owned property into an educational stormwater park; baffle box, pervious pavement, bioretention/ parking lot	10/2007	09/2009	0.1	\$226,500	1.2	Stormwater retrofit	Completed
Casselberry	C-6	Anchor Road Reconstruction	Reconstruction of Anchor Road with drainage improvements including upgraded detention/retention ponds	10/2007	10/2009	2.9	\$2,000,000	60.7	Wet detention pond	Completed
Casselberry	C-7	North Lake Triplet Shoreline Revegetation	Remove existing nuisance vegetation from the north and west shores of North Lake Triplet and replace with beneficial species; install reverse berm and swale	12/2007	09/2014	0.8	\$80,000	16.2	Swales	Planned & Funded
Casselberry	C-8	Secret Lake Shoreline Revegetation	Remove existing nuisance vegetation from the east and southwest shores of Secret Lake and replace with beneficial species; install 2 reverse berms and swales	01/2008	05/2008	0.2	N/A	3.7	Swales	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Casselberry	C-9	Fountain/Aeration and Revegetation for Grassy Lake	Installation of aeration for high BOD loading to this waterbody; includes shoreline revegetation for aesthetics and nutrient removal with swale construction as practicable	03/2009	07/2009	0.0	\$150,000	1.7	Aeration system	Completed
Casselberry	C-10	672 & 676 San Pablo Avenue 2nd generation Baffle Boxes	Replace existing storm manholes with two inlet filters and one 2nd generation baffle box for removal of pollutants	03/2009	01/2012	1.3	\$300,000	28.0	Stormwater retrofit	Completed
Casselberry	C-11	Madrid Drive at Desoto Drive 2nd Generation Baffle Box	Replace existing storm manholes with 2nd generation baffle boxes for removal of pollutants	03/2009	01/2012	0.4	\$150,000	5.0	Stormwater retrofit	Completed
Casselberry	C-12	Sonora Drive at Desoto Drive 2nd Generation Baffle box	Replace existing storm manholes with 2nd generation baffle boxes for removal of pollutants	03/2009	01/2012	2.4	\$170,000	42.7	Stormwater retrofit	Completed
Casselberry	C-13	Live Oaks Center 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutant	Unknown	Unknown	1.9	\$100,000	11.6	Stormwater retrofit	Deferred
Casselberry	C-15	Lake Hodge Park 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	03/2011	04/2012	3.3	\$170,000	53.2	Stormwater retrofit	Completed
Casselberry	C-16	161 South Lake Triplet Drive 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	Unknown	Unknown	5.5	\$170,000	89.9	Stormwater retrofit	Planned & Funded, Delayed
Casselberry	C-17	530 South Lake Triplet Drive 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	Unknown	Unknown	1.3	\$140,000	20.7	Stormwater retrofit	Planned & Funded, Delayed
Casselberry	C-19	808 Osceola Trail 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	Unknown	2012	1.2	\$140,000	25.2	Stormwater retrofit	Completed
Casselberry	C-20	Park Drive Drainage/Wetland Improvements	Construction of stormwater retention area on Lots 10A & 11 on north side of Park Drive	10/2013	04/2015	4.2	\$36,000	46.4	Wet retention pond	Planned & Funded, Delayed
Casselberry	C-21	Whole Lake Alum Treatment	Modified project: Execution of whole lake alum treatments to directly treat Queens Mirror Lake and the Triplet Lake chain to address loads due to groundwater seepage and internal recycling	09/2012	09/2014	510.4 (equivalent per year for 10 years)	\$294,531	101.9 (lake acreage only)	Alum treatment	Underway, approximately 38% completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Casselberry	C-22	Middle Lake Triplet Shoreline Revegetation	Remove existing nuisance vegetation from the north shore of Middle Lake Triplet and replace with beneficial species; install reverse berm and swale	12/2013	06/2014	0.3	\$33,000	3.4	Swales	Planned & Funded
Casselberry	C-23	Secret Way at Canal 2nd generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	Unknown	Unknown	0.7	\$170,000	16.4	Stormwater retrofit	Planned & Funded
Casselberry	C-24	51 North Lake Triplet Drive 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants	Unknown	Unknown	1.2	\$140,000	27.4	Stormwater retrofit	Planned & Funded
Casselberry	C-25	South Lake Triplet Swales	Installation of water quality swales along northwestern shore of South Lake Triplet to provide golf course runoff treatment	03/2014	12/2014	1.0	\$80,000	6.3	Swales	Planned, Funding Proposed for Fiscal Year 2014
Casselberry	C-26	South Lake Triplet 2nd Generation Baffle Box	Replace existing storm manholes with baffle boxes for removal of pollutants (sediment and detritus) (4.1)	Unknown	Unknown	0.8	\$140,000	18.3	Stormwater retrofit (baffle box)	Envisioned but Not Funded, Delayed
Casselberry	C-27	Street Sweeping	Monthly street sweeping of 72.5 miles, 29,876 cubic feet of material collected annually	N/A	N/A	916.0	N/A	N/A	Street sweeping	Ongoing
Casselberry	C-28	Education Efforts	FYN, landscape and irrigation ordinances, PSAs, pamphlets/presentations, website, illicit discharge program	N/A	N/A	85.6	N/A	N/A	Education	Ongoing
Casselberry	C-29	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	319.9	N/A	N/A	N/A	Completed
Casselberry	C-30	Structures Cleaning	729 cubic feet of solids collected from catch basins, baffle boxes, and other structures per year	N/A	N/A	26.0	N/A	N/A	Clean out	Ongoing
Casselberry	N/A	N/A	Total Projects Reduction	N/A	N/A	1,888.4	N/A	N/A	N/A	N/A
Casselberry	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	342.7	N/A	N/A	N/A	N/A
Casselberry	N/A	N/A	Credit for Future BMAPs	N/A	N/A	1,545.7	N/A	N/A	N/A	N/A

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TABLE A-3: CITY OF LAKE MARY PROJECTS

N/A = Not applicable

O&M = Operations and maintenance

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	FOOTPRINT (ACRES)	PROJECT TYPE	STATUS
Lake Mary	LM-1	Lake Mary Woods	Eliminate 18 septic tanks 75 feet from surface water, some of them were failing	5/2005	4/2006	44.5	\$3,700,000	\$2,056	6,260	Extend sewer line	Completed
Lake Mary	LM-2	Street Sweeping	Annual street sweeping of 31.5 miles	N/A	N/A	17.0	N/A	N/A	N/A	Street sweeping	Ongoing
Lake Mary	LM-3	Education Efforts	FYN, ordinances, PSAs, pamphlets, presentations, website, illicit discharge program	N/A	N/A	67.6	N/A	N/A	N/A	Education	Ongoing
Lake Mary	LM-4	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	264.3	N/A	N/A	N/A	N/A	Completed
Lake Mary	LM-5	Catch Basin Clean Out	Removal of 1,620 cubic feet of material per year	N/A	N/A	57.0	N/A	N/A	N/A	Clean out	Ongoing
Lake Mary	N/A	N/A	Total Projects Reduction	N/A	N/A	450.4	N/A	N/A	N/A	N/A	N/A
Lake Mary	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	264.3	N/A	N/A	N/A	N/A	N/A
Lake Mary	N/A	N/A	Credit for Future BMAPs	N/A	N/A	186.1	N/A	N/A	N/A	N/A	N/A

TABLE A-4: CITY OF LONGWOOD PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	PROJECT TYPE	STATUS
Longwood	L-1	Stormwater Master Plan Project	Fairy Lake outfall	2011	2013	0.7	\$300,000	Stormwater retrofit	Completed
Longwood	L-2	Stormwater Master Plan Project	Raven Avenue replacement of stormwater pipe	2011	2014	1.4	\$300,000	Stormwater retrofit	Planned
Longwood	L-3	BMP Clean Out	Clean out of BMPs, 176 cubic feet of material per year	N/A	Ongoing	5.0	N/A	BMP clean out	Ongoing
Longwood	L-4	Street Sweeping	Quarterly street sweeping of 11.1 miles	N/A	N/A	4.0	N/A	Street sweeping	Ongoing
Longwood	L-5	Education Efforts	FYN, pamphlets, presentations, website, illicit discharge program	N/A	N/A	44.9	N/A	Education	Ongoing
Longwood	L-6	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	58.9	N/A	N/A	Completed
Longwood	L-7	Regional Project	Participate in a regional project	2009	2014	90.4	N/A	N/A	Planned
Longwood	N/A	N/A	Total Projects Reduction	N/A	N/A	205.3	N/A	N/A	N/A
Longwood	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	205.3	N/A	N/A	N/A
Longwood	N/A	N/A	Credit for Future BMAPs	N/A	N/A	0.0	N/A	N/A	N/A

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TABLE A-5: CITY OF MAITLAND PROJECTS

N/A = Not applicable

O&M = Operations and maintenance

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Maitland	M-1	Sybelia Parkway Regional Pond	Construct wet pond	2005	2007	33.7	\$4,400,000	\$3,000	125.2	Wet detention pond	Completed
Maitland	M-2	Lake Gem/Park Lake COOP BMP	Construct second generation baffle box	2010	Unknown	0.3	\$30,000	\$3,000	3.4	Stormwater retrofit	Planned and Funded
Maitland	M-3	Lake Gem/Park Lake COOP BMP	Construct second generation baffle box	2010	Unknown	3.1	\$30,000	\$3,000	20.0	Stormwater retrofit	Planned and Funded
Maitland	M-4	Lake Gem/Park Lake COOP BMP	Construct second generation baffle box	2010	Unknown	0.2	\$60,000	\$6,000	3.1	Stormwater retrofit	Planned and Funded
Maitland	M-5	Lake Gem/Park Lake COOP BMP	Construct second generation baffle box	2010	Unknown	18.9	\$60,000	\$6,000	178.9	Stormwater retrofit	Planned and Funded
Maitland	M-6	Lake Gem/Park Lake COOP BMP	Construct second generation baffle box	2010	Unknown	9.1	\$60,000	\$6,000	58.1	Stormwater retrofit	Planned and Funded
Maitland	M-7	Lake Maitland Basin - Ridgewood Area Quality Neighborhood Program City Street Improvement Plan	Construct infiltration trenches	2009	2010	0.5	\$60,000	\$2,500	3.9	Infiltration trench	Completed
Maitland	M-8	Lake Maitland Basin - Ridgewood Area Quality Neighborhood Program City Street Improvement Plan	Construct infiltration trenches	2009	2010	1.7	\$170,000	\$8,500	15.0	Infiltration trench	Completed
Maitland	M-9	Lake Maitland Basin - Ridgewood Area Quality Neighborhood Program City Street Improvement Plan	Construct infiltration trenches	2009	2010	0.6	\$100,000	\$5,000	9.2	Infiltration trench	Completed
Maitland	M-10	North Lake Maitland Leaf Trap Project	Install curb inlet leaf trap	2009	2010	0.1	\$3,000	\$6,000	16.8	Inlet	Completed
Maitland	M-11	Lake Maitland Basin - Ridgewood Area Quality Neighborhood Program City Street Improvement Plan	Construct infiltration trenches	2009	2010	0.9	\$100,000	\$8,500	14.8	Infiltration trench	Completed
Maitland	M-12	Dommerich Lot Baffle Box	Construct second generation baffle box	2010	2013	1.1	\$60,000	\$5,000	24.7	Stormwater retrofit	Planned
Maitland	M-13	Chipewa Trail Baffle Box	Construct second generation baffle box	2007	2007	1.1	\$60,000	\$5,000	25.3	Stormwater retrofit	Completed
Maitland	M-14	Horatio Avenue Infiltration Trench	Construct infiltration trenches	2014	2015	0.9	\$150,000	\$5,000	5.0	Infiltration trench	Planned and Funded

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Maitland	M-15	Minnehaha Park Stormwater Improvements Dry Stormwater Pond	Construct wet pond	2007	2008	1.3	\$65,000	\$2,000	9.9	Dry detention pond	Completed
Maitland	M-16	Street Sweeping	Street sweeping once every 2 weeks of 71 miles	2005	Ongoing	398.0	N/A	\$100,000	2898	Street sweeping	Ongoing
Maitland	M-17	Education Efforts	Landscaping ordinance, PSAs, presentations/ pamphlets, website, illicit discharge program	N/A	N/A	40.8	N/A	N/A	N/A	Education	Ongoing
Maitland	M-18	Existing BMPs	BMPs in place at the time of the TMDL	N/A	N/A	0.7	N/A	N/A	N/A	N/A	Completed
Maitland	M-19	Packwood Avenue Baffle Box	Construct second generation baffle box	N/A	2012	9.9	N/A	N/A	13	Stormwater retrofit	Completed
Maitland	M-19	Minnehaha Circle Baffle Box	Construction second generation baffle box	2012	2013	7.7	N/A	N/A	23	Stormwater retrofit	Planned and Funded
Maitland	M-20	Park Lake Baffle Boxes	Construction second generation baffle boxes	2012	Unknown	23.2	N/A	N/A	58	Stormwater retrofit	Planned and Funded
Maitland	N/A	N/A	Total Projects Reduction	N/A	N/A	553.8	N/A	N/A	N/A	N/A	N/A
Maitland	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	124.8	N/A	N/A	N/A	N/A	N/A
Maitland	N/A	N/A	Credit for Future BMAPs	N/A	N/A	429.0	N/A	N/A	N/A	N/A	N/A

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TABLE A-6: CITY OF ORLANDO PROJECTS

N/A = Not applicable

O&M = Operations and maintenance

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Orlando	ORL-1	Lake Dot Water Quality Restoration	Installation of Alum Treatment System, where aluminum sulfate (alum) is injected into stormline on a flow-proportioned basis	1988	07/1990	70.4	\$569,207	N/A	276	Alum	Completed
Orlando	ORL-2	Hazel Street Outfall Improvements	Installation of CDS Unit at Lake Winyah from 96" pipe	07/2000	07/2003	8.3	\$410,992	N/A	505	Stormwater retrofit	Completed
Orlando	ORL-3	Lake Rowena Screening Facility & Alum Stormwater Treatment	Installation of underground, flow-actuated rotating bar screen on 108" outfall pipe to capture debris with additional treatment via alum system	1994	1996	55.0	\$596,512	N/A	470	Screening and alum	Completed
Orlando	ORL-4	Lake Highland CDS Unit	Installation of CDS Unit at Lake Highland	1998	1999	1.0	\$60,000	N/A	45	Stormwater retrofit	Completed
Orlando	ORL-5	Mills Avenue Retrofit	Construction of Storm Flo Litter Collection Screen on Mills Ave., adjacent to Lake Rowena to treat runoff from 36" and 24" stormlines	01/2009	04/2009	8.4	\$250,000	N/A	89	Stormwater retrofit	Completed
Orlando	ORL-6	Overbrook Stormwater Improvements	Construct 2nd generation baffle box upstream of Lake Adair; Implement pollution prevention methods, including gravel bottom and check dams to settle out pollutants	10/2007	07/2008	1.8	\$400,000	N/A	236	Stormwater retrofit	Completed
Orlando	ORL-7	Guernsey Park - Expansion of Wet Detention Pond	Expansion of wet detention pond to treat 61% of sub-basin drainage	11/2011	03/2012	0.1	\$425,000	N/A	80	Wet detention pond	Completed
Orlando	ORL-8	Ivanhoe Plaza Park Exfiltration	Installation of exfiltration galleries to treat 100% of sub-basin drainage	05/2012	12/2012	1.3	\$1,100,000	N/A	49	100% on-site retention	Completed
Orlando	ORL-9	Lake Concord 2nd Generation Baffle Boxes	Construct two 2nd Generation Baffle Boxes upstream of Lake Concord and reroute flow to treat 30" and 24" outfalls from nearly 100% of two sub-basins	7/2011	09/2011	0.8	\$250,000	N/A	66	Stormwater retrofit	Completed
Orlando	ORL-10	Winyah (Westchester Ave/Wilkinson St) 2nd Generation Baffle Box	Construct 2nd Generation Baffle Box upstream of Lake Winyah to treat 71% of sub-basin	9/2009	10/2009	1.6	\$72,000	N/A	30	Stormwater retrofit	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Orlando	ORL-11	Westmoreland 2nd Generation Baffle Box	Construct 2nd Generation Baffle Box upstream of Lake Adair	N/A	2006	0.1	\$35,000	N/A	5.3	Stormwater retrofit	Completed
Orlando	ORL-12	Stormwater Filtration Systems / Inlet Baskets	Installation of 6 inlet baskets around perimeter of Lake Adair	N/A	2007	0.0	\$5,400	N/A	25	Inlet basket	Completed
Orlando	ORL-13	Stormwater Filtration Systems / Inlet Baskets	Installation of 11 inlet baskets in Spring Lake basin	N/A	2007	0.0	\$9,900	N/A	25	Inlet basket	Completed
Orlando	ORL-14	Stormwater Filtration Systems / Inlet Baskets	Installation of 13 inlet baskets in Lake Formosa basin	N/A	2007	0.1	\$11,700	N/A	14	Inlet basket	Completed
Orlando	ORL-15	Stormwater Filtration Systems / Inlet Baskets	Installation of 29 inlet baskets in Lake Highland basin	N/A	2007	3.5	\$26,100	N/A	223	Inlet basket	Completed
Orlando	ORL-16	Stormwater Filtration Systems / Inlet Baskets	Installation of 2 inlet baskets in Lake Rowena basin	N/A	2007	0.5	\$1,800	N/A	39	Inlet basket	Completed
Orlando	ORL-17	Stormwater Filtration Systems / Inlet Baskets	Installation of 49 inlet baskets in Lake Ivanhoe basin	N/A	2008	0.6	\$44,100	N/A	242	Inlet basket	Completed
Orlando	ORL-18	Stormwater Filtration Systems / Inlet Baskets	Installation of 4 inlet baskets in Lake Druid basin	N/A	2007	0.4	\$1,800	N/A	39	Inlet basket	Completed
Orlando	ORL-19	Street Sweeping	2 times per week of 6.4 miles, weekly of 9.3 miles, and 2 times per month of 113 miles	N/A	Ongoing	428.0	N/A	\$1,800,000	N/A	Street sweeping	Ongoing
Orlando	ORL-20	Reading Dr (24" line) - 2nd Generation Baffle Box at Lake Adair	Construct 2nd Generation Baffle Box upstream of Lake Adair to treat approximately 13% of subbasin	9/2009	10/2009	0.5	N/A	N/A	26	Stormwater retrofit	Completed
Orlando	ORL-21	Spring Lake -2nd Generation Baffle Box at Rio Grande	Construct 2nd Generation Baffle Box upstream of Spring Lake to treat 100% of subbasin	9/2009	10/2009	0.6	\$128,000	N/A	39	Stormwater retrofit	Completed
Orlando	ORL-22	Spring Lake- 2nd Generation Baffle Box at Springdale Rd	Construct 2nd Generation Baffle Box upstream of Spring Lake to treat 100% of subbasin	N/A	N/A	0.1	N/A	N/A	21	Stormwater retrofit	Completed
Orlando	ORL-23	DOT Pond Maintenance, west of Spring Lake	Removal of muck/sediment and expansion of wet detention pond to treat 95% and 5% of two sub-basins, respectively.	2/2010	11/2010	6.1	N/A	N/A	141	Wet detention pond	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Orlando	ORL-24	Weber Dr - 2nd Generation Baffle Box at Lake Druid	Construct 2nd Generation Baffle Box upstream of Lake Druid to treat approximately 7% of subbasin	N/A	2006	0.3	N/A	N/A	6	Stormwater retrofit	Completed
Orlando	ORL-25	Educational Component	FYN, ordinances (landscape, irrigation, pet waste), PSAs, pamphlets, presentations, website, illicit discharge program	N/A	Ongoing	94.2	N/A	N/A	N/A	Education	Ongoing
Orlando	ORL-26	Lake Concord Alum Injection Retrofit	Divert stormwater from Lake Concord basin to Lake Dot Alum Treatment before discharging into chain of lakes; installation of injection line in Lake Dot and new baffle box on Concord Ave	06/2013	N/A	3.8	\$500,000	N/A	90.8	Stormwater retrofit and alum	Planned & Funded
Orlando	ORL-27	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	684.4	N/A	N/A	N/A	N/A	Completed
Orlando	ORL-28	FDOT Pond Sandbar Removal from Spring Lake	Removal of sandbar from FDOT pond outfall that enters Spring Lake	11/2010	2/2011	N/A	N/A	N/A	N/A	Wet detention pond	Completed
Orlando	ORL-29	Catch Basin Clean Out	Clean out of catch basins, removal of 524 cubic feet of material per year	N/A	Ongoing	19.0	N/A	N/A	N/A	Catch basin clean out	Ongoing
Orlando	ORL-30	BMP Clean Out	Clean out of BMPs, removal of 133 cubic feet of material per year	N/A	Ongoing	4.0	N/A	N/A	N/A	BMP clean out	Ongoing
Orlando	N/A	N/A	Total Projects Reduction	N/A	N/A	1,394.9	N/A	N/A	N/A	N/A	N/A
Orlando	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	326.3	N/A	N/A	N/A	N/A	N/A
Orlando	N/A	N/A	Credit for Future BMAPs	N/A	N/A	1,068.6	N/A	N/A	N/A	N/A	N/A

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TABLE A-7: CITY OF OVIEDO PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Oviedo	OV-1	Aulin Regional Stormwater Pond	Aulin Regional Stormwater Pond	2009	12/2012	13.5	N/A	N/A	Wet detention pond	Completed
Oviedo	OV-2	Lightwood Knox Canal Project	Lightwood Knox Canal Project	2009	2014	84.5	N/A	N/A	Dry detention pond, swales	Envisioned, but Not Funded
Oviedo	OV-3	Sweetwater Creek Project	Sweetwater Creek Project	2009	2014	30.4	N/A	N/A	Dry detention pond, wet detention pond	Envisioned, but Not Funded
Oviedo	OV-4	Solary Canal Stormwater Treatment Area	Regional Stormwater Treatment Facility consisting of an 8.0-acre wet pond and 4.8-acre wetland	4/2010	12/2011	188.3	\$1,700,000	1,471	Wet detention pond, wetland treatment	Completed
Oviedo	OV-5	Street Sweeping	Monthly street sweeping of 315 lane miles	N/A	N/A	601.0	N/A	N/A	Street sweeping	Ongoing
Oviedo	OV-6	Education Efforts	FYN, illicit discharge program, Adopt A Pond Program	N/A	N/A	46.2	N/A	N/A	Education	Ongoing
Oviedo	OV-7	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	386.5	N/A	N/A	N/A	Completed
Oviedo	OV-8	Jet-Vac Program	Routine cleaning of inlets and pipes	2011	N/A	220.0	N/A	N/A	Inlet and pipe cleaning	Ongoing
Oviedo	N/A	N/A	Total Projects Reduction	N/A	N/A	1,570.4	N/A	N/A	N/A	N/A
Oviedo	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	258.7	N/A	N/A	N/A	N/A
Oviedo	N/A	N/A	Credit for Future BMAPs	N/A	N/A	1,311.7	N/A	N/A	N/A	N/A

TABLE A-8: CITY OF SANFORD PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	TP REDUCTION (LBS/YR)	STATUS
Sanford	S-1	Street Sweeping	Weekly street sweeping of 37.7 miles	427.0	Ongoing
Sanford	S-2	Public Education	Public Education	108.9	Ongoing
Sanford	S-3	Existing BMPs	BMPs that were in place at the time of the TMDL	521.2	Completed
Sanford	N/A	N/A	Total Projects Reduction	1,057.1	N/A
Sanford	N/A	N/A	Total Required Reduction 2010-2015	602.2	N/A
Sanford	N/A	N/A	Credit for Future BMAPs	454.9	N/A

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TABLE A-9: CITY OF WINTER PARK PROJECTS

N/A = Not applicable

O&M = Operations and maintenance

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Winter Park	WP-1	Lake Island Interconnect	First Flush bypass to Wet Retention Ponds	06/2002	09/2003	4.7	\$408,009	N/A	74.5	Wet detention pond	Completed
Winter Park	WP-2	Via Lugano Exfiltration	Off Line Exfiltration	10/1996	11/1997	1.3	\$200,000	N/A	25.3	Dry detention pond	Completed
Winter Park	WP-3	N. Park Ave. Exfiltration	Off Line Exfiltration	06/2004	10/2004	6.6	\$250,000	N/A	21.44	Dry detention pond	Completed
Winter Park	WP-4	Fairway 3 Exfiltration	Off Line Exfiltration	11/2006	10/2007	5.5	\$1,000,000	N/A	57.39	Dry detention pond	Completed
Winter Park	WP-5	McKean Road CDS	CDS Unit on 24" outfall	05/2004	06/2005	0.0	N/A	N/A	5.58	Stormwater retrofit	Completed
Winter Park	WP-6	Pinetree Rd Outfall CDS	CDS unit on 42" outfall	05/2004	06/2005	0.6	N/A	N/A	64.78	Stormwater retrofit	Completed
Winter Park	WP-7	1190 Park Ave CDS	CDS unit on 30" outfall	08/1998	11/1999	0.2	N/A	N/A	22.82	Stormwater retrofit	Completed
Winter Park	WP-8	Moss/ Venetian Dry Capture 1st Generation Baffle Box	Baffle screen on 15" outfall	02/2000	03/2007	0.1	N/A	N/A	3.02	Stormwater retrofit	Completed
Winter Park	WP-9	Green Cove Road 2 CDS Units	2 CDS units on two 24" outfalls	05/2004	06/2006	0.1	N/A	N/A	11.35	Stormwater retrofit	Completed
Winter Park	WP-10	Courtland Alum Injection Treatment	Alum injection at Lake Mizell outfall	N/A	N/A	21.2	N/A	N/A	88.08	Alum	Completed
Winter Park	WP-11	Partnership/ Wet Detention/ Windsong	Developer's agreement to treat Palmer Ditch basin run off within site MSSW	N/A	N/A	5.8	N/A	N/A	84.55	Wet detention pond	Completed
Winter Park	WP-12	Lincoln Ave Alum Injection Treatment	Alum injection at Lake Osceola outfall	N/A	N/A	37.7	N/A	N/A	17.59	Alum	Completed
Winter Park	WP-13	Alexander Place Alum Injection Treatment with Baffle Box	Alum injection at Lake Osceola outfall	N/A	N/A	22.6	N/A	N/A	24.61	Alum	Completed
Winter Park	WP-14	Morse /Alum Injection Treatment	Alum injection at Lake Osceola outfall	N/A	N/A	6.9	N/A	N/A	57.13	Alum	Completed
Winter Park	WP-15	Trismen and Lakewood Drive Exfiltration	Off-Line Exfiltration	N/A	N/A	0.4	N/A	N/A	7.35	Dry detention pond	Completed
Winter Park	WP-16	Trismen CDS Unit	CDS Unit on 24" outfall	N/A	N/A	0.0	N/A	N/A	0.39	Stormwater retrofit (CDS)	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Winter Park	WP-17	Trismen Dry 1st Generation Baffle Box	Baffle screen on 15" outfall	N/A	N/A	0.0	N/A	N/A	1.84	Stormwater retrofit	Completed
Winter Park	WP-18	Elizabeth CDS Treating Inlet at Bonita and Dale	CDS on 15" Pipe	05/2004	06/2006	0.0	N/A	N/A	2.35	Stormwater retrofit	Completed
Winter Park	WP-19	Lake Chelton Outfall Improvement	4 dry-capture baffle inlets and boxes	09/2003	01/2004	0.0	N/A	N/A	28.65	Stormwater retrofit	Completed
Winter Park	WP-20	Lakeview Road Bricking	CDS Installation on 24" outfall	03/2006	03/2006	0.1	N/A	N/A	9.53	Stormwater retrofit	Completed
Winter Park	WP-21	Mead Gardens Borrow Pit Pond Retrofit	Retrofit screening devices (two baffle boxes) to existing MSSW	05/2006	09/2006	15.4	N/A	\$560,000	62.06	Stormwater retrofit	Completed
Winter Park	WP-22	Glencoe Road Bricking	Stormwater capture and screening system (baffle box)	03/2007	06/2007	0.1	N/A	N/A	3.39	Stormwater retrofit	Completed
Winter Park	WP-23	Laurel Road Dry Retention Pond	On-line dry retention pond	05/1999	03/2001	1.7	N/A	N/A	17.15	Dry detention pond	Completed
Winter Park	WP-24	Alum Injection Treatment/ Rollins	Alum injection at outfalls to Lake Virginia	01/1995	1996	26.8	N/A	N/A	72.99	Alum	Completed
Winter Park	WP-25	9th Grade Center Pond Wet Detention	Wet detention pond retrofit	Pre 1995	Pre 1995	7.6	N/A	N/A	110.8	Wet detention pond	Completed
Winter Park	WP-26	Lakeview Bricking	Stormwater capture and screening system (baffle box)	02/2005	11/2006	0.1	N/A	N/A	6.97	Stormwater retrofit	Completed
Winter Park	WP-27	Oxford Road Bricking	Stormwater capture and screening system (baffle box)	08/2006	11/2006	0.1	N/A	N/A	5.28	Stormwater retrofit	Completed
Winter Park	WP-28	Lake Island Park	Created treatment volume in Lake Mendsen, construct control structures for wet detention treatment	06/1905	03/1996	83.8	N/A	N/A	256.00	Wet detention pond	Completed
Winter Park	WP-29	950 Palmer Ave Retrofit	Stormwater capture and screening system (baffle box)	07/2007	07/2007	0.3	N/A	N/A	18.33	Stormwater retrofit	Completed
Winter Park	WP-30	Banchory Exfiltration	On-line retention 0.25 treatment volume	2008	2008	0.4	N/A	N/A	N/A	On-line retention	Completed
Winter Park	WP-31	Bryan CDS	CDS	2008	2008	0.2	N/A	N/A	N/A	Stormwater retrofit	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	TREATMENT ACRES	PROJECT TYPE	STATUS
Winter Park	WP-32	E. Lake Sue CDS	CDS	2008	2008	0.1	N/A	N/A	N/A	Stormwater retrofit	Completed
Winter Park	WP-33	Elizabeth Drive Baffle Box	Baffle box	N/A	N/A	1.1	N/A	N/A	N/A	Stormwater retrofit	Completed
Winter Park	WP-34	Street Sweeping	Street sweeping two times per month of 130 miles	N/A	Ongoing	13.6	N/A	N/A	N/A	Street sweeping	Ongoing
Winter Park	WP-35	Education Efforts	FYN, landscape and fertilizer ordinances, pamphlets, presentations, website, illicit discharge program	N/A	Ongoing	106.3	N/A	N/A	N/A	Education	Ongoing
Winter Park	WP-36	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	151.5	N/A	N/A	N/A	N/A	Completed
Winter Park	WP-37	Courtland Avenue Alum System Retrofit	2 Suntree baffle boxes (Osceola Ave and Mizell Ave outfalls)	06/2011	08/2011	40.7	\$350,000	\$4,000	88	Stormwater retrofit	Completed
Winter Park	WP-38	Alabama Drive Improvements	2 dry retention swales and 1 baffle box	08/2011	10/2011	1.7	\$50,000	<\$1,000	5	Stormwater retrofit	Completed
Winter Park	WP-39	Morse Boulevard Outfalls Retrofit	2- Suntree baffle boxes	04/2012	05/2012	194.7	\$180,000	\$2,500	30	Stormwater retrofit	Completed
Winter Park	N/A	N/A	Total Projects Reduction	N/A	N/A	760.0	N/A	N/A	N/A	N/A	N/A
Winter Park	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	370.5	N/A	N/A	N/A	N/A	N/A
Winter Park	N/A	N/A	Credit for Future BMAPs	N/A	N/A	389.5	N/A	N/A	N/A	N/A	N/A

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TABLE A-10: CITY OF WINTER SPRINGS PROJECTS

N/A = Not applicable

O&M = Operations and maintenance

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	ANNUAL O&M COST	STATUS
Winter Springs	WS-1	Solary Canal Stormwater Treatment Area	Regional Stormwater Treatment Facility consisting of an 8.0-acre wet pond and 4.8-acre wetland	4/2010	12/2011	188.3	\$1,700,000	N/A	Completed
Winter Springs	WS-2	Winding Hollow Wetland Treatment Area	Divert No Name Creek flow into wetland treatment system	2020	2020	210.1	\$357,000	N/A	Envisioned but Not Funded
Winter Springs	WS-3	Winter Springs and Wedgewood Filtration Devices	Retrofit stormwater outfalls with flow-through filtration devices	2020	2020	24.7	\$132,000	N/A	Envisioned but Not Funded
Winter Springs	WS-4	North Orlando Townsite Filtration Devices	Retrofit eastern and western outfalls with flow-through filtration devices	2020	2020	5.2	\$80,000	N/A	Envisioned but Not Funded
Winter Springs	WS-5	Highlands Regional Pond Enhancements	Expansion of existing wet pond and redirection of untreated stormwater runoff to the pond	2020	2020	64.5	\$1,385,000	N/A	Envisioned but Not Funded
Winter Springs	WS-6	Education Efforts - Update Local Codes and Ordinances (Fertilizer Rule, etc.), FYN	Continue FYN, PSAs, distribution of pamphlets, presentations to various groups, and inspection program on illicit discharges.	N/A	N/A	92.0	N/A	\$3,000	Ongoing
Winter Springs	WS-7	Street Sweeping	Quarterly street sweeping; total swept in reporting year is 671 miles.	N/A	N/A	58.0	N/A	N/A	Ongoing
Winter Springs	WS-8	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	765.2	N/A	N/A	Completed
Winter Springs	N/A	N/A	Total Projects Reduction	N/A	N/A	1,408.0	N/A	N/A	N/A
Winter Springs	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	513.0	N/A	N/A	N/A
Winter Springs	N/A	N/A	Credit for Future BMAPs	N/A	N/A	895.0	N/A	N/A	N/A

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TABLE A-11: FLORIDA DEPARTMENT OF TRANSPORTATION PROJECTS

N/A = Not applicable

* The street sweeping frequency and approach that was being implemented within the basin has changed. Credits for street sweeping for the reporting period cannot be calculated at this time.

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DESCRIPTION	START DATE	END DATE	TP REDUCTION (LBS/YR)	TREATMENT ACRES	PROJECT TYPE	STATUS
FDOT	FDOT -1	FM: 240167-1 SR434	Widen from 2 to 6 lanes from McCulloch Road to Mitchell Hammock; drainage improvements and treatment of existing impervious area	2002	2007	3.6	83.47	Wet detention	Completed
FDOT	FDOT -2	Soldiers Creek Alum Treatment Facility	Flow-through alum system along CR 427 in Seminole County to reduce nutrient loads within Soldiers Creek	Pending	2014	80.0	N/A	Alum treatment	Design
FDOT	FDOT -3	FM: 240196-1 SR17-92 Basin C&D	Proposed widening of SR 15/600 (US 17/92) from Shepard Road to Lake Mary Blvd; drainage improvements and treatment of existing impervious area	Pending	2014	3.7	47.97	Dry retention	Design
FDOT	FDOT -4	FM: 240163-1 SR 46	SR 46 Bridge Replacement over Lake Jesup; drainage improvements and treatment of existing impervious area	2008	2010	5.4	50.50	Wet detention	Completed
FDOT	FDOT -5	Street Sweeping	Monthly street sweeping of 1,232.6 miles	N/A	N/A	0.0*	N/A	Street sweeping	Ongoing
FDOT	FDOT -6	Education Efforts	Public Education efforts	N/A	N/A	6.5	N/A	Education	Ongoing
FDOT	FDOT -7	Existing BMPs	Varies	N/A	N/A	207.7	N/A	N/A	Completed
FDOT	N/A	N/A	Total Projects Reduction	N/A	N/A	306.9	N/A	N/A	N/A
FDOT	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	132.3	N/A	N/A	N/A
FDOT	N/A	N/A	Credit for Future BMAPs	N/A	N/A	174.6	N/A	N/A	N/A

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TABLE A-12: ORANGE COUNTY PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT TYPE	STATUS
Orange County	OC-1	Hall Road Improvements	OC CIP Hall Road Improvements	2003	2009	0.1	Stormwater retrofit	Completed
Orange County	OC-2	OC CIP Lake Waunatta	OC CIP Lake Waunatta	2005	2009	3.5	Stormwater retrofit	Completed
Orange County	OC-3	Lake Sue Inlet Baskets	Lake Sue inlet baskets	N/A	N/A	0.7	Inlet baskets	Completed
Orange County	OC-4	Street Sweeping	Street sweeping for a total of 971.93 curb miles per year	N/A	N/A	29.1	Street sweeping	Ongoing
Orange County	OC-5	Education Efforts	FYN, ordinances, PSAs, pamphlets, presentations, website, illicit discharge program	N/A	N/A	151	Education	Ongoing
Orange County	OC-6	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	197.3	N/A	Completed
Orange County	OC-7	Regional Project	Participate in a regional project	2009	2014	182.5	Regional project	Planned
Orange County	OC-8	Inlet Baskets	Inlet baskets on Lake Sue and Lake Killarney	2010	N/A	4.8	Curb inlet baskets	Ongoing
Orange County	N/A	N/A	Total Projects Reduction	N/A	N/A	569.0	N/A	N/A
Orange County	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	569.0	N/A	N/A
Orange County	N/A	N/A	Credit for Future BMAPs	N/A	N/A	0.0	N/A	N/A

TABLE A-13: ORLANDO ORANGE COUNTY EXPRESSWAY AUTHORITY PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	TP REDUCTION (LBS/YR)	PROJECT TYPE	STATUS
OOCEA	OOCEA-1	Existing BMPs	BMPs that were in place at the time of the TMDL	12.8	N/A	Completed
OOCEA	N/A	N/A	Total Projects Reduction	12.8	N/A	N/A
OOCEA	N/A	N/A	Total Required Reduction 2010-2015	5.2	N/A	N/A
OOCEA	N/A	N/A	Credit for Future BMAPs	7.6	N/A	N/A

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TABLE A-14: SEMINOLE COUNTY PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	FOOTPRINT (ACRES)	TREATMENT ACRES	PROJECT TYPE	STATUS
Seminole County	SC-1	Cassel Creek RSF	RSF to treat water in the sub basin upstream	09/2012	07/2013	156.8	\$927,531	10	830	Wet detention pond	Construction, in closeout
Seminole County	SC-2	Lake Ann Outfall	Baffle box and pipe replacement	04/2001	10/2001	10.8	\$148,000	0.1	322	Stormwater Retrofit	Completed
Seminole County	SC-3	Red Bug Lake Road RSF	RSF to treat water in the sub basin upstream	01/2010	07/2010	93.0	\$1,400,000	9	1050	Wet detention pond	Completed
Seminole County	SC-4	Navy Canal RSF	RSF to treat water in the sub basin upstream	03/01/2005	10/14/2006	285.0	\$2,112,336	7	889	Wet detention pond	Completed
Seminole County	SC-5	Cameron Ditch RSF	RSF to treat water in the sub basin upstream	04/17/2006	10/14/2006	71.9	\$3,735,374	32	376	Wet detention pond, Wetland treatment	Completed
Seminole County	SC-6	Lake Howell Road Pond Retrofit	Retrofit of an old FDOT pond now under county jurisdiction that drains Howell Branch Road	05/2007	11/01/2007	7.1	N/A	4.0	23	Wet detention pond	Completed
Seminole County	SC-7	Solary Canal Stormwater Treatment Area	RST facility consisting of an 8.0-acre wet pond and 4.8-acre wetland	04/2010	12/2011	188.3	\$1,700,000	12.7	1471	Wet detention pond, Wetland treatment	Completed
Seminole County	SC-8	Anchor Road Reconstruction	Reconstruction of Anchor Road with drainage improvements including upgraded detention/retention ponds	11/2008	04/2010	5.1	\$2,000,000	13	60.7	Wet detention pond	Completed
Seminole County	SC-9	Street Sweeping	Street sweeping monthly of 66.8 miles and quarterly of 160.2 miles	N/A	Ongoing	124.0	N/A	N/A	N/A	Street sweeping	Ongoing
Seminole County	SC-10	Education Efforts	FYN, ordinances, PSAs, pamphlets, presentations, website, illicit discharge program	N/A	Ongoing	558.3	N/A	N/A	N/A	Education	Ongoing
Seminole County	SC-11	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	1,753.8	N/A	N/A	N/A	N/A	Completed

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ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT COST	FOOTPRINT (ACRES)	TREATMENT ACRES	PROJECT TYPE	STATUS
Seminole County	SC-12	Soldiers Creek at County Road 427 RSF	RSF with alum to treat water in the sub basin upstream	04/2014	07/2015	2,137.0	\$6,500,000	11	5,692	Alum treatment system	Final design
Seminole County	SC-13	Bear Gully RSF at Chapman Road	Preliminary design for RSF to treat water from Bear Gully Canal subbasin	02/2013	08/2014	82.0-238.0 (estimated)	\$88,000	20	1,098	Wet detention pond	Preliminary design, in sampling phase
Seminole County	SC-14	Eagle Lake RSF at Six Mile Creek	Preliminary design for RSF to treat water from Six Mile Creek	08/2013	02/2015	229.0 (estimated)	\$95,000	24	1,085	Wet detention pond	Preliminary design, in sampling phase, funded fiscal year 12/13
Seminole County	SC-15	Lake Jesup In-Lake Restoration/Re-Vegetation	2,400 linear feet of shoreline planting at Jesup Park	10/2012	12/2012	Unknown	\$25,000	2,400 linear feet	N/A	Shoreline planting	Completed
Seminole County	SC-16	Lake Jesup SAV Restoration	Planting two acres of eel grass near the Marlbed Flats	04/2012	03/2013	Unknown	\$10,000	2	N/A	In-lake restoration, native SAV	Completed
Seminole County	SC-17	Black Hammock Creek Reclamation and Floodplain Treatment System	Preliminary and final design, construction, and monitoring to treat water from the Black Hammock area	04/2013	11/2016	In development	\$2,000,000	160	5,619	Creek restoration/reclamation	Preliminary design underway
Seminole County	SC-18	Lake Howell Restoration Events	In-lake re-vegetation of submersed and emergent plants by residents and volunteers, six events held to date	2011	Ongoing	Unknown	\$10,000	N/A	N/A	In-lake restoration	Ongoing
Seminole County	SC-19	Lake Burkett Restoration Events	In-lake re-vegetation of submersed and emergent plants by residents and volunteers	2013	Ongoing	Unknown	\$1,000	N/A	N/A	In-lake restoration	Ongoing
Seminole County	SC-20	BMP Clean Out	Clean out of BMPs, 6,936 cubic feet of material per year	N/A	Ongoing	141.0	N/A	N/A	N/A	BMP clean out	Ongoing
Seminole County	N/A	N/A	Total Projects Reduction	N/A	N/A	5,844.1	N/A	N/A	N/A	N/A	N/A
Seminole County	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	2,137.0	N/A	N/A	N/A	N/A	N/A
Seminole County	N/A	N/A	Credit for Future BMAPs	N/A	N/A	3,707.1	N/A	N/A	N/A	N/A	N/A

TABLE A-15: TOWN OF EATONVILLE PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	START DATE	END DATE	TP REDUCTION (LBS/YR)	PROJECT TYPE	STATUS
Eatonville	E-1	Street Sweeping	Monthly street sweeping of 3.7 miles	N/A	N/A	0.3	Street sweeping	Ongoing
Eatonville	E-2	Existing BMPs	BMPs that were in place at the time of the TMDL	N/A	N/A	9.6	N/A	Completed
Eatonville	E-3	Regional Project	Participate in a regional project	2009	2014	11.6	Regional project	Planned
Eatonville	E-4	Public Education	Brochures, newsletters, public displays, workshops, illicit discharge program	N/A	Ongoing	1.9	Education	Ongoing
Eatonville	N/A	N/A	Total Projects Reduction	N/A	N/A	23.4	N/A	N/A
Eatonville	N/A	N/A	Total Required Reduction 2010-2015	N/A	N/A	23.4	N/A	N/A
Eatonville	N/A	N/A	Credit for Future BMAPs	N/A	N/A	0.0	N/A	N/A

TABLE A-16: TURNPIKE AUTHORITY PROJECTS

N/A = Not applicable

ENTITY	PROJECT NUMBER	PROJECT NAME	PROJECT DETAIL	TP REDUCTION (LBS/YR)	STATUS
Turnpike Authority	T-1	Existing BMPs	BMPs that were in place at the time of the TMDL	252.3	Completed
Turnpike Authority	T-2	Monthly street sweeping of 48 miles	Monthly street sweeping	3.2	Ongoing
Turnpike Authority	T-3	Education efforts	Presentations, illicit discharge program	9	Ongoing
Turnpike Authority	N/A	N/A	Total Projects Reduction	264.5	N/A
Turnpike Authority	N/A	N/A	Total Required Reduction 2010-2015	101.1	N/A
Turnpike Authority	N/A	N/A	Credit for Future BMAPs	163.4	N/A

APPENDIX B: WATER QUALITY DATA

The Lake Jesup BMAP monitoring plan was designed to enhance the understanding of basin loads, track project implementation, and identify long-term water quality trends. The information gathered through the monitoring plan will measure progress toward achieving the TP TMDL and provide a foundation for continued improvement in cost-effective project implementation. The following summarizes the data collected during the reporting period that have not been uploaded to STORET.

The City of Winter Park is also working with the Department to upload its data to STORET. The following table shows the results of the sampling at the weir at Howell Branch Road site during the reporting period.

TABLE B-1: CITY OF WINTER PARK SAMPLING RESULTS

N/A = Not applicable

DATE	AMMONIUM (MG/L)	AMMONIA (MG/L)	TKN (MG/L)	NITRATE + NITRITE (MG/L)	TN (MG/L)	ORTHO-P (MG/L)	TP (MG/L)	SOLUBLE REACTIVE P (MG/L)	CHLOROPHYLL -A (CORRECTED) (MG/L)	BOD5 (MG/L)
05/24/2012	0.03	0.030	0.59	0.170	N/A	0.002	0.025	N/A	0.005	2.0
06/23/2012	0.34	0.340	0.98	0.290	N/A	0.002	0.025	N/A	0.008	N/A
07/28/2012	0.03	0.030	0.68	0.110	N/A	0.003	0.027	N/A	0.015	2.0
08/25/2012	0.06	0.060	0.73	0.120	N/A	0.002	0.027	N/A	0.010	2.0
10/17/2012	N/A	0.044	N/A	0.021	0.66	N/A	0.015	0.000	0.009	1.7
11/14/2012	N/A	0.145	N/A	0.020	0.56	N/A	0.021	0.003	0.002	1.0
12/12/2012	N/A	0.022	N/A	0.013	0.41	N/A	0.026	0.015	0.005	2.1
01/16/2013	N/A	0.030	N/A	0.009	0.44	N/A	0.018	0.010	0.006	2.1
02/13/2013	N/A	0.024	N/A	0.012	0.37	N/A	0.023	0.003	0.033	3.0
03/13/2013	N/A	0.008	N/A	0.012	0.49	N/A	0.018	0.002	0.033	2.1
04/10/2013	N/A	0.003	N/A	0.004	0.43	N/A	0.016	0.001	0.025	1.6
05/22/2013	N/A	0.003	N/A	0.010	0.43	N/A	0.013	0.001	0.003	2.0

Orange County has been collecting flow data for the Lake Burkett discharge, and the discrete discharge values for samples taken are shown in the table below.

TABLE B-2: ORANGE COUNTY SAMPLING RESULTS

DATE	TIME	DISCHARGE(FT ³ /S)
05/30/2012	9:20	0
06/28/2012	9:20	0
07/11/2012	10:45	0.038
07/31/2012	9:40	0.474
08/09/2012	9:45	1.256
08/23/2012	10:05	2.629
09/27/2012	9:45	6.213
10/16/2012	9:40	5.25
10/29/2012	9:15	2.144
11/15/2012	9:30	1.06
11/29/2012	9:25	0.39
12/13/2012	9:00	0.293
01/11/2013	9:30	0.18

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DATE	TIME	DISCHARGE(FT ³ /S)
01/23/2013	9:30	0.21
02/13/2013	9:50	0.123
02/26/2013	9:15	0
03/15/2013	10:10	0.004
03/27/2013	8:50	0
04/09/2013	8:35	0
04/25/2013	11:35	0
05/16/2013	9:30	0
05/30/2013	9:40	0.425

The City of Sanford has been collecting surface water grab samples at Site 10, and the results are included in the table below.

TABLE B-3: CITY OF SANFORD SITE 10 SAMPLING RESULTS

Dry = Sample site was dry.

Error = Lab error because samples preserved with nitric acid.

ANC = Analysis Not Conducted.

DATE	SITE	pH	TEMP (°C)	CBOD5 (MG/L)	TSS (MG/L)	TN (MG/L)	AMMONIA (MG/L)	TKN (MG/L)	TP (MG/L)	ORTHO-P (MG/L)
04/03/2012	Site #1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
04/03/2012	Site #2	5.62	19.2	14.0	410.0	Error	0.088	11.000	1.000	0.590
04/03/2012	Site #3	7.23	20.2	20.0	9.6	Error	3.300	0.090	1.100	0.880
04/03/2012	Site #4	7.39	24.7	4.2	7.2	Error	0.110	0.090	1.700	1.600
04/03/2012	Site #5	6.29	19.5	29.0	110.0	Error	0.470	4.600	1.500	0.760
04/03/2012	Site #6	6.75	21.4	<2.0	1.0	Error	0.076	2.900	0.023	0.052
04/18/2012	Site #1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
04/18/2012	Site #2	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
04/18/2012	Site #3	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
04/18/2012	Site #4	7.14	19.6	ANC	ANC	2.3	0.0870	2.1	1.100	ANC
04/18/2012	Site #5	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
04/18/2012	Site #6	6.72	18.7	ANC	ANC	5.4	<0.0090	5.2	0.250	ANC
04/23/2012	Site #1	7.75	25.0	ANC	ANC	3.1	ANC	2.8	1.400	ANC
04/23/2012	Site #2	7.61	17.7	ANC	ANC	5.9	ANC	5.7	0.550	ANC
04/23/2012	Site #3	6.00	15.3	ANC	ANC	5.4	ANC	5.1	0.960	ANC
04/23/2012	Site #4	7.32	16.2	ANC	ANC	4.8	ANC	4.6	1.600	ANC
04/23/2012	Site #5	6.53	15.2	ANC	ANC	73.0	ANC	72.0	4.700	ANC
04/23/2012	Site #6	6.54	14.5	ANC	ANC	17.0	ANC	17.0	0.620	ANC
07/26/2012	Site #1	6.44	25.7	7.0	19.0	4.3	0.2000	4.2	2.500	2.000
07/26/2012	Site #2	6.91	24.9	6.2	21.0	6.2	0.1300	6.1	1.800	1.300
07/26/2012	Site #3	6.35	24.6	10.0	9.8	4.4	0.4400	4.3	2.400	2.300
07/26/2012	Site #4	6.42	25.9	16.0	64.0	4.9	0.1400	4.8	1.700	1.200
07/30/2012	Site #5	6.24	26.5	5.4	58.0	2.3	0.0090	2.2	0.091	0.023
07/30/2012	Site #6	7.27	30.0	7.6	22.0	3.3	0.0650	3.2	1.000	0.800
10/09/2012	Site #1	6.68	23.7	<6.0	6.5	1.6	0.0820	1.6	0.860	0.530
10/09/2012	Site #2	6.28	25.2	<6.0	<5.0	2.1	0.0670	2.1	0.510	0.490
10/09/2012	Site #3	5.97	24.9	<6.0	17.0	2.3	0.4700	2.3	0.490	<1.000
10/09/2012	Site #4	6.93	25.8	<6.0	5.0	1.6	0.0630	1.6	2.300	2.100
10/09/2012	Site #5	5.92	24.3	<6.0	<5.0	1.7	0.0200	1.6	<0.050	<0.050
10/09/2012	Site #6	6.08	23.9	<6.0	21.5	3.4	0.0850	3.4	0.250	0.320
01/07/2013	Site #1	6.58	16.4	<2.0	11.5	1.8	0.0200	1.8	0.890	0.470
01/07/2013	Site #2	6.12	15.4	<3.0	<5.0	1.4	0.1200	1.4	2.200	0.270
01/07/2013	Site #3	6.50	15.1	4.4	5.0	2.2	0.2400	2.2	1.200	2.300
01/07/2013	Site #4	6.92	16.8	<2.0	16.0	1.9	0.0200	1.9	0.190	2.400
01/07/2013	Site #5	6.07	15.7	<2.0	36.5	2.0	<0.0200	2.0	0.050	<0.050
01/07/2013	Site #6	5.14	14.8	2.3	78.5	2.3	0.0200	2.3	0.160	<0.050

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The City of Altamonte Springs has collected data from its monitoring station in the Prairie Creek, and is working with the University of South Florida to upload the data into STORET. The following table shows the sampling results for the reporting period.

TABLE B-4: CITY OF ALTAMONTE SPRINGS SAMPLING RESULTS

DATE	SPECIFIC CONDUCTANCE (uS/cm)	pH	DO (mg/L)	TEMP (°C)	TSS (mg/L)	ALKALINITY (mg/L)	CHLOROPHYLL- A (CORRECTED) (mg/L)	BOD (mg/L)	TP (mg/L)	ORTHO-P (mg/L)	AMMONIA (mg/L)	NITRITE (mg/L)	NITRATE (mg/L)	TKN (mg/L)	TN (mg/L)
06/2012	231	7.87	6.31	27.6	3	52	1.64	2	0.05	0.01	0.02	0.005	0.004	0.74	0.745
07/2012	216	8.13	4.00	28.4	2	48	1.64	2	0.10	0.01	0.03	0.003	0.004	ERR	ERR
09/2012	213	8.54	5.57	28.7	1	48	2.05	3	0.03	0.02	0.02	0.004	0.003	0.74	0.74
11/2012	204	9.86	10.19	18.8	1	48	0.82	2	0.02	0.01	0.02	0.003	0.004	0.74	0.74
12/2012	217	8.17	5.13	22.3	2	50	2.46	2	0.02	0.01	0.02	0.003	0.004	0.56	0.56
01/2013	200	8.31	9.89	18.5	3	50	3.29	2	0.02	0.02	0.03	0.003	0.004	ERR	ERR
03/2013	179	7.91	10.4	17.0	3	52	2.28	2	0.02	0.01	0.02	0.003	0.004	0.88	0.88
04/2013	195	8.57	6.51	23.7	3	52	0.82	2	0.02	0.01	0.04	0.003	0.004	0.35	0.35
05/2013	189	7.58	6.20	23.4	3	48	2.88	2	0.11	0.04	0.02	0.003	0.004	0.48	0.48

The City of Maitland is currently working with the Department to upload its data to STORET. The following table shows the results of the sampling at the Lake Waumpi site during the reporting period.

TABLE B-5: CITY OF MAITLAND SAMPLING RESULTS

DATE	AMMONIA (mg/L)	CHLOROPHYLL-A CORRECTED (mg/L)	CONDUCTIVITY (uS/cm)	DO (mg/L)	pH	TEMP (°C)	NITRATE (mg/L)	NITRITE (mg/L)	TN (mg/L)	ORTHO-P (mg/L)	TKN (mg/L)	TP (mg/L)	TSS (mg/L)
07/2012	0.0100	3.34	300	2.73	6.72	27.0	0.050	0.05	1.120	0.1	1.020	0.0567	1.50
09/2012	0.0100	1.00	196	4.06	7.35	26.6	0.128	0.05	0.988	0.1	0.810	0.0297	1.63
10/2012	0.0100	1.12	199	4.74	6.85	25.4	0.187	0.05	0.807	0.1	0.570	0.0304	1.00
11/2012	0.0439	1.00	220	2.60	6.58	20.6	0.050	0.05	0.883	0.1	0.783	0.0441	1.63
12/2012	0.0614	11.40	229	3.26	6.64	21.8	0.170	0.05	1.410	0.1	1.190	0.0878	5.25
01/2013	0.0521	4.85	231	4.73	7.32	20.6	0.130	0.05	N/A	0.1	1.070	0.0876	3.75
02/2013	0.0371	3.05	229	4.84	7.41	18.3	0.050	0.05	N/A	0.1	0.716	0.0375	4.00
03/2013	0.0100	2.37	85	4.68	7.64	17.6	0.050	0.05	N/A	0.1	0.750	0.0446	1.75
04/2013	0.0100	10.70	231	5.33	7.24	25.3	0.050	0.05	N/A	0.1	1.270	0.0963	3.25
05/2013	0.0124	2.56	232	5.34	7.56	24.9	0.050	0.05	N/A	0.1	0.969	0.0243	1.88

The City of Orlando is in the process of uploading their data to STORET. The following table shows the results of their sampling at the Lake Rowena Canal site during the reporting period.

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TABLE B-6: CITY OF ORLANDO SAMPLING RESULTS

DATE	BOD (MG/L)	ALKALINITY (MG/L)	pH	DO (MG/L)	TEMP (°C)	TP (MG/L)	ORTHO- PHOSPHATE (MG/L)	TN (MG/L)	AMMONIA (MG/L)	NO3 (MG/L)	NO2 (MG/L)	TKN (MG/L)	TSS (MG/L)	CHLOROPHYLL -A (MG/M ³)	TURBIDITY (NTU)
06/27/2012	3.0	49.20	7.33	7.21	27.20	0.033	0.002	1.12	<0.01	0.02	<0.005	1.10	5.8	38	18.00
07/19/2012	3.8	45.20	7.58	7.28	29.90	0.032	0.002	0.91	0.02	<0.01	<0.005	0.91	7.0	98	20.90
08/16/2012	3.0	46.80	8.21	8.08	31.75	0.022	<0.002	0.82	<0.01	<0.01	<0.005	0.82	5.4	104	8.94
09/12/2012	2.5	50.10	6.77	-	28.40	0.022	<0.002	0.79	0.01	<0.01	<0.005	0.79	5.0	112	13.10
10/16/2012	2.6	48.90	7.10	-	26.90	0.027	<0.002	0.77	0.02	<0.01	<0.005	0.77	6.8	116	9.77
11/15/2012	2.8	52.50	6.73	7.91	21.00	0.032	0.003	0.86	<0.01	<0.01	<0.005	0.86	5.4	134	15.60
12/13/2012	2.5	54.70	6.59	7.39	21.30	0.027	<0.002	0.77	0.01	0.02	<0.005	0.75	4.6	114	15.80
01/16/2013	1.6	54.30	6.49	7.47	20.50	0.021	0.002	0.67	0.05	0.01	<0.005	0.66	4.0	126	8.52
02/13/2013	1.4	57.10	6.67	5.67	21.40	0.022	0.005	0.60	0.02	0.01	<0.005	0.59	2.8	124	1.09
03/13/2013	1.6	56.80	6.41	5.20	17.30	0.023	0.005	0.60	0.02	<0.01	<0.005	0.60	<2.0	106	<0.8
04/16/2013	1.7	50.80	6.80	6.54	24.90	0.023	0.003	0.43	0.02	<0.01	<0.005	0.43	2.4	126	4.09
05/16/2013	2.4	54.40	-	-	-	0.017	<0.002	0.64	<0.01	<0.01	<0.005	0.64	3.2	128	<0.8