

***Final***

***Lake Jesup***

***Basin Management Action Plan***

***Amendment***

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

with participation from the  
**Lake Jesup Basin Stakeholders**

**June 2019**

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## Acknowledgments

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This *2018 Lake Jesup Basin Management Action Plan Amendment* was prepared as part of a statewide watershed management approach to restore and protect Florida's water quality. It was prepared by the Florida Department of Environmental Protection in coordination with the Lake Jesup stakeholders.

### Lake Jesup stakeholders

| Type of Organization/Entity | Name                                                                                                                                                                                                                                                                                                                    |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Governments           | Orange County<br>Seminole County<br>City of Altamonte Springs<br>City of Casselberry<br>City of Lake Mary<br>City of Longwood<br>City of Maitland<br>City of Orlando<br>City of Oviedo<br>City of Sanford<br>City of Winter Park<br>City of Winter Springs<br>Town of Eatonville                                        |
| Regional and State Agencies | Florida Department of Agriculture and Consumer Services<br>Florida Department of Environmental Protection–Central District<br>Florida Department of Environmental Protection–Tallahassee<br>Florida Department of Transportation District 5<br>Florida Turnpike Enterprise<br>St. Johns River Water Management District |

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## List of Acronyms and Abbreviations

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|        |                                                                |
|--------|----------------------------------------------------------------|
| BMAP   | Basin Management Action Plan                                   |
| BMP    | Best Management Practice                                       |
| BOCC   | Board of County Commissioners                                  |
| BOD    | Biochemical Oxygen Demand                                      |
| CDS    | Continuous Deflective Separation (unit)                        |
| CR     | County Road                                                    |
| DEP    | Florida Department of Environmental Protection                 |
| DO     | Dissolved Oxygen                                               |
| EFDC   | Environmental Fluid Dynamics Code (model)                      |
| F.A.C. | Florida Administrative Code                                    |
| FDACS  | Florida Department of Agriculture and Consumer Services        |
| FDOT   | Florida Department of Transportation                           |
| F.S.   | Florida Statutes                                               |
| FSA    | Florida Stormwater Association                                 |
| FSAID  | Florida Statewide Agricultural Irrigation Demand (geodatabase) |
| FWRA   | Florida Watershed Restoration Act                              |
| FYN    | Florida Yards and Neighborhoods                                |
| HSPF   | Hydrological Simulation Program–FORTRAN (model)                |
| lbs/yr | Pounds Per Year                                                |
| mgd    | Million Gallons Per Day                                        |
| mg/L   | Milligrams Per Liter                                           |
| MS4    | Municipal Separate Storm Sewer System                          |
| N/A    | Not Applicable                                                 |
| NOI    | Notice of Intent                                               |
| NPDES  | National Pollutant Discharge Elimination System                |
| O&M    | Operations and Maintenance                                     |
| OAWP   | Office of Agricultural Water Policy                            |
| PLRG   | Pollutant Load Reduction Goal                                  |
| PSA    | Public Service Announcement                                    |
| RSF    | Regional Stormwater Facility                                   |
| RST    | Regional Stormwater Treatment                                  |
| SAV    | Submerged Aquatic Vegetation                                   |
| SJRWMD | St. Johns River Water Management District                      |
| SR     | State Road                                                     |
| STA    | Stormwater Treatment Area                                      |
| TBD    | To Be Determined                                               |
| TKN    | Total Kjeldahl nitrogen                                        |
| TMDL   | Total Maximum Daily Load                                       |
| TN     | Total Nitrogen                                                 |
| TP     | Total Phosphorus                                               |
| TSS    | Total Suspended Solids                                         |

|      |                                                   |
|------|---------------------------------------------------|
| USGS | U.S. Geological Survey                            |
| WASP | Water Quality Analysis Simulation Program (model) |
| WBID | Waterbody Identification (number)                 |
| WWTF | Wastewater Treatment Facility                     |

## **Chapter 1: Context, Purpose, and Scope of the Plan**

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Lake Jesup is one of the largest lakes in Central Florida and is part of the St. Johns River system (**Figure 1**). The Lake Jesup Basin Management Action Plan (BMAP) was adopted in 2010 to implement the adopted total maximum daily load (TMDL) for total phosphorus (TP). Because of uncertainties regarding the nitrogen dynamics in the system, the total nitrogen (TN) TMDL was not explicitly addressed in the 2010 BMAP; however, many of the actions implemented to address TP also resulted in TN reductions.

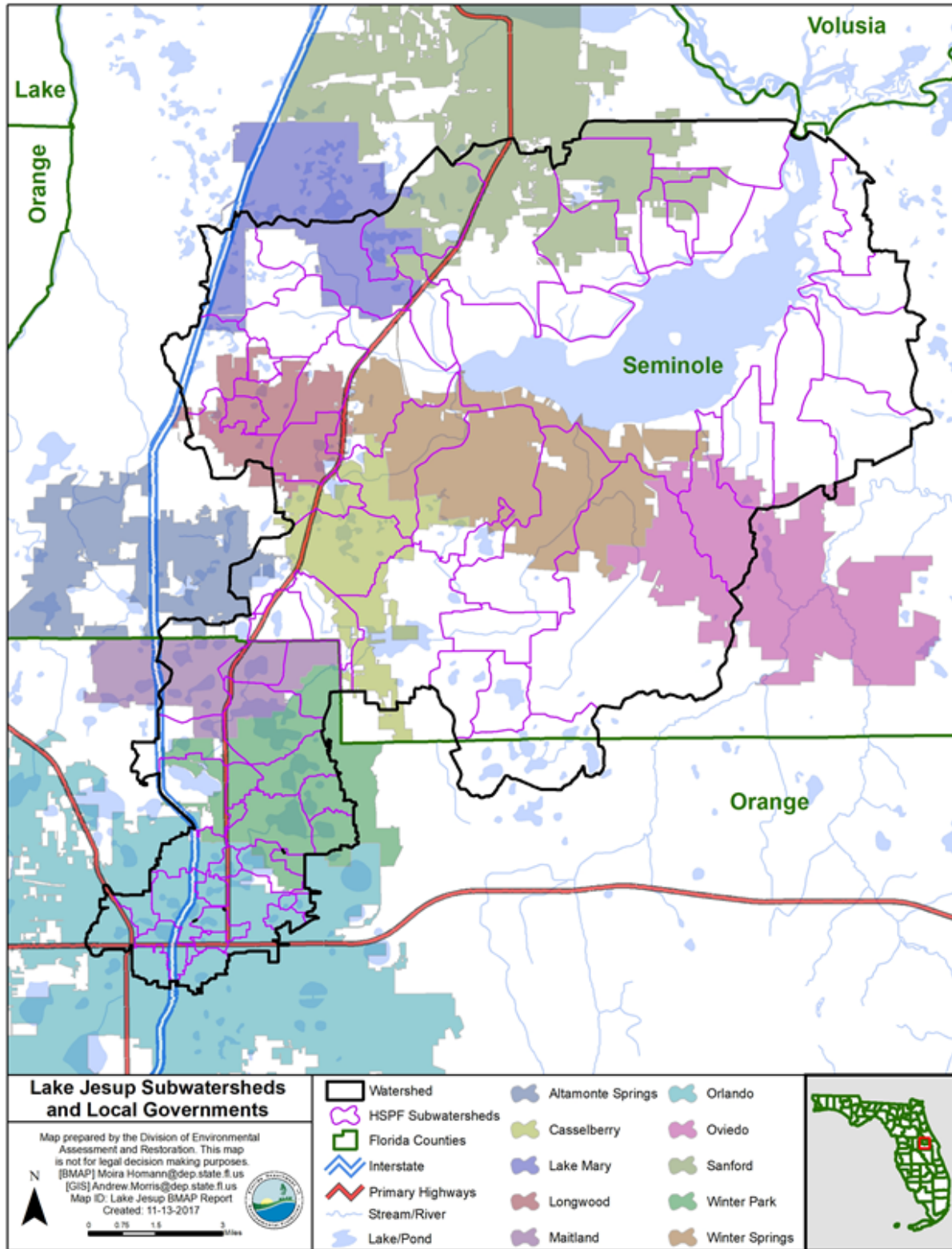
After the BMAP was adopted, the Florida Department of Environmental Protection (DEP) worked with the local stakeholders and St. Johns River Water Management District (SJRWMD) to gather additional data through monitoring and studies, which were then used to create more detailed models to evaluate the watershed nutrient loads, as well as the internal loading within the lake.

This 2018 BMAP Amendment is a supplement to the 2010 BMAP and is meant to be used in conjunction with the 2010 BMAP. The 2018 BMAP Amendment provides information on changes since the 2010 BMAP was adopted, including updates to the modeling, revised loading estimates from the watershed and the lake, updated allocations of load reductions to the responsible stakeholders, management actions to achieve nutrient reductions, and a revised monitoring plan to continue to track trends in water quality.

This amendment sets a deadline for achieving load reductions no later than 2030, which is 20 years after the initial BMAP adoption. The reductions are split, with at least half of the required reductions occurring within the next 5 years and the remaining reductions occurring by 2030. The 2010 BMAP had reductions spread over a 15-year period. The additional 5 years were added to account for the time that was needed to update the modeling before preparing this BMAP Amendment and to allow time to design, test, and implement in-lake projects.

The 2010 Lake Jesup BMAP remains in full force and effect, except as specifically modified by this document (hereafter referred to as the "2018 BMAP Amendment"). The BMAP provides for phased implementation under Subparagraph 403.067(7)(a)1., Florida Statutes (F.S.), and this adaptive management process will continue until the TMDLs are met. The phased BMAP approach allows for incrementally reducing loadings through the implementation of projects, while simultaneously monitoring and conducting studies to better understand water quality dynamics (sources and response variables) in each impaired waterbody.





**Figure 1. Lake Jesup and local government jurisdictions in the basin**

## 1.1 TMDLs

The Lake Jesup nutrient TMDL, adopted in 2006 (Gao 2006), identified the TP and TN loads that the lake could receive and still maintain designated uses for Class III waters. The 2010 BMAP focused on achieving TP reductions from the watershed. At the time of BMAP development, there were uncertainties about the TN contributions to the lake, especially the amount of TN loading from nitrogen fixation and sediment flux within the lake itself. As many of the management actions to reduce external TP loads also reduce TN loads, this approach to the BMAP partially addressed the TN TMDL.

To address the uncertainties related to the TN loads and the internal loads within the lake, the stakeholders and SJRWMD collected additional monitoring data and conducted studies to better understand the system dynamics. SJRWMD also developed a Hydrological Simulation Program–FORTRAN (HSPF) model for the watershed and Environmental Fluid Dynamics Code (EFDC) and Water Quality Analysis Simulation Program (WASP) models for the in-lake dynamics. These models were then refined by DEP with support from Tetra Tech, Inc. for use in evaluating the adopted TP and TN TMDLs and revising the BMAP allocations.

**Table 1** lists the Lake Jesup TMDLs for waterbody identification (WBID) number 2981, including 2981A. The TMDLs are adopted in rule, into Chapter 62-304.505(1), Florida Administrative Code (F.A.C.), as a load (see **Table 1**). To determine if these loads are being met, the target in-lake concentrations listed in the table need to be achieved. These concentrations are not part of the adopted rule but are the expected in-lake concentrations after the TMDLs have been attained.

**Table 1. TMDLs for Lake Jesup**

lbs/yr = Pounds per year; mg/L = Milligrams per liter

| WBID Number            | Parameter | TMDL (lbs/yr) | Target Concentration (mg/L) | NPDES Stormwater Wasteload Allocation (% reduction) | Load Allocation (% reduction) |
|------------------------|-----------|---------------|-----------------------------|-----------------------------------------------------|-------------------------------|
| 2981 (including 2981A) | TP        | 41,888        | 0.096                       | 34                                                  | 34                            |
| 2981 (including 2981A) | TN        | 545,203       | 1.27                        | 50                                                  | 50                            |

## 1.2 Stakeholder Involvement

Local stakeholders have been engaged in the process of updating the watershed and in-lake models and in determining the revised load reduction allocations. Their input informed and shaped the direction taken by DEP in revising the models and allocating the load reductions. Public meetings to discuss the model updates and allocation approach were held on September 9, 2015; December 8, 2015; February 11, 2016; February 19, 2016; June 22, 2016; April 13, 2017; and September 21, 2017. The purpose of these meetings was to solicit comments from all interested parties, disseminate information, and allow for public discussion. The public meetings

were formally noticed in the *Florida Administrative Register*. A public meeting was held on September 13, 2018, to present and receive public comment on the 2018 BMAP Amendment.

### **1.3 Key Elements of the 2018 BMAP Amendment**

The 2018 BMAP Amendment addresses the key elements required by the Florida Watershed Restoration Act (FWRA), Chapter 403.067, F.S., including the following:

- The appropriate management strategies to achieve TMDLs (**Chapter 4** and **Appendix B**).
- A description of best management practices (BMPs) adopted by rule (**Chapter 4** and **Appendix B**).
- A list of projects in priority ranking with a planning-level cost estimate and estimated date of completion for each listed project (**Appendix B**).
- The source and amount of financial assistance to be made available by DEP, a water management district, or other entity for each listed project, if applicable (**Appendix B**).
- A planning-level estimate of each listed project's expected load reduction (**Appendix B**).
- Milestones for implementation and water quality improvement (**Chapter 1** and **Section 6.2**).
- Water quality monitoring component sufficient to evaluate whether reasonable progress in pollutant load reductions is being achieved over time (**Chapter 5**).

## Chapter 2: Model Update

During the development of the 2010 BMAP, the stakeholders raised concerns about the BATHTUB water quality model used to develop the TMDLs. The main concerns were that the model did not account for the attenuation of nutrients in the watershed and that in-lake processes, such as nitrogen fixation and sediment flux, were not included. To address these concerns, DEP and SJRWMD committed to developing a new model during the first BMAP iteration to better represent Lake Jesup and its watershed.

After BMAP adoption, SJRWMD developed three models for Lake Jesup to set the pollutant load reduction goal (PLRG) for the lake. These models included the watershed HSPF model, in-lake hydrodynamics EFDC model, and in-lake water quality dynamics WASP model. These models provided more detailed watershed loading, updated land use coverage, updated urban BMPs coverage, and in-lake water quality dynamics, which were all improvements from the original BATHTUB model. SJRWMD completed the development of these models in 2015.

To develop the PLRG, SJRWMD focused on calibrating the HSPF model to the total watershed loading to the lake and including a general representation of the in-lake processes in the EFDC and WASP models. However, for BMAP purposes, DEP needed further model refinement to better represent the distribution of nutrient loading throughout the watershed and to account for the in-lake nutrient loading. DEP contracted with Tetra Tech, Inc. to evaluate and revise the models to meet the needs of the BMAP Program. The details for the model revisions are provided in the Lake Jesup modeling report (Tetra Tech 2017).

The updated models were calibrated using data collected by stakeholders through research projects and monitoring, and then run to determine the loading from various sources to Lake Jesup. **Table 2** summarizes the annual loading to Lake Jesup from the watershed, atmospheric deposition onto the lake, groundwater seepage to the lake, and sediment flux. **Figures 2 and 3** show the TP and TN loads by source, respectively.

**Table 1. Loading to Lake Jesup by source**

| Parameter | Watershed Load<br>(lbs/yr) | Atmospheric<br>Deposition Load<br>(lbs/yr) | Groundwater<br>Seepage Load<br>(lbs/yr) | Sediment<br>Flux Load<br>(lbs/yr) |
|-----------|----------------------------|--------------------------------------------|-----------------------------------------|-----------------------------------|
| TP        | 24,217                     | 9,600                                      | 10,907                                  | 24,000                            |
| TN        | 329,421                    | 84,000                                     | 103,175                                 | 83,800                            |

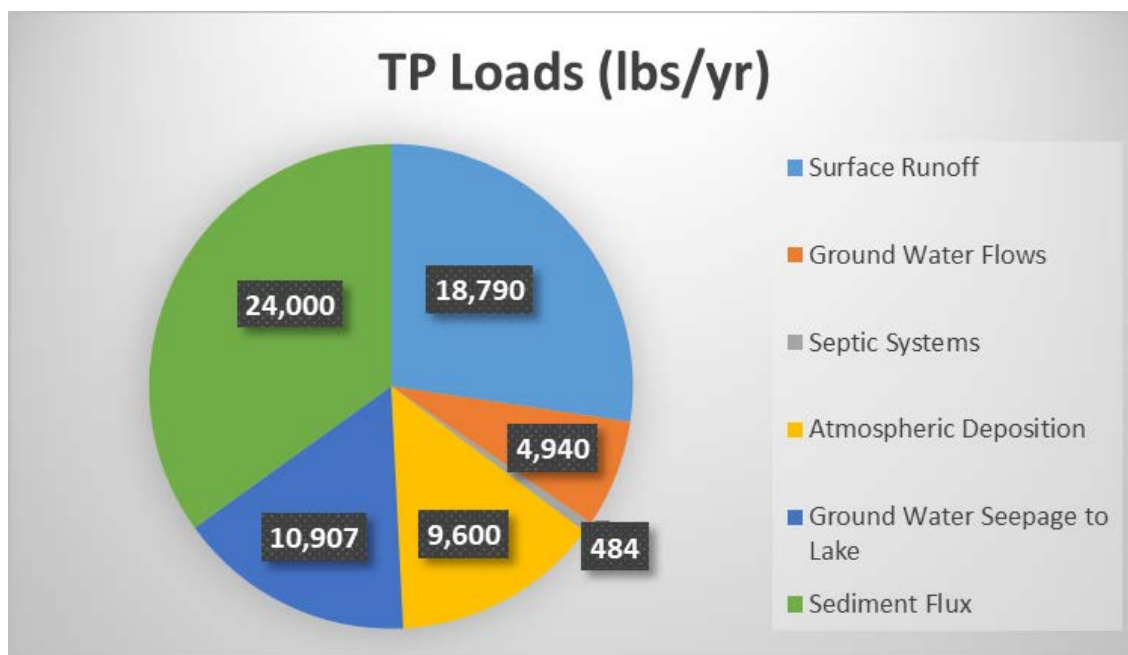


Figure 1. TP loading by source

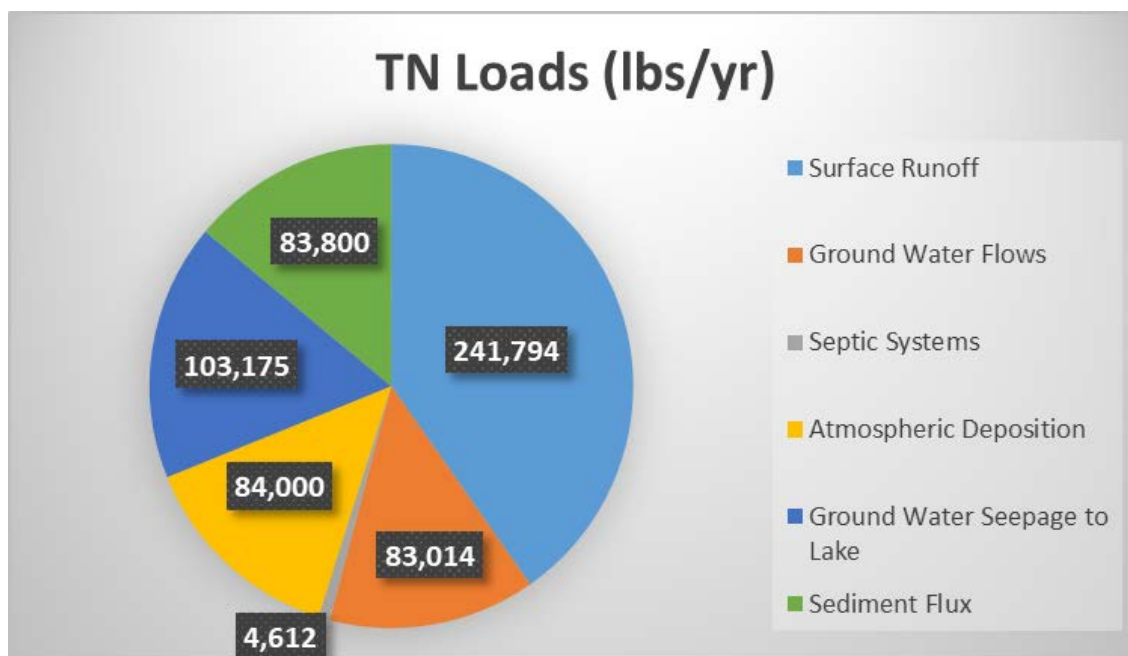


Figure 2. TN loading by source

## Chapter 3: Calculating and Allocating Load Reductions

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As noted in **Section 1.1**, the Lake Jesup TMDLs are adopted in rule as a load, with an allowable TP load from all sources of 41,888 lbs/yr and an allowable TN load from all sources of 545,203 lbs/yr. To determine if these loads are being met, in-lake concentrations of 0.096 mg/L of TP and 1.27 mg/L of TN need to be achieved. These concentrations are not part of the rule but are the expected in-lake concentrations after the TMDLs have been attained.

This section describes the process to calculate the load reductions needed to achieve the TMDL loads and to allocate the load reduction requirements to the responsible stakeholders.

### 3.1 Calculating Load Reductions

The TMDL allowable loads for TP and TN were compared with the total model loads from the watershed, groundwater, direct atmospheric deposition, nitrogen fixation, and sediment flux. The first step in calculating the load reductions was to account for the reduction in nitrogen fixation that would result from the nutrient reductions from other sources. Based on information in the TMDL document, as well as from studies by Dobberfuhl (2003), Huber et al. (1982), Paerl et al. (1987), and Philips et al. (2004), there should be a 95 % reduction in nitrogen fixation loads associated with reducing the watershed loading to the TMDL targets. This reduction is caused by the decrease in phytoplankton and nitrogen fixation biomass resulting from decreased nutrient inputs. In addition, the decrease in TP loading may make the system less nitrogen limited.

With this reduction in nitrogen fixation applied, DEP calculated that a reduction of 16.7 % in TN loading and 45.5 % in TP loading from the watershed, groundwater, and sediment flux would be needed to achieve the TMDL loads, which was a change from the original TMDL reductions of 50 % for TN and 34 % for TP (**Table 3**). The direct atmospheric deposition loads are not assigned a reduction per the TMDL. The TMDLs included a reduction to the St. Johns River loads. However, in the model update, Lake Jesup was determined to have a net export in loading to the river, and thus no reductions were assigned to the river in this iteration. Load reductions from the river will occur as part of upstream TMDL implementation.

The EFDC and WASP models were then run with the reductions in the watershed, groundwater, sediment flux, and nitrogen fixation loads. The resulting in-lake TN and TP concentrations were then compared with the TMDL target concentrations. The average TN concentration over a 7-year period in the TMDL scenario run was 1.25 mg/L, which meets the target TMDL concentration of 1.27 mg/L. The average TP concentration over a 7-year period in the TMDL scenario run was 0.073 mg/L, which meets the target TMDL concentration of 0.096 mg/L. Therefore, meeting the TMDL TN and TP loads will be expected to achieve the target in-lake concentrations. The BMAP will continue to be re-evaluated and adaptively managed to achieve the goal of restoring the lake to meet its designated uses.

**Table 3. Required reductions by source**

| Source                             | TN Existing Load (lbs/yr) | TN Allowable Load (lbs/yr) | TN % Reduction | TP Existing Load (lbs/yr) | TP Allowable Load (lbs/yr) | TP % Reduction |
|------------------------------------|---------------------------|----------------------------|----------------|---------------------------|----------------------------|----------------|
| <b>Watershed</b>                   | 329,421                   | 274,407                    | 16.7           | 24,217                    | 13,197                     | 45.5           |
| <b>Groundwater Seepage to Lake</b> | 103,175                   | 85,945                     | 16.7           | 10,907                    | 5,944                      | 45.5           |
| <b>Atmospheric Deposition</b>      | 84,000                    | 84,000                     | 0.0            | 9,600                     | 9,600                      | 0.0            |
| <b>Nitrogen Fixation</b>           | 633,894                   | 31,695                     | 95.0           | 0                         | 0                          | 0.0            |
| <b>Sediment Flux</b>               | 83,800                    | 69,852                     | 16.7           | 24,000                    | 13,080                     | 45.5           |
| <b>Total Load</b>                  | <b>1,234,290</b>          | <b>545,899</b>             |                | <b>68,724</b>             | <b>41,821</b>              |                |

## 3.2 Allocations

The outputs from the HSPF model for the watershed loads were used to calculate the TN and TP loads associated with each responsible stakeholder. The stakeholders provided updated jurisdictional boundary files that reflected changes made since the 2010 BMAP; these were used to clip (or assign) the model area to each entity's area of responsibility. The entities were clipped out as follows: (1) Florida Department of Transportation (FDOT) District 5 roads, swales, and rights-of-way; (2) Turnpike Authority roads, swales, and rights-of-way; (3) natural land uses, water, and wetlands; (4) agricultural lands; (5) Site 10 (owned by the City of Sanford); (6) each city and town; and (7) each county. **Table 4** summarizes the resulting area and loading assigned to each entity.

**Table 4. Acres and starting loads by entity**

| Entity                    | Area (acres)  | TN Load (lbs/yr) | TP Load (lbs/yr) |
|---------------------------|---------------|------------------|------------------|
| Agriculture               | 5,733         | 36,797           | 2,813            |
| City of Altamonte Springs | 235           | 289              | 11               |
| City of Casselberry       | 3,257         | 14,643           | 986              |
| City of Lake Mary         | 2,091         | 4,966            | 325              |
| City of Longwood          | 2,064         | 5,550            | 326              |
| City of Maitland          | 1,229         | 3,200            | 247              |
| City of Orlando           | 3,813         | 282              | 26               |
| City of Oviedo            | 2,504         | 23,309           | 1,866            |
| City of Sanford           | 3,997         | 21,286           | 2,399            |
| City of Winter Park       | 3,981         | 4,616            | 309              |
| City of Winter Springs    | 5,540         | 43,969           | 2,993            |
| FDOT District 5           | 1,030         | 4,645            | 402              |
| Orange County             | 1,680         | 3,648            | 126              |
| Seminole County           | 14,432        | 96,303           | 6,300            |
| Town of Eatonville        | 112           | 95               | 9                |
| Turnpike Authority        | 668           | 5,107            | 466              |
| Site 10                   | 532           | 3,835            | 266              |
| Natural Lands             | 32,360        | 56,881           | 4,347            |
| <b>Totals</b>             | <b>85,258</b> | <b>329,421</b>   | <b>24,217</b>    |

The allowable loading to meet the TMDLs was calculated by multiplying the total starting load by the percent required reduction for TN and TP (**Table 5**). While reductions to attain the TMDLs may come from any source, the focus is on reductions from anthropogenic sources. Therefore, the loads associated with the natural lands were subtracted from the allowable watershed loads to determine the allowable loads for anthropogenic (urban and agricultural) lands. **Table 6** summarizes the anthropogenic allowable loads.

**Table 5. Allowable watershed loads**

| Parameter | Watershed Starting Load (lbs/yr) | % Reduction | Allowable Watershed Load (lbs/yr) |
|-----------|----------------------------------|-------------|-----------------------------------|
| TN        | 329,421                          | 16.7        | 274,408                           |
| TP        | 24,217                           | 45.5        | 13,198                            |

**Table 6. Anthropogenic allowable loads**

| Load Source               | TN Load (lbs/yr) | TP Load (lbs/yr) |
|---------------------------|------------------|------------------|
| TMDL allowable load       | 274,408          | 13,198           |
| Natural areas load        | 56,881           | 4,347            |
| Anthropogenic target load | 217,527          | 8,851            |



Required reductions were then assigned to the stakeholders based on the percentage of the starting load from each stakeholder. This approach keeps the loading from each entity proportionate, so that each entity receives the same percent reduction requirement. **Table 7** lists the total required reductions to meet the TMDL target loads. The percent reductions in TN and TP listed in this table are greater than the calculated percentages because all reductions are assumed to come from anthropogenic sources. The same allocation approach was used in the 2010 BMAP.

**Table 7. Required reductions by entity**

| Entity                    | TN Starting Load (lbs/yr) | TN Required Reduction (lbs/yr) | % TN Reduction | TP Starting Load (lbs/yr) | TP Required Reduction (lbs/yr) | % TP Reduction |
|---------------------------|---------------------------|--------------------------------|----------------|---------------------------|--------------------------------|----------------|
| Agriculture               | 36,797                    | 7,428                          | 20.2           | 2,813                     | 1,560                          | 55.5           |
| City of Altamonte Springs | 289                       | 58                             | 20.2           | 11                        | 6                              | 55.5           |
| City of Casselberry       | 14,643                    | 2,956                          | 20.2           | 986                       | 547                            | 55.5           |
| City of Lake Mary         | 4,966                     | 1,002                          | 20.2           | 325                       | 180                            | 55.5           |
| City of Longwood          | 5,550                     | 1,120                          | 20.2           | 326                       | 181                            | 55.5           |
| City of Maitland          | 3,200                     | 646                            | 20.2           | 247                       | 137                            | 55.5           |
| City of Orlando           | 282                       | 57                             | 20.2           | 26                        | 14                             | 55.5           |
| City of Oviedo            | 23,309                    | 4,705                          | 20.2           | 1,866                     | 1,035                          | 55.5           |
| City of Sanford           | 21,286                    | 4,297                          | 20.2           | 2,399                     | 1,330                          | 55.5           |
| City of Winter Park       | 4,616                     | 932                            | 20.2           | 309                       | 171                            | 55.5           |
| City of Winter Springs    | 43,969                    | 8,875                          | 20.2           | 2,993                     | 1,660                          | 55.5           |
| FDOT District 5           | 4,645                     | 938                            | 20.2           | 402                       | 223                            | 55.5           |
| Orange County             | 3,648                     | 736                            | 20.2           | 126                       | 70                             | 55.5           |
| Seminole County           | 96,303                    | 19,439                         | 20.2           | 6,300                     | 3,494                          | 55.5           |
| Town of Eatonville        | 95                        | 19                             | 20.2           | 9                         | 5                              | 55.5           |
| Turnpike Authority        | 5,107                     | 1,031                          | 20.2           | 466                       | 258                            | 55.5           |
| Site 10                   | 3,835                     | 774                            | 20.2           | 266                       | 148                            | 55.5           |
| <b>Totals</b>             | <b>272,540</b>            | <b>55,013</b>                  |                | <b>19,870</b>             | <b>11,019</b>                  |                |

DEP is requiring each entity to achieve at least 50 % of its required TN and TP reductions within the next 5 years (**Table 8**).

**Table 8. Required reductions for next five years by entity**

| Entity                    | TN Required Reduction<br>(lbs/yr) | TP Required Reduction<br>(lbs/yr) |
|---------------------------|-----------------------------------|-----------------------------------|
| Agriculture               | 3,714                             | 780                               |
| City of Altamonte Springs | 29                                | 3                                 |
| City of Casselberry       | 1,478                             | 273                               |
| City of Lake Mary         | 501                               | 90                                |
| City of Longwood          | 560                               | 90                                |
| City of Maitland          | 323                               | 68                                |
| City of Orlando           | 28                                | 7                                 |
| City of Oviedo            | 2,353                             | 517                               |
| City of Sanford           | 2,148                             | 665                               |
| City of Winter Park       | 466                               | 86                                |
| City of Winter Springs    | 4,438                             | 830                               |
| FDOT District 5           | 469                               | 111                               |
| Orange County             | 368                               | 35                                |
| Seminole County           | 9,720                             | 1,747                             |
| Town of Eatonville        | 10                                | 2                                 |
| Turnpike Authority        | 515                               | 129                               |
| Site 10                   | 387                               | 74                                |
| <b>Totals</b>             | <b>27,507</b>                     | <b>5,507</b>                      |

### **3.2.1 Low-Priority Ranking Determination**

Several stakeholders contribute less than 1 % of both the TP and TN loading from the watershed to Lake Jesup. The contribution to the overall nutrient loading from these stakeholders is low enough that reductions from these areas would have essentially no impact on the required reductions for the BMAP at this time. Therefore, these entities are currently considered a low priority for implementing reductions.

**Tables 9 and 10** summarize the priority evaluation, and those stakeholders meeting the classification requirements for low priority are highlighted in green. Stakeholders that met the low-priority classification include the City of Altamonte Springs, the City of Orlando, and the Town of Eatonville. These entities are not required to meet the first five-year reduction target for TP and TN but must continue to adhere to all requirements of their municipal separate storm sewer system (MS4) permits.

BMAP progress will be reviewed over time, and reduction requirements, including for those stakeholders with this low-priority status, will be updated in a future BMAP amendment, as needed. TP and TN reductions may be needed from the low-priority entities in the future. Therefore, although they do not currently have a reduction responsibility, these stakeholders are not exempt from such requirements in future BMAP amendments. Any actions taken by these

entities that result in TP and TN reductions will be documented for credit against any reduction requirements allocated in subsequent BMAP amendments.

**Table 9. Summary of low-priority ranking for TP loads**

**Note:** Green highlighting and boldface type indicate jurisdictions meeting the classification requirements for low priority.

| <b>Entity</b>                    | <b>TP Load<br/>(lbs/yr)</b> | <b>% of Total TP Load</b> |
|----------------------------------|-----------------------------|---------------------------|
| <b>Seminole County</b>           | 6,300                       | 31.7                      |
| <b>City of Winter Springs</b>    | 2,993                       | 15.1                      |
| <b>Agriculture</b>               | 2,813                       | 14.2                      |
| <b>City of Sanford</b>           | 2,399                       | 12.1                      |
| <b>City of Oviedo</b>            | 1,866                       | 9.4                       |
| <b>City of Casselberry</b>       | 986                         | 5.0                       |
| <b>Turnpike Authority</b>        | 466                         | 2.3                       |
| <b>FDOT District 5</b>           | 402                         | 2.0                       |
| <b>City of Longwood</b>          | 326                         | 1.6                       |
| <b>City of Lake Mary</b>         | 325                         | 1.6                       |
| <b>City of Winter Park</b>       | 309                         | 1.6                       |
| <b>Site 10</b>                   | 266                         | 1.3                       |
| <b>City of Maitland</b>          | 247                         | 1.2                       |
| <b>Orange County</b>             | 126                         | 0.6                       |
| <b>City of Orlando</b>           | 26                          | <b>0.1</b>                |
| <b>City of Altamonte Springs</b> | 11                          | <b>0.1</b>                |
| <b>Town of Eatonville</b>        | 9                           | <b>0.0</b>                |
| <b>Totals</b>                    | <b>19,870</b>               | <b>100.0</b>              |

**Table 10. Summary of low-priority ranking calculations for TN loads**

**Note:** Green highlighting and boldface type indicate jurisdictions meeting the classification requirements for low priority.

| Entity                    | TN Load<br>(lbs/yr) | % of Total TN Load |
|---------------------------|---------------------|--------------------|
| Seminole County           | 96,303              | 35.3               |
| City of Winter Springs    | 43,969              | 16.1               |
| Agriculture               | 36,797              | 13.5               |
| City of Oviedo            | 23,309              | 8.6                |
| City of Sanford           | 21,286              | 7.8                |
| City of Casselberry       | 14,643              | 5.4                |
| City of Longwood          | 5,550               | 2.0                |
| Turnpike Authority        | 5,107               | 1.9                |
| City of Lake Mary         | 4,966               | 1.8                |
| FDOT District 5           | 4,645               | 1.7                |
| City of Winter Park       | 4,616               | 1.7                |
| Site 10                   | 3,835               | 1.4                |
| Orange County             | 3,648               | 1.3                |
| City of Maitland          | 3,200               | 1.2                |
| City of Altamonte Springs | 289                 | <b>0.1</b>         |
| City of Orlando           | 282                 | <b>0.1</b>         |
| Town of Eatonville        | 95                  | <b>0.0</b>         |
| <b>Totals</b>             | <b>272,540</b>      | <b>100.0</b>       |

### 3.3 In-Lake Reductions

Reductions in loads from in-lake sources are also needed to achieve the TMDLs. **Table 11** summarizes the total and five-year required TN and TP reductions.

**Table 11 Required in-lake reductions**

| Source                      | TN Required<br>Reduction<br>(lbs/yr) | TP Required<br>Reduction<br>(lbs/yr) | Five-Year TN<br>Required<br>Reduction<br>(lbs/yr) | Five-Year TP<br>Required<br>Reduction<br>(lbs/yr) |
|-----------------------------|--------------------------------------|--------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Groundwater Seepage to Lake | 17,230                               | 4,963                                | 8,615                                             | 2,482                                             |
| Sediment Flux               | 13,948                               | 10,920                               | 6,974                                             | 5,460                                             |
| <b>Totals</b>               | <b>31,178</b>                        | <b>15,883</b>                        | <b>15,589</b>                                     | <b>7,942</b>                                      |

## Chapter 4: Management Actions

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Management actions refer to the suite of structural and nonstructural activities that the Lake Jesup BMAP entities will be conducting to achieve their required TP and TN reductions. The projects submitted by the entities to achieve at least their five-year required reductions are summarized in the tables in **Appendix B**. These projects were submitted to provide reasonable assurance to DEP that each entity has a plan on how it will meet its allocations. However, this list of projects is meant to be flexible and allow for changes over time, provided that the required reduction is still met within the specified time frame. New projects that meet the required nutrient reductions may be substituted for those identified in **Appendix B** during the statewide annual report process.

### 4.1 Urban BMPs and Eligibility

Management actions were required to meet certain criteria to be considered eligible for credit in the BMAP. The management actions must reduce TN and/or TP loads. The HSPF model included urban structural BMPs completed as of the 2013 Lake Jesup BMAP Progress Report. Therefore, urban structural projects completed since January 1, 2013, and planned in the future were eligible for BMAP credit. Any completed projects that were missing from the model were given credit in this report. Urban structural projects only received credit for the portion of the load reduction that was over and above any permit requirements. This criterion was needed since permit conditions are established to prevent impacts from the development and do not contribute to water quality improvement.

Public education and outreach efforts and nonstructural projects were eligible for BMAP credit regardless of when they were implemented, because these efforts were not included in the HSPF model. Estimates of TN and TP reductions from street sweeping and BMP clean out were made using a tool developed by the Florida Stormwater Association (FSA) in 2012, based on data collected by Sansalone et al. (2011) that uses the volume or weight of material removed to estimate the pounds of TN and TP removed.

**Table 12** summarizes the total required reductions and the credits for completed and planned projects for each entity. **Appendix B** includes the project details.

**Table 12. Urban TN and TP load reductions**

\* Low-priority entity that does not have to achieve the required reductions for this BMAP amendment.

| Entity                     | TN Full Required Reduction (lbs/yr) | TN Completed and Planned Project Credits (lbs/yr) | % of TN Reductions Achieved | TP Full Required Reduction (lbs/yr) | TP Completed and Planned Project Credits (lbs/yr) | % of TP Reductions Achieved |
|----------------------------|-------------------------------------|---------------------------------------------------|-----------------------------|-------------------------------------|---------------------------------------------------|-----------------------------|
| City of Altamonte Springs* | 58                                  | 50                                                | 86.2                        | 6                                   | 13                                                | 216.7                       |
| City of Casselberry        | 2,956                               | 2,398                                             | 81.1                        | 547                                 | 850                                               | 155.4                       |
| City of Lake Mary          | 1,002                               | 593                                               | 59.2                        | 180                                 | 97                                                | 53.9                        |
| City of Longwood           | 1,120                               | 2,191                                             | 195.6                       | 181                                 | 323                                               | 178.5                       |
| City of Maitland           | 646                                 | 407                                               | 63.0                        | 137                                 | 290                                               | 211.7                       |
| City of Orlando*           | 57                                  | 147                                               | 257.9                       | 14                                  | 97                                                | 692.9                       |
| City of Oviedo             | 4,705                               | 3,027                                             | 64.3                        | 1,035                               | 517                                               | 50.0                        |
| City of Sanford            | 4,297                               | 13,667                                            | 318.1                       | 1,330                               | 2,849                                             | 214.2                       |
| City of Winter Park        | 932                                 | 743                                               | 79.7                        | 171                                 | 321                                               | 187.7                       |
| City of Winter Springs     | 8,875                               | 5,182                                             | 58.4                        | 1,660                               | 937                                               | 56.4                        |
| FDOT District 5            | 938                                 | 1,807                                             | 192.6                       | 223                                 | 901                                               | 404.0                       |
| Orange County              | 736                                 | 1,002                                             | 136.1                       | 70                                  | 182                                               | 260.0                       |
| Seminole County            | 19,439                              | 43,019                                            | 221.3                       | 3,494                               | 5,485                                             | 157.0                       |
| Town of Eatonville*        | 19                                  | 1                                                 | 5.3                         | 5                                   | 0                                                 | 0.0                         |
| Turnpike Authority         | 1,031                               | 1,003                                             | 97.3                        | 258                                 | 131                                               | 50.8                        |
| Site 10                    | 774                                 | 1,150                                             | 148.6                       | 148                                 | 146                                               | 98.6                        |
| <b>Totals</b>              | <b>47,585</b>                       | <b>76,387</b>                                     | <b>160.5</b>                | <b>9,459</b>                        | <b>13,139</b>                                     | <b>138.9</b>                |

## 4.2 Agricultural BMPs

Agricultural BMPs were eligible for BMAP credit regardless of when they were implemented because these BMPs were not included in the HSPF model. Agricultural nonpoint sources in a BMAP area are required by state law (Subsection 403.067[7], F.S.) either to submit a notice of intent (NOI) and implement the Florida Department of Agriculture and Consumer Services (FDACS)-adopted BMPs, which provide a presumption of compliance with water quality standards, or to conduct water quality monitoring prescribed by DEP or SJRWMD. Failure either to implement BMPs or conduct monitoring may result in enforcement action by DEP or SJRWMD.

FDACS identified potential land that could be enrolled in the BMP Program in the Lake Jesup Basin by creating a composite agricultural land use coverage using a combination of the HSPF modeled land use, 2009 SJRWMD land use, and Florida Statewide Agricultural Irrigation Demand (FSAID) geodatabase IV. **Table 13** summarizes the composite land use data for agriculture in the Lake Jesup Basin. The total agricultural land in the watershed is 4,567 acres,

which is slightly less than the 4,824 acres shown in the 2010 BMAP. This difference is because of the updated information from the land use and FSAID IV data.

**Table 13. Agricultural land use in the Lake Jesup Basin**

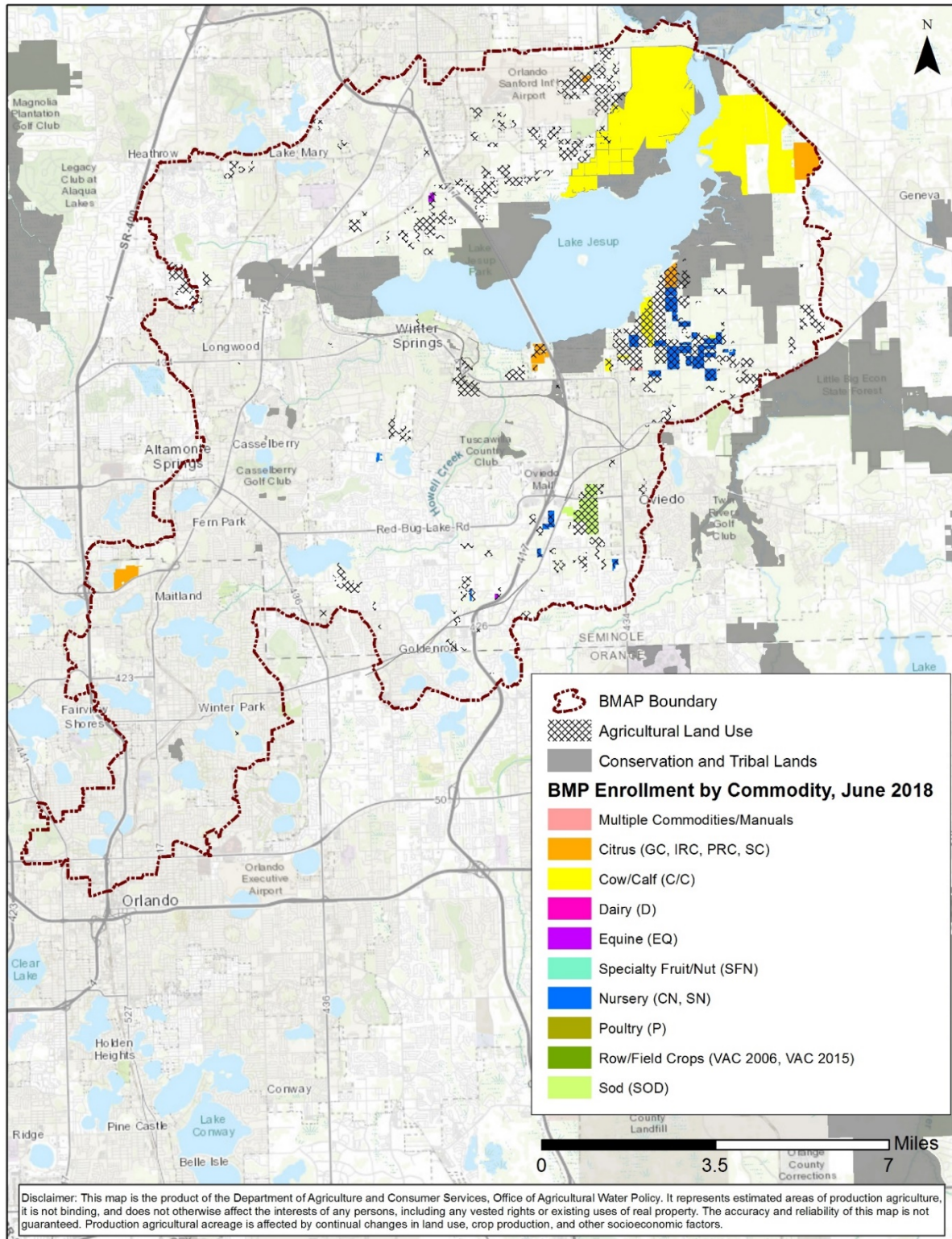
| Land Use          | Acres        |
|-------------------|--------------|
| Citrus            | 538          |
| Field Crops       | 185          |
| Horse Farms       | 344          |
| Nursery           | 1,088        |
| Ornamentals       | 53           |
| Row Crops         | 112          |
| Sod               | 258          |
| Tree Crops        | 3            |
| Vegetables        | 7            |
| Woodland Pastures | 227          |
| Improved Pastures | 1,752        |
| <b>Total</b>      | <b>4,567</b> |

During the next five years, FDACS will proactively seek the further enrollment of producers in the BMAP area. As of June 30, 2018, NOIs cover 1,022 agricultural acres in the Lake Jesup BMAP area (**Table 14** and **Figure 2**). In the 2010 BMAP, 209 acres had NOIs. No producers are conducting water quality monitoring in lieu of implementing BMPs at this time.

**Table 14. Agricultural acreage and BMP enrollment as of June 30, 2018**

| Related FDACS BMP Programs | NOI Acreage Enrolled | Composite Agricultural Land Use Acres within NOIs |
|----------------------------|----------------------|---------------------------------------------------|
| Citrus                     | 449                  | 112                                               |
| Cow/Calf Operations        | 3,869                | 169                                               |
| Equine                     | 18                   | 17                                                |
| Nurseries                  | 539                  | 507                                               |
| Sod Operations             | 234                  | 210                                               |
| Multiple Commodities       | 7                    | 7                                                 |
| <b>Totals</b>              | <b>5,116</b>         | <b>1,022</b>                                      |





**Figure 4. Agricultural BMP enrollment in the Lake Jesup Basin**



### 4.3 Description of BMPs Adopted by Rule

**Table 15** identifies the adopted BMPs and BMP manuals relevant to this BMAP.

**Table 15. BMPs and BMP manuals adopted by rule as of June 2019**

| Agency                                                       | F.A.C. Chapter | Chapter Title                                              |
|--------------------------------------------------------------|----------------|------------------------------------------------------------|
| <b>FDACS Office of Agricultural Water Policy (OAWP)</b>      | 5M-6           | Florida Container Nursery BMP Guide                        |
| <b>FDACS OAWP</b>                                            | 5M-8           | BMPs for Florida Vegetable and Agronomic Crops             |
| <b>FDACS OAWP</b>                                            | 5M-9           | BMPs for Florida Sod                                       |
| <b>FDACS OAWP</b>                                            | 5M-11          | BMPs for Florida Cow/Calf Operations                       |
| <b>FDACS OAWP</b>                                            | 5M-12          | Conservation Plans for Specified Agricultural Operations   |
| <b>FDACS OAWP</b>                                            | 5M-13          | BMPs for Florida Specialty Fruit and Nut Crop Operations   |
| <b>FDACS OAWP</b>                                            | 5M-14          | BMPs for Florida Equine Operations                         |
| <b>FDACS OAWP</b>                                            | 5M-16          | BMPs for Florida Citrus                                    |
| <b>FDACS OAWP</b>                                            | 5M-17          | BMPs for Florida Dairies                                   |
| <b>FDACS OAWP</b>                                            | 5M-18          | Florida Agriculture Wildlife BMPs                          |
| <b>FDACS OAWP</b>                                            | 5M-19          | BMPs for Florida Poultry                                   |
| <b>FDACS Division of Agricultural Environmental Services</b> | 5E-1           | Fertilizer                                                 |
| <b>FDACS Division of Aquaculture</b>                         | 5L-3           | Aquaculture BMPs                                           |
| <b>FDACS Florida Forest Service</b>                          | 5I-6           | BMPs for Silviculture                                      |
| <b>FDACS Florida Forest Service</b>                          | 5I-8           | Florida Forestry Wildlife BMPs for State Imperiled Species |
| <b>DEP</b>                                                   | 62-330         | Environmental Resource Permitting                          |

### 4.4 Restoration Projects

In addition to the stakeholder projects to reduce nutrient loads to Lake Jesup, there are also restoration projects that have been completed or are planned. While these projects may not result in quantifiable nutrient load reductions, they will help to improve the health of the lake and other waterbodies in the watershed. **Table 16** summarizes these restoration projects.

**Table 16. Lake Jesup restoration projects**

TBD = To be determined; N/A = Not applicable.

| Entity                     | Project Name                                              | Project Description                                                                                                                                                                                                                       | Start Date | Completion Date | Cost      |
|----------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|-----------|
| <b>City of Casselberry</b> | North Lake Triplet Shoreline Revegetation                 | Remove existing nuisance vegetation from north and west shores of North Lake Triplet and replace with beneficial species; install reverse berm and swale.                                                                                 | 12/1/2007  | 9/1/2015        | \$80,000  |
| <b>City of Casselberry</b> | Middle Lake Triplet Shoreline Revegetation                | Remove existing nuisance vegetation from north shore of Middle Lake Triplet and replace with beneficial species.                                                                                                                          | 2/1/2014   | 9/1/2014        | \$140,000 |
| <b>Orange County</b>       | Winter Park Pines Outfall Bank Stabilization (E-3-B)      | Project involves enclosing 1,100 feet of open canal with new conveyance pipe (541 feet of 42-inch reinforced concrete pipe and 520 feet of 48-inch reinforced concrete pipe).                                                             | N/A        | 2017            | \$498,094 |
| <b>Orange County</b>       | Winter Park Pines Outfall Bank Stabilization (E-3-H)      | Project involves installing stepped sheet pile weir with concrete cap and regrading of side slopes upstream of proposed weir. Project also includes installing concrete ditch pavement, riprap, and permanent turf reinforcement matting. | TBD        | 2019            | \$600,000 |
| <b>Seminole County</b>     | Lake Jesup Submerged Aquatic Vegetation (SAV) Restoration | Planted 2 acres of eel grass near Marlbed Flats.                                                                                                                                                                                          | 4/1/2012   | 3/1/2013        | \$10,000  |
| <b>Seminole County</b>     | Lake Howell Restoration Events                            | In-lake revegetation of submersed and emergent plants by residents and volunteers; 7 events held to date.                                                                                                                                 | 2011       | Ongoing         | \$10,000  |
| <b>Seminole County</b>     | Lake Burkett/ Martha Restoration Events                   | In-lake revegetation of submersed and emergent plants by residents and volunteers; 3 events held to date.                                                                                                                                 | 2013       | Ongoing         | \$1,000   |

| Entity          | Project Name                                                            | Project Description                                                                                                                                              | Start Date | Completion Date                                           | Cost      |
|-----------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------|-----------|
| Seminole County | Bear Gully Lake Restoration Events                                      | In-lake revegetation of submersed and emergent plants by residents and volunteers; 2 events held to date.                                                        | 2011       | Ongoing                                                   | \$10,000  |
| Seminole County | Lake Jesup SAV Restoration                                              | Planting of 2 acres of eel grass within containment, to reestablish SAV in lake; completed by staff and volunteers; multiple events have been completed to date. | 2011       | Ongoing                                                   | \$10,000  |
| Seminole County | Lake Jesup Shoreline Restoration at 2 County Parks (Jesup and Overlook) | In-lake revegetation of shoreline emergent plants by contractors that is monitored by county staff and maintained with herbicides for invasive plant management. | 2011       | Ongoing—2 County park lands completed to date             | \$50,000  |
| Seminole County | Lake Jesup Shoreline Restoration                                        | In-lake revegetation of shoreline emergent plants by contractors.                                                                                                | 2011       | Ongoing—17,000 linear feet of shoreline completed to date | \$90,000  |
| Seminole County | Lake Jesup Shoreline Restoration at Black Hammock Fish Camp             | In-lake revegetation of submersed emergent plants by residents and volunteers; 2 events held to date.                                                            | 2016       | Ongoing                                                   | \$2,000   |
| Seminole County | Lake Jesup Shoreline Restoration                                        | Herbicide and removal of invasive vegetation along north and south shore.                                                                                        | 2015       | Ongoing                                                   | \$100,000 |
| Seminole County | Lake Tuskawilla Restoration Events                                      | In-lake revegetation of submersed and emergent plants by residents and volunteers; 6 events held to date.                                                        | 2011       | Ongoing                                                   | \$5,000   |
| Seminole County | Lake Jesup Shoreline Restoration at County Park (Overlook)              | In-lake revegetation of shoreline emergent plants by staff and volunteers; 1 event held to date.                                                                 | 2017       | Ongoing                                                   | \$1,000   |
| Seminole County | Lake Jesup Shoreline Restoration                                        | In-lake revegetation of shoreline emergent plants by staff and volunteers (north shore).                                                                         | 2018       | Ongoing                                                   | \$5,000   |

| Entity                                            | Project Name                                  | Project Description                                                                                       | Start Date | Completion Date | Cost     |
|---------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------|-----------------|----------|
| <b>Seminole County</b>                            | Kids House Pond (Ronald Reagan Blvd, Sanford) | In-pond revegetation of submersed and emergent plants by staff and volunteers; 3 events held.             | 2015       | 2016            | \$500    |
| <b>Seminole County</b>                            | English Estates Pond                          | In-pond revegetation of submersed and emergent plants by residents and volunteers; 1 event held to date.  | 2018       | Ongoing         | \$500    |
| <b>Seminole County</b>                            | Soldier's Creek Park Pond                     | In-pond revegetation of submersed and emergent plants by staff and volunteers; 1 event held to date.      | 2017       | Ongoing         | \$1,000  |
| <b>Seminole County</b>                            | Red Bug Lake Park Shoreline Restoration       | In-lake revegetation of emergent plants by volunteers; 3 events held to date.                             | 2015       | ongoing         | \$1,500  |
| <b>Seminole County</b>                            | Lake Kewannee Restoration Event               | In-lake revegetation of submersed and emergent plants by county contractor; 3 events held to date.        | 2013       | Ongoing         | \$1,500  |
| <b>Seminole County</b>                            | Lake of the Woods Restoration Events          | In-lake revegetation of submersed and emergent plants by residents and volunteers; 3 events held to date. | 2014       | Ongoing         | \$1,500  |
| <b>Seminole County and City of Winter Springs</b> | Solary Canal Shoreline Replanting             | Replant shoreline with beneficial natives.                                                                | Planned    | TBD             | \$80,000 |

## 4.5 Studies

To continue to learn more about the dynamics in the watershed, several stakeholders have studies planned or underway, as described in **Table 17**.

**Table 17. Studies in the Lake Jesup Basin**

N/A = Not applicable

| Entity                 | Project Name                                              | Project Description                                                                                                                                                                                      | Start Date | Completion Date | Cost         | Comments                                                                                                                                                         |
|------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Orange County</b>   | Lake Burkett Hydrologic and Nutrient Pollutant Assessment | Assessment characterizes sources and their relative contribution to nutrient pollutant budget. Data and information in report are used to produce ranked list of BMPs intended to improve water quality. | 4/5/2016   | 10/30/2018      | \$181,839    | Stakeholders can use data and information from assessment to inform TMDL, provide allocation information in watershed, and identify potential BMP effectiveness. |
| <b>Orange County</b>   | Lake Martha Hydrologic and Nutrient Pollutant Assessment  | Assessment characterizes sources and their relative contribution to nutrient pollutant budget. Data and information in report are used to produce ranked list of BMPs intended to improve water quality. | 4/5/2016   | 10/30/2018      | \$176,444    | Stakeholders can use data and information from assessment to inform TMDL, provide allocation information in watershed, and identify potential BMP effectiveness. |
| <b>Seminole County</b> | Cassel Creek Reginal Stormwater Facility (RSF) Phase II   | Investigate Cassel Creek RSF area for projects to increase pollutant load removal.                                                                                                                       | 1/1/2016   | Ongoing         | Not provided | N/A                                                                                                                                                              |
| <b>Seminole County</b> | Howell Creek Nutrient Removal Pilot Project               | Install and monitor bioreactor with biosorptive media to treat baseflow.                                                                                                                                 | 2018       | 2018            | \$45,000     | N/A                                                                                                                                                              |
| <b>Seminole County</b> | Lake Tuskawilla Hydrologic and Nutrient Budget            | Assessment characterizes sources and their relative contribution to nutrient pollutant budget. Data and information in report are used to produce ranked list of BMPs intended to improve water quality. | 2015       | 2019            | \$129,469    | Stakeholders can use data and information from assessment to inform TMDL, provide allocation information in watershed, and identify potential BMP effectiveness. |
| <b>Seminole County</b> | Lake Clear and Lake Tony Hydrologic and Nutrient Budget   | Assessment characterizes sources and their relative contribution to nutrient pollutant budget. Data and information in report are used to produce ranked list of BMPs intended to improve water quality. | 2015       | 2019            | \$110,490    | Stakeholders can use data and information from assessment to inform TMDL, provide allocation information in watershed, and identify potential BMP effectiveness. |

| Entity                 | Project Name                                     | Project Description                                                                                                                                                                                      | Start Date | Completion Date | Cost      | Comments                                                                                                                                                         |
|------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Seminole County</b> | Crow's Creek Nutrient Study and Management Plan  | Assessment characterizes sources and their relative contribution to nutrient pollutant budget. Data and information in report are used to produce ranked list of BMPs intended to improve water quality. | 2015       | 2016            | \$21,216  | Stakeholders can use data and information from assessment to inform TMDL, provide allocation information in watershed, and identify potential BMP effectiveness. |
| <b>Seminole County</b> | Navy and Cameron Ditch Efficiency Study          | Determine removal efficiency of RSFs.                                                                                                                                                                    | 2011       | 2013            | \$100,000 | N/A                                                                                                                                                              |
| <b>Seminole County</b> | Deer Run/Red Bug RSF Stormwater Efficiency Study | Determine removal efficiency of RSFs.                                                                                                                                                                    | 2014       | 2016            | \$125,000 | N/A                                                                                                                                                              |
| <b>Seminole County</b> | Lake Jesup Groundwater Seepage Study             | Phase I and II to quantify groundwater and sediment loading in Lake Jesup.                                                                                                                               | 2010       | 2013            | \$127,000 | These first quantified internal loading from groundwater and sediments. These data were used to update in-lake loading.                                          |

#### 4.6 In-Lake Treatment Projects

Over the past six years, SJRWMD completed several diagnostic studies to gather more information about the unique water and sediment interactions in Lake Jesup. More recently, SJRWMD has focused its efforts to evaluate different cost-effective methods to remove water column phosphorus or permanently sequester sediment phosphorus in Lake Jesup.

In 2017, a comprehensive review of phosphorus reduction methods was undertaken. SJRWMD contracted with CDM Smith, Inc. to conduct a literature review to capture the existing knowledge of phosphorus reduction in lake systems. The review of phosphorus treatment technologies also included a workshop and a request for information for potential technologies. The evaluation and rating of the submitted technologies included a preliminary method screening, a water quality assessment of lake management techniques in Florida, and a final evaluation and ranking of treatment methods.

The results of the evaluation suggest several chemical and physical treatment technologies have the highest potential to remove phosphorus from Lake Jesup, based on the performance, economic, and operational criteria used for the final evaluation of the technologies. The ranking scores were close and there were process limitations (i.e., a lack of actual in-lake testing, reliance on vendor information). Therefore, it was recommended to first implement laboratory bench

analyses of highly ranked technologies to determine their effectiveness and cost for reducing the sediment phosphorus internal load in Lake Jesup. Currently, funding has been identified in the 2020 SJRWMD proposed budget to fund the Sediment Phosphorus Inactivation Pilot Project. Depending on the outcome of these analyses, in-lake demonstration projects could follow. Discussions with DEP are ongoing to determine needs and state funding opportunities for the in-lake demonstration projects.

Once the results of the proposed demonstration projects are available, the most feasible technologies for full-scale implementation will be identified. DEP, SJRWMD, and the stakeholders will then coordinate to determine how best to implement the recommended project(s) to achieve the required in-lake nutrient reductions. Although this effort focuses on TP, it is anticipated that the project(s) will also provide a TN reduction.

As the in-lake projects are new technologies, time is needed to test the feasibility of the proposed projects and to design, permit, and implement the selected projects. Although more than 5 years may be needed to achieve 50 % of the in-lake required reductions, the full reductions will be achieved by the 2030 deadline for the BMAP. DEP and SJRWMD are working together to identify the most feasible projects to achieve the full required reductions.

#### ***4.6.1 Enhanced Flow and Wetland Treatment System***

SJRWMD contracted with Jones Edmunds to analyze the potential water quality and habitat effects of constructing a channel under the eastern span of the State Road (SR) 46 bridge at the confluence of the St. Johns River and Lake Jesup. The analysis also included an assessment of any potential downriver impacts that might result from the project. The project focuses on improving water clarity and providing habitat enhancements by introducing additional flow from the St. Johns River into the eastern portion of Lake Jesup. By increasing the amount of light reaching the lake bottom, the chances of increased growth of beneficial underwater plants is improved. The project is in the assessment phase.

In addition, SJRWMD is assessing a project that will pump water from Lake Jesup into a treatment system made up of ponds and wetlands. This project will remove phosphorus, nitrogen, and suspended solids from the lake, improving light penetration into the water column and encouraging beneficial underwater plant growth. The proposed project site is located on the northwestern edge of Lake Jesup on the Little Cameron Ranch parcel owned by SJRWMD.

## Chapter 5: Monitoring Strategy

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The Lake Jesup BMAP monitoring plan is described in detail in the 2010 BMAP. The primary and secondary objectives of the monitoring strategy were modified for the 2018 BMAP Amendment, as noted below. Primary objectives are necessary to evaluate the success of the BMAP. Secondary objectives contribute to this evaluation and can help interpret the data collected.

### ***Primary Objectives***

1. Track trends in TP and TN loads in Lake Jesup and its tributaries through the ambient monitoring network.
2. Determine inputs to Lake Jesup.

### ***Secondary Objectives***

1. Identify areas in the watershed that exhibit unusually high loadings of TN and/or TP ("hot spots") to better focus management efforts.
2. Track ecological and limnological responses to BMAP implementation.

To achieve the objectives above, the monitoring strategy focuses on two types of indicators to track water quality trends: core and supplemental. The core indicators are directly related to the parameters causing impairment in the lake and its tributaries and include the following:

- Chlorophyll *a* (corrected).
- Nitrate/nitrite as N.
- TP (as P).
- Total Kjeldahl nitrogen (TKN).
- Orthophosphate as P.
- Biochemical oxygen demand (BOD).
- Ammonium as N.

Supplemental indicators are monitored primarily to support the interpretation of core water quality parameters and include the following:

- Specific conductance.
- Temperature.
- Dissolved oxygen (DO).
- Total suspended solids (TSS).
- pH.



The following stations were removed from the BMAP monitoring network since the adoption of the 2010 BMAP:

- DEP station at Cameron Avenue and Kentucky Street was removed because of low-flow conditions.
- Lake Mary station at the outlet of Big Lake Mary was removed because of low-flow conditions.
- Seminole County Station HCCB on Howell Creek at the county border was moved slightly downstream because of access issues once the new weir was installed in the creek.
- Seminole County/City of Sanford Station CHUBB at Chub Creek at East Lake Mary Boulevard was removed because of low-flow conditions.
- SJRWMD Station T-5 at Howell Creek Delta on the southwest end of Lake Jesup was removed in 2008.
- SJRWMD Station T-8 at Gee and Soldier Creeks delta west of Lake Jesup was removed in 2008.
- Seminole County storm event stations on Howell Creek, Solary Canal, Gee Creek, Soldiers Creek, and Six Mile Creek were removed because of cost constraints.
- U.S. Geological Survey (USGS) Station 2234435 at the Lake Jesup outlet near Sanford, Florida, was removed because of cost constraints.

The following stations had a change in frequency since the 2010 BMAP:

- Seminole County/City of Altamonte Springs Station PRA at Prairie Lake is now sampled quarterly.
- Seminole County/DEP Station SALT at Salt Creek at Packard Avenue is now sampled quarterly.

**Table 18** lists the stations that were added to the BMAP monitoring network since the adoption of the 2010 BMAP.

**Table 18. BMAP monitoring network**

| Entity                              | Station Identification | Station Description                                        | Station Type  | Sampling Frequency | Year Site Established | Sampling Parameters                       |
|-------------------------------------|------------------------|------------------------------------------------------------|---------------|--------------------|-----------------------|-------------------------------------------|
| <b>Seminole County</b>              | HOWIN                  | Howell Creek just downstream of weir at Lake Howell Road   | Water Quality | Quarterly          | 2007                  | Core and supplemental parameters          |
| <b>Seminole County/<br/>Sanford</b> | SIX                    | Six Mile Creek at Myrtle Street                            | Water Quality | Monthly            | 2000                  | Core and supplemental parameters          |
| <b>Seminole County</b>              | HOWC                   | Howell Creek at SR 434                                     | Water Quality | Monthly            | 2000                  | Core and supplemental parameters          |
| <b>Seminole County/FDOT</b>         | SOL                    | Soldiers Creek                                             | Water Quality | Monthly            | 1998                  | Core and supplemental parameters          |
| <b>Seminole County</b>              | GEE                    | Gee Creek                                                  | Water Quality | Monthly            | 1998                  | Core and supplemental parameters          |
| <b>SJRWMD</b>                       | T-6                    | Howell Creek at SR 434 south of Whites Lodge on Lake Jesup | Water Quality | Monthly            | 1995                  | Field parameters, water chemistry, metals |
| <b>SJRWMD</b>                       | T-9                    | Gee Creek at SR 419 off southwest end of Lake Jesup        | Water Quality | Monthly            | 1995                  | Field parameters, water chemistry, metals |
| <b>SJRWMD</b>                       | T-10                   | Soldier Creek at SR 419 off west end of Lake Jesup         | Water Quality | Monthly            | 1995                  | Field parameters, water chemistry, metals |

In addition to the BMAP monitoring network, the stakeholders are also conducting sampling that will provide supplemental data to meet the monitoring strategy objectives. This additional monitoring is described in detail in the 2010 BMAP. The following modifications were made to the supplemental monitoring stations since the 2010 BMAP:

- Seminole County biology stations TUS, PRA, GRA, BUR, TON, JES, BGU, HOW, FAR, FLO, GAR, SEM, ML02, and LOW are now sampled for the Lake Vegetation Index.
- In addition to the parameters listed in the 2010 BMAP, Seminole County water quality stations BERC, BGC, BGSL, HCRB, HCTF, HCWS, LKC, NW-N, and NW-S are now sampled for DO percent saturation, total dissolved solids, turbidity, BOD, TSS, and true color.
- In addition to the parameters listed in the 2010 BMAP, Seminole County water quality stations BGU, FAR, FLO, GAR, HAY, KEW, LOW, RED, ANN, HOW, ML01, SALT, JES, and PRA are now sampled for DO percent saturation and turbidity. Flow is also recorded at the SALT station.

## **Chapter 6: Commitment to Plan Implementation**

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### **6.1 Adoption Process**

The 2018 BMAP Amendment is adopted by Secretarial Order and assigns TP and TN load reductions to the responsible stakeholders in the Lake Jesup Basin.

### **6.2 Tracking Reductions**

The required loading reductions are expected to be met by 2030, and the load reduction status will be re-evaluated in 2023. Each entity responsible for implementing management actions as part of the BMAP will provide DEP, via the statewide annual report process, with an annual update of progress made in implementing load reductions. The update will track the implementation status of the management actions listed in the BMAP and document additional projects undertaken to further water quality improvements in the basin. FDACS will continue to report acreage enrolled in NOIs at least annually to DEP.

### **6.3 Revisions to the BMAP**

Adaptive management involves setting up a mechanism for making course corrections in the BMAP when circumstances change, or feedback mechanisms indicate that a more effective strategy is needed. The FWRA requires that the plan be revised, as appropriate, in collaboration with basin stakeholders. All or part of a revised BMAP must be adopted by Secretarial Order. Adaptive management measures include the following:

- Procedures to determine whether additional cooperative actions are needed.
- Criteria/process for determining whether and when plan components need to be revised because of changes in costs, environmental impacts, social effects, watershed conditions, or other factors.
- Descriptions of the stakeholders' role after BMAP completion.

Tracking implementation, monitoring water quality and pollutant loads, and holding periodic meetings to share information and expertise are key components of adaptive management.

## Appendices

### References

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## **Projects to Reduce Nutrient Sources**

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### **Prioritization of Management Strategies**

The management strategies in **Table B-1** are ranked with a priority of high, medium, or low. In 2016, the Florida Legislature amended the FWRA (Section 403.067, F.S.), creating additional requirements for all new or revised BMAPs. BMAPs must now include planning-level details for each listed project, along with its priority ranking.

Project status was selected as the most appropriate indicator of a project's priority ranking. Projects with a "completed" status were assigned a low priority. Projects classified as "underway" were assigned a medium priority because some resources have been allocated to these projects, but some work still needs to be completed. A high priority was assigned to projects listed as "proposed" or "conceptual." These are typically projects that need to be funded and implemented to achieve substantial reductions or studies that need to be completed to appropriately plan for additional load reduction remedies.

There are exceptions to the assignment of priority based on project status. For example, pollution prevention projects such as street sweeping and good housekeeping measures were assigned a high priority, regardless of their status, because they are cost-effective and require continuing effort. Public outreach projects have a high priority because they are an integral component of BMAPs and are focused on preventing nutrient pollution, which is much more economical than deploying treatment efforts.

Table B-1. Agriculture projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity | Partners | Project Number | Project Name                                     | Project Description                                         | Project Type      | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost | Cost Annual Operations and Maintenance (O&M) | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-------------|----------|----------------|--------------------------------------------------|-------------------------------------------------------------|-------------------|----------------|-----------------|-----------------------|-----------------------|---------------|------|----------------------------------------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| FDACS       | N/A      | AG-01          | BMP Implementation                               | Existing NOIs.                                              | Agricultural BMPs | Completed      | N/A             | 7,084                 | 491                   | 1,171         | N/A  | N/A                                          | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |
| FDACS       | N/A      | AG-02          | Loss of Agricultural Production Acreage (credit) | Change in land use from agricultural to nonagricultural.    | Land Use Change   | Completed      | N/A             | 1,327                 | 101                   | 768           | N/A  | N/A                                          | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |
| FDACS       | N/A      | AG-03          | Remainder of Agricultural Lands Enrolled         | Enrollment of remaining agricultural lands in BMP Programs. | Agricultural BMPs | Planned        | TBD             | 4,517                 | 349                   | 3,800         | N/A  | N/A                                          | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 12,928           | 941              |
| Required reductions      | 7,428            | 1,560            |
| Remaining reductions     | -5,500 (credit)  | 619              |

Table B-2. City of Altamonte Springs projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity               | Partners                                                                                   | Project Number | Project Name                        | Project Description                                                                                                                                                                     | Project Type              | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost      | Cost Annual O&M | Funding Source                      | Funding Amount                                                            | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|---------------------------|--------------------------------------------------------------------------------------------|----------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|-----------|-----------------|-------------------------------------|---------------------------------------------------------------------------|-------------------------------|-------------------------------------|------------|
| City of Altamonte Springs | N/A                                                                                        | A-02           | Street Sweeping                     | Street Sweeping of 4.4 miles, twice monthly.                                                                                                                                            | Street Sweeping           | Completed      | N/A             | 35                    | 12                    | N/A           | N/A       | N/A             | N/A                                 | N/A                                                                       | N/A                           | Nonstructural                       | 2017       |
| City of Altamonte Springs | N/A                                                                                        | A-03           | Education Efforts                   | Florida Yards and Neighborhoods (FYN) Program, irrigation and fertilizer ordinances, public service announcements (PSAs), pamphlets, presentations, website, Illicit Discharge Program. | Education Efforts         | Completed      | N/A             | 14                    | 1                     | N/A           | N/A       | \$6,000         | Stormwater Fee                      | \$6,000                                                                   | N/A                           | Nonstructural                       | 2017       |
| City of Altamonte Springs | N/A                                                                                        | A-04           | Credits for Missing BMPs            | BMPs missing from model.                                                                                                                                                                | BMPs                      | Completed      | N/A             | 1                     | 0                     | N/A           | N/A       | N/A             | N/A                                 | N/A                                                                       | N/A                           | Nonstructural                       | 2017       |
| City of Altamonte Springs | Seminole County Public Schools/ Seminole State College/ University of Central Florida/ DEP | A-05           | Altamonte Springs Science Incubator | Program that promotes career readiness in high-tech, high-demand fields of science, technology, engineering, and math.                                                                  | Enhanced Public Education | Completed      | 2012            | N/A                   | N/A                   | N/A           | \$110,000 | \$372,819       | Private Donations/ In-kind Services | Duke Energy–\$150,000 Adventist Health–\$25,000 In-kind services–\$50,000 | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 50               | 13               |
| Required reductions      | 58               | 6                |
| Remaining reductions     | 8                | -7 (credit)      |

**Table B-3. City of Casselberry projects**

TBD = To be determined; N/A = Not applicable; O&amp;M = Operations and maintenance

| Lead Entity         | Partners | Project Number | Project Name                                   | Project Description                                                                                                                                                   | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated           | Cost        | Cost Annual O&M | Funding Source                                           | Funding Amount                   | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|---------------------|----------|----------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|-------------------------|-------------|-----------------|----------------------------------------------------------|----------------------------------|-------------------------------|-------------------------------------|------------|
| City of Casselberry | N/A      | C-17           | 530 South Lake Triplet Drive Bioswales         | Construct bioswales and other drainage improvements.                                                                                                                  | Bioswales                        | Completed      | 2016            | 1                     | 0                     | 1                       | \$163,000   | N/A             | Stormwater Utility                                       | \$163,000                        | N/A                           | Structural                          | 2017       |
| City of Casselberry | TBD      | C-20           | Park Drive Drainage/Wetland Improvements       | Retention area on Lots 10A and 11 on north side of Park Drive.                                                                                                        | 100 % Onsite Retention           | Planned        | TBD             | 1                     | 0                     | 2                       | \$229,000   | N/A             | TBD                                                      | TBD                              | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-21           | Whole Lake Alum Treatment                      | Execute whole-lake alum treatments to directly treat Queens Mirror Lake and Triplet Lake chain to address loads caused by groundwater seepage and internal recycling. | Alum Injection Systems           | Completed      | 2015            | 121                   | 185                   | 102 (lake acreage only) | \$170,000   | \$0             | Stormwater Utility                                       | \$170,000                        | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-27           | Street Sweeping                                | Monthly street sweeping, 25,704 cubic feet of material collected annually based on 2015 values.                                                                       | Street Sweeping                  | Completed      | N/A             | 434                   | 285                   | 0                       | \$0         | \$67,612        | Stormwater Utility                                       | N/A                              | N/A                           | Nonstructural                       | 2017       |
| City of Casselberry | N/A      | C-28           | Education Efforts                              | FYN, landscape and irrigation ordinances, PSAs, pamphlets/presentations, website, illicit discharge program.                                                          | Education Efforts                | Completed      | N/A             | 732                   | 49                    | 0                       | \$0         | \$4,000         | Stormwater Utility/<br>Water/<br>Sewer Utility Fund      | N/A                              | N/A                           | Nonstructural                       | 2017       |
| City of Casselberry | N/A      | C-30           | Structures Cleaning                            | 729 cubic feet of solids collected from catch basins, baffle boxes, and other structures per year.                                                                    | BMP Clean Out                    | Completed      | N/A             | 15                    | 9                     | 0                       | \$0         | \$0             | Stormwater Utility Fund                                  | N/A                              | N/A                           | Nonstructural                       | 2017       |
| City of Casselberry | TBD      | C-31           | Queens Mirror Nutrient Reduction Facility      | Treat runoff from upstream areas prior to entering Queens Mirror Lake.                                                                                                | Alum Injection Systems           | Planned        | 9/30/2020       | 867                   | 173                   | 1,528                   | \$800,000   | \$100,000       | Stormwater Utility (TMDL/ 319/ SJRWMD grants if awarded) | \$800,000/<br>\$100,000/<br>year | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-32           | Lake Concord Park (South Phase)                | New development with wet detention.                                                                                                                                   | Wet Detention Pond               | Completed      | 2017            | 0                     | 0                     | 15                      | \$7,324,162 | N/A             | Local                                                    | \$7,324,162                      | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-33           | Triplet Lake Drive Signature Street            | New stormwater treatment for existing road.                                                                                                                           | Dry Retention Pond               | Completed      | 2017            | 3                     | 0                     | 11                      | \$3,092,425 | N/A             | Local                                                    | \$3,092,425                      | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-34           | North Oxford Road Complete Street Improvements | Road diet with addition of bioswales.                                                                                                                                 | Bioswales                        | Completed      | 2018            | 1                     | 0                     | 2                       | \$2,134,100 | N/A             | Sales Tax/<br>Stormwater Utility/<br>Water/Sewer Utility | \$2,134,100                      | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-35           | Concord Drive Improvements                     | New stormwater treatment for existing road, including wet detention and bioswales.                                                                                    | Wet Detention Pond               | Planned        | 2020            | 9                     | 0                     | 5                       | \$1,264,584 | N/A             | Sales Tax/<br>Stormwater Utility/<br>Water/Sewer Utility | TBD                              | N/A                           | Structural                          | 2017       |
| City of Casselberry | N/A      | C-36           | Credits for Missing BMPs                       | BMPs missing from model.                                                                                                                                              | Stormwater System Rehabilitation | Completed      | Prior to 2017   | 33                    | 30                    | N/A                     | \$0         | \$0             | N/A                                                      | N/A                              | N/A                           | Nonstructural                       | 2017       |

| Lead Entity         | Partners | Project Number | Project Name                               | Project Description                                                                                               | Project Type    | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost      | Cost Annual O&M | Funding Source     | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|---------------------|----------|----------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------|----------------|-----------------|-----------------------|-----------------------|---------------|-----------|-----------------|--------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Casselberry | N/A      | C-37           | Enhanced Street Sweeping                   | Additional street sweeping once/month for first 5 months of each year (heavy leaf fall season) beyond base level. | Street Sweeping | Completed      | N/A             | 181                   | 119                   | 0             | \$0       | \$31,719        | Stormwater Utility | \$31,719/yr    | N/A                           | Nonstructural                       | 2017       |
| City of Casselberry | N/A      | C-38           | Lake Jesup Basin Nitrogen Removal Projects | TBD BMPs or facilities to target TN reduction in Lake Jesup Basin.                                                | TBD             | Planned        | TBD             | TBD                   | TBD                   | TBD           | \$300,000 | TBD             | Stormwater Utility | \$300,000      | N/A                           | TBD                                 | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 2,398            | 850              |
| Required reductions      | 2,956            | 547              |
| Remaining reductions     | 558              | -303 (credit)    |

Table B-4. City of Lake Mary projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity       | Partners        | Project Number | Project Name             | Project Description                                                                                                                 | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost | Cost Annual O&M | Funding Source                    | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-------------------|-----------------|----------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|------|-----------------|-----------------------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Lake Mary | N/A             | LM-02          | Street Sweeping          | 140,895 lbs/yr of material removed.                                                                                                 | Street Sweeping                  | Completed      | N/A             | 29                    | 18                    | 6,286         | N/A  | \$13,000        | City of Lake Mary Stormwater Fund | \$13,000       | N/A                           | Nonstructural                       | 2017       |
| City of Lake Mary | Seminole County | LM-03          | Education Efforts        | FYN, ordinances (landscape, irrigation, pet waste, fertilizer), PSAs, pamphlets, presentations, website, Illicit Discharge Program. | Public Education Efforts         | Completed      | N/A             | 298                   | 20                    | N/A           | N/A  | \$5,500         | City of Lake Mary Stormwater Fund | \$5,500        | N/A                           | Nonstructural                       | 2017       |
| City of Lake Mary | N/A             | LM-05          | Catch Basin Clean Out    | Removal of 1,620 cubic feet of material per year.                                                                                   | BMP Clean Out                    | Completed      | N/A             | 35                    | 20                    | 6,286         | N/A  | Not provided    | City of Lake Mary Stormwater Fund | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Lake Mary | N/A             | LM-06          | Credits for Missing BMPs | BMPs missing from model.                                                                                                            | Stormwater System Rehabilitation | Completed      | N/A             | 231                   | 39                    | N/A           | N/A  | N/A             | N/A                               | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 593              | 97               |
| Required reductions      | 1,002            | 180              |
| Remaining reductions     | 409              | 83               |



**Table B-5. City of Longwood projects**

TBD = To be determined; N/A = Not applicable; O&amp;M = Operations and maintenance

| Lead Entity      | Partners    | Project Number | Project Name                                                  | Project Description                                                                                                                                                                                                                                                                                                                                            | Project Type            | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source                | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|------------------|-------------|----------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|-------------------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Longwood | N/A         | L-01           | Fairy Lake Outfall                                            | Design and construct 62 linear feet of 4x7 box culvert with headwalls and 1,200-square-foot retaining wall system.                                                                                                                                                                                                                                             | Control Structure       | Completed      | 2013            | 0                     | 0                     | N/A           | \$300,000    | Not provided    | Not provided                  | \$300,000      | N/A                           | Structural                          | 2017       |
| City of Longwood | N/A         | L-03           | BMP Clean Out                                                 | Clean out of BMPs, averaging 700 cubic feet of material per year.                                                                                                                                                                                                                                                                                              | BMP Clean Out           | Completed      | N/A             | 15                    | 8                     | N/A           | Not provided | Not provided    | Not provided                  | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Longwood | N/A         | L-04           | Street Sweeping                                               | Quarterly street sweeping of 11.1 miles—50,300 lbs of material collected annually.                                                                                                                                                                                                                                                                             | Street Sweeping         | Completed      | N/A             | 10                    | 6                     | N/A           | Not provided | Not provided    | Not provided                  | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Longwood | N/A         | L-05           | Education Efforts                                             | FYN, irrigation ordinance, pamphlets, presentations, website, Illicit Discharge Program.                                                                                                                                                                                                                                                                       | Education Efforts       | Completed      | N/A             | 250                   | 15                    | N/A           | Not provided | Not provided    | Not provided                  | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Longwood | SJRWMD/ DEP | L-07           | Florida Central Commerce Park Wastewater Interconnect Program | Expand stormwater treatment and storage to augment irrigation sources. Project will improve wastewater effluent quality by routing flow from small plant that will be decommissioned to Seminole County plant to provide higher level of treatment, maximize reuse availability, and abandon existing irrigation wells for urbanized area in City of Longwood. | WWTF Diversion to Reuse | Completed      | Not provided    | 1,173                 | 280                   | 272           | \$1,345,309  | Not provided    | City of Longwood/ SJRWMD/ DEP | \$1,900,309    | 28430 SJRWMD shares with DEP  | Structural                          | 2017       |
| City of Longwood | SJRWMD/ DEP | L-08           | South Longwood Septic Tank Abatement project                  | 240 septic tanks will be removed and converted to central sewer.                                                                                                                                                                                                                                                                                               | OSTDS Phase Out         | Completed      | Not provided    | 168                   | 0                     | 100           | \$5,247,830  | N/A             | City of Longwood/ SJRWMD/ DEP | \$5,247,830    | 319(h)–NF010                  | Structural                          | 2017       |
| City of Longwood | SJRWMD/ DEP | L-09           | North County Road (CR) 427 and Lake Ruth Septic Tank Removal  | 103 septic tanks will be removed and converted to central sewer.                                                                                                                                                                                                                                                                                               | OSTDS Phase Out         | Underway       | TBD             | 72                    | 0                     | 67            | \$2,500,000  | N/A             | City of Longwood/ SJRWMD/ DEP | \$3,129,160    | NF013                         | Structural                          | 2017       |
| City of Longwood | N/A         | L-10           | Island Lake Septic Tank Abatement                             | 100 septic tanks will be removed and converted to central sewer.                                                                                                                                                                                                                                                                                               | OSTDS Phase Out         | Canceled       | N/A             | 0                     | 0                     | 0             | N/A          | N/A             | N/A                           | N/A            | N/A                           | Structural                          | 2017       |
| City of Longwood | SJRWMD/ DEP | L-11           | Longdale Septic Tank Abatement–Phase 1 project                | 218 septic tanks will be removed and converted to central sewer.                                                                                                                                                                                                                                                                                               | OSTDS Phase Out         | Planned        | TBD             | 153                   | 0                     | 49            | \$4,313,251  | Not provided    | Not provided                  | Not provided   | N/A                           | Structural                          | 2017       |
| City of Longwood | SJRWMD/ DEP | L-12           | East Longwood Septic Tank Abatement–Phase 1 project           | 118 septic tanks will be removed and converted to central sewer.                                                                                                                                                                                                                                                                                               | OSTDS Phase Out         | Planned        | TBD             | 83                    | 0                     | 33            | \$3,123,424  | Not provided    | Not provided                  | Not provided   | N/A                           | Structural                          | 2017       |

| Lead Entity      | Partners    | Project Number | Project Name                                         | Project Description                                             | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost        | Cost Annual O&M | Funding Source                | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|------------------|-------------|----------------|------------------------------------------------------|-----------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|-------------|-----------------|-------------------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Longwood | N/A         | L-13           | Credits for Missing BMPs                             | BMPs missing from model.                                        | Stormwater System Rehabilitation | Completed      | N/A             | 162                   | 14                    | N/A           | N/A         | N/A             | N/A                           | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Longwood | SJRWMD/ DEP | L-14           | South Longwood Septic Tank Abatement–Phase 2 project | 50 septic tanks will be removed and converted to central sewer. | OSTDS Phase Out                  | Completed      | June 2018       | 105                   | 0                     | 20            | \$1,131,479 | N/A             | City of Longwood/ SJRWMD/ DEP | \$1,131,479.00 | NF010                         | Structural                          | 2018       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 2,191            | 323              |
| Required reductions      | 1,120            | 181              |
| Remaining reductions     | -1,071 (credit)  | -142 (credit)    |

Table B-6. City of Maitland projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity      | Partners     | Project Number | Project Name                       | Project Description                             | Project Type                | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|------------------|--------------|----------------|------------------------------------|-------------------------------------------------|-----------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Maitland | Not provided | M-02           | Lake Gem/Park Lake COOP BMP        | Construct 2nd-generation baffle box             | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-03           | Lake Gem/Park Lake COOP BMP        | Construct 2nd-generation baffle box             | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-04           | Lake Gem/Park Lake COOP BMP        | Construct 2nd-generation baffle box             | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-05           | Lake Gem/Park Lake COOP BMP        | Construct 2nd-generation baffle box             | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-06           | Lake Gem/Park Lake COOP BMP        | Construct 2nd-generation baffle box             | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-14           | Horatio Avenue Infiltration Trench | Construct infiltration trenches.                | Exfiltration Trench         | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-16           | Street Sweeping                    | Street sweeping once every 2 weeks of 71 miles. | Street Sweeping             | Completed      | N/A             | 311                   | 283                   | N/A           | N/A  | \$100,000       | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |

| Lead Entity      | Partners     | Project Number | Project Name                | Project Description                                                                                                               | Project Type                | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|------------------|--------------|----------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Maitland | Not provided | M-17           | Education Efforts           | Landscaping, irrigation, fertilizer, and pet waste ordinances; PSAs, presentations/pamphlets, website, illicit discharge program. | Education Efforts           | Completed      | N/A             | 96                    | 7                     | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Maitland | Not provided | M-20           | Park Lake Baffle Boxes      | Construct 2nd-generation baffle box.                                                                                              | Baffle Boxes–2nd Generation | Canceled       | N/A             | N/A                   | N/A                   | N/A           | N/A          | N/A             | N/A            | N/A            | N/A                           | Structural                          | 2017       |
| City of Maitland | Not provided | M-21           | Minnehaha Circle Baffle Box | Construct 2nd-generation baffle box.                                                                                              | Baffle Boxes–2nd Generation | Completed      | 2014            | 0                     | 0                     | 8             | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Structural                          | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 407              | 290              |
| Required reductions      | 646              | 137              |
| Remaining reductions     | 239              | -153 (credit)    |

Table B-7. City of Orlando projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity     | Partners | Project Number | Project Name                               | Project Description                                                                                                                                      | Project Type                | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost     | Cost Annual O&M | Funding Source     | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-----------------|----------|----------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|----------|-----------------|--------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Orlando | N/A      | ORL-19         | Street Sweeping                            | Sweep twice/month. 8,371.95 cubic yards (or 226,042 cubic feet) of material collected.                                                                   | Street Sweeping             | Completed      | N/A             | 119                   | 90                    | N/A           | N/A      | N/A             | Stormwater Utility | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Orlando | N/A      | ORL-25         | Educational Component                      | FYN, ordinances (fertilizer, landscape, irrigation, pet waste), PSAs, pamphlets, presentations, website, Illicit Discharge Program.                      | Education Efforts           | Completed      | N/A             | 17                    | 2                     | N/A           | \$51,500 | N/A             | Stormwater Utility | \$51,500       | N/A                           | Nonstructural                       | 2017       |
| City of Orlando | DEP      | ORL-26         | Lake Concord Alum Treatment and Baffle Box | Construct alum injection system into existing box culvert on North Hughey Avenue to treat runoff from 2 sub-basins in downtown Orlando area.             | Alum Injection System       | Completed      | 2014            | 5                     | 1                     | 88            | TBD      | \$9,141         | DEP                | \$291,323      | TBD                           | Structural                          | 2017       |
| City of Orlando | N/A      | ORL-29         | Catch Basin Clean Out                      | Inlet baskets–207 cubic yards of material collected.                                                                                                     | BMP Clean Out               | Completed      | N/A             | 4                     | 3                     | N/A           | N/A      | N/A             | Stormwater Utility | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Orlando | N/A      | ORL-30         | BMP Clean Out                              | 101.2 cubic yards of material collected.                                                                                                                 | BMP Clean Out               | Completed      | N/A             | 2                     | 1                     | N/A           | N/A      | N/A             | Stormwater Utility | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Orlando | DEP      | ORL-31         | Lake Concord Alum Treatment and Baffle Box | Construct 2nd-generation baffle box on West Concord Street to treat runoff from residential and industrial area; 16.5 cubic yards of material collected. | Baffle Boxes–2nd Generation | Completed      | 2014            | 0                     | 0                     | 78            | TBD      | TBD             | DEP                | \$259,560      | TBD                           | Structural                          | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 147              | 97               |
| Required reductions      | 57               | 14               |
| Remaining reductions     | -90 (credit)     | -83 (credit)     |

Table B-8. City of Oviedo projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity    | Partners                                | Project Number | Project Name                                                     | Project Description                                                                                                                                      | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|----------------|-----------------------------------------|----------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Oviedo | Not provided                            | OV-01          | Aulin Regional Stormwater Pond                                   | Aulin Regional Stormwater Pond.                                                                                                                          | Wet Detention Pond               | Completed      | 2013            | 2                     | 0                     | 3             | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Structural                          | 2017       |
| City of Oviedo | Not provided                            | OV-03          | Sweetwater Creek Project                                         | Sweetwater Creek project.                                                                                                                                | Dry Detention Pond               | Completed      | Not provided    | 87                    | 19                    | 32            | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Structural                          | 2017       |
| City of Oviedo | City of Winter Springs/ Seminole County | OV-04          | Solary Canal Stormwater Treatment Area (STA)– missing from model | Regional stormwater treatment facility consisting of 8.0-acre wet pond and 4.8-acre wetland.                                                             | Regional Stormwater Treatment    | Completed      | 2011            | 730                   | 147                   | 1,471         | \$1,700,000  | \$25,000        | SJRWMD Grant   | \$1,700,000    | N/A                           | Structural                          | 2017       |
| City of Oviedo | Not provided                            | OV-05          | Street Sweeping                                                  | 528,111 lbs/yr of material collected.                                                                                                                    | Street Sweeping                  | Completed      | N/A             | 244                   | 152                   | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Oviedo | Not provided                            | OV-06          | Education Efforts                                                | FYN; landscape, irrigation, and pet waste ordinances; illicit discharge program, Adopt A Pond Program, Fats Oils and Grease ordinance.                   | Education Efforts                | Completed      | N/A             | 1,282                 | 103                   | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Oviedo | Not provided                            | OV-08          | Inlets and Pipe Cleaning                                         | Routine cleaning of inlets and pipes–435 lbs/yr of material collected.                                                                                   | BMP Clean Out                    | Completed      | N/A             | 0                     | 0                     | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| City of Oviedo | Not provided                            | OV-09          | Aulin Avenue North                                               | Construct stormwater conveyance system and treatment area.                                                                                               | Bioswales                        | Planned        | TBD             | 3                     | 0                     | 3             | \$50,000     | Not provided    | Not provided   | Not provided   | N/A                           | Structural                          | 2017       |
| City of Oviedo | Not provided                            | OV-10          | Oviedo Regional Pond                                             | Construct retention pond to receive and treat drainage from commercial sites and treat surrounding runoff prior to being discharged to Sweetwater Creek. | Wet Detention Pond               | Planned        | TBD             | 192                   | 35                    | 95            | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Structural                          | 2017       |
| City of Oviedo | N/A                                     | OV-11          | Credits for Missing BMPs                                         | BMPs missing from model.                                                                                                                                 | Stormwater System Rehabilitation | Completed      | N/A             | 454                   | 27                    | N/A           | N/A          | N/A             | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Oviedo | N/A                                     | OV-12          | Magnolia Ave.                                                    | Sweetwater Creek water quality analysis and nutrient separator box install at culvert.                                                                   | Baffle Boxes– 2nd Generation     | Planned        | 2021            | 33                    | 2                     | 32            | \$400,000    | TBD             | TBD            | TBD            | N/A                           | Structural                          | 2017       |
| City of Oviedo | TBD                                     | OV-13          | Phosphorus Removal Project(s)                                    | Projects to achieve additional TP reductions–will be provided for first annual progress report.                                                          | Stormwater System Rehabilitation | Planned        | TBD             | TBD                   | 32                    | TBD           | TBD          | TBD             | TBD            | TBD            | N/A                           | TBD                                 | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 3,027            | 517              |
| Required reductions      | 4,705            | 1,035            |
| Remaining reductions     | 1,678            | 518              |

Table B-9. City of Sanford projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity     | Partners | Project Number | Project Name                          | Project Description                                                                                                                                                                                                                                      | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source                 | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-----------------|----------|----------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|--------------------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Sanford | N/A      | S-01           | Street Sweeping                       | Weekly street sweeping–removes 17,347 cubic feet of material annually.                                                                                                                                                                                   | Street Sweeping                  | Completed      | N/A             | 426                   | 267                   | N/A           | N/A          | \$23,256        | Stormwater Utility             | \$23,256       | N/A                           | Nonstructural                       | 2017       |
| City of Sanford | N/A      | S-02           | Education Efforts                     | FYN program; pet waste, irrigation, and fertilizer ordinances; PSAs, and Illicit Discharge Program.                                                                                                                                                      | Education Efforts                | Completed      | N/A             | 1,171                 | 132                   | N/A           | N/A          | \$2,000         | Stormwater Utility             | \$2,000        | N/A                           | Nonstructural                       | 2017       |
| City of Sanford | TBD      | S-04           | Cameron Baffle Box                    | Install 2nd-generation baffle box.                                                                                                                                                                                                                       | Baffle Boxes–2nd Generation      | Planned        | TBD             | 261                   | 24                    | 242           | \$500,000    | \$10,000        | TBD                            | TBD            | N/A                           | Structural                          | 2017       |
| City of Sanford | TBD      | S-05           | Pine Way Baffle Box                   | Install 2nd-generation baffle box.                                                                                                                                                                                                                       | Baffle Boxes–2nd Generation      | Planned        | TBD             | 490                   | 43                    | N/A           | \$750,000    | \$15,000        | TBD                            | TBD            | N/A                           | Structural                          | 2017       |
| City of Sanford | DEP      | S-06           | WWTF Reclaim Water Nutrient Reduction | Upgrade to WWTF treatment process that will reduce concentration of TN from 20 mg/L to 4 mg/L and TP from 4 mg/L to 1 mg/L in reclaimed water. 1 million gallons per day (mgd) delivered to Jesup Basin–0.29 mgd to Site 10 and 0.71 mgd for irrigation. | WWTF Nutrient Reduction          | Underway       | 2018            | 10,966                | 2,056                 | 3,800         | \$16,000,000 | \$100,000       | City/ DEP State Revolving Fund | N/A            | N/A                           | Structural                          | 2017       |
| City of Sanford | N/A      | S-07           | Credits for Missing BMPs              | BMPs missing from model.                                                                                                                                                                                                                                 | Stormwater System Rehabilitation | Completed      | N/A             | 353                   | 327                   | N/A           | N/A          | N/A             | N/A                            | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 13,667           | 2,849            |
| Required reductions      | 4,297            | 1,330            |
| Remaining reductions     | -9,370 (credit)  | -1,519 (credit)  |



Table B-10. City of Winter Park projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity         | Partners      | Project Number | Project Name                                                                          | Project Description                                                                                     | Project Type                | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|---------------------|---------------|----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Winter Park | N/A           | WP-34          | Street Sweeping                                                                       | Street sweeping twice/month of 130 miles–124,200 cubic feet of material collected annually.             | Street Sweeping             | Completed      | N/A             | 433                   | 301                   | 0             | Not provided | Not provided    | Not provided   | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Winter Park | N/A           | WP-35          | Education Efforts                                                                     | FYN, landscape and fertilizer ordinances, pamphlets, presentations, website, Illicit Discharge Program. | Education Efforts           | Completed      | N/A             | 231                   | 15                    | 0             | Not provided | Not provided    | Not provided   | N/A            | N/A                           | Nonstructural                       | 2017       |
| City of Winter Park | DEP           | WP-40          | Park North Exfiltration                                                               | Exfiltration trench.                                                                                    | Exfiltration Trench         | Completed      | 2014            | 10                    | 1                     | 9             | \$703,000    | \$2,500         | DEP            | \$421,000      | GO340                         | Structural                          | 2017       |
| City of Winter Park | DEP           | WP-41          | Canton Avenue Outfall Retrofit                                                        | Suntree baffle box.                                                                                     | Baffle Boxes–2nd Generation | Completed      | 2013            | 6                     | 0                     | 23            | \$129,000    | \$1,000         | DEP            | \$77,000       | GO337                         | Structural                          | 2017       |
| City of Winter Park | DEP           | WP-44          | Howard Drive Outfall Retrofit                                                         | Continuous deflective separation (CDS), detention, Beemats.                                             | Hydrodynamic Separators     | Completed      | 2015            | 1                     | 0                     | 29            | \$411,000    | \$1,500         | DEP            | \$249,000      | GO354                         | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-45          | West Fawsett Road Outfall Retrofit                                                    | CDS.                                                                                                    | Hydrodynamic Separators     | Completed      | 2015            | 0                     | 0                     | 22            | \$50,000     | \$1,500         | Self-Funded    | \$50,000       | N/A                           | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-46          | Dixie Parkway Outfall No. 3                                                           | Exfiltration.                                                                                           | Exfiltration Trench         | Planned        | 2017            | 40                    | 3                     | 22            | \$300,000    | \$1,500         | Self-Funded    | \$300,000      | N/A                           | Structural                          | 2017       |
| City of Winter Park | Orange County | WP-47          | Lake Killarney Sediment Phosphorus Deactivation                                       | Alum–whole lake, partnered with Orange County.                                                          | Alum Injection System       | Underway       | 2017            | TBD                   | TBD                   | N/A           | \$340,000    | N/A             | Self-Funded    | \$340,000      | N/A                           | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-48          | Howell Branch Pond Modifications                                                      | Upgrade existing pond to provide treatment volume.                                                      | Wet Detention Pond          | Underway       | 2017            | 22                    | 1                     | 28            | \$689,598    | \$2,000         | Self-Funded    | \$689,598      | N/A                           | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-49          | Nicolet Avenue Regional Pond                                                          | Regional pond to treat discharges to Lake Killarney.                                                    | Wet Detention Pond          | Underway       | 2017            | TBD                   | TBD                   | 108           | \$400,000    | \$1,500         | Self-Funded    | \$400,000      | N/A                           | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-50          | Lee Road (SR 423) Stormwater Outfall Water Quality Structure with Diversion Structure | CDS device.                                                                                             | Hydrodynamic Separators     | Underway       | 2018            | 0                     | 0                     | 25            | \$187,000    | \$1,500         | Self-Funded    | Not provided   | N/A                           | Structural                          | 2017       |
| City of Winter Park | N/A           | WP-51          | Lake Sylvan Outfall Water Quality Structure with Diversion Structure                  | CDS device.                                                                                             | Hydrodynamic Separators     | Underway       | 2018            | 0                     | 0                     | 10            | \$195,000    | \$1,500         | Self-Funded    | Not provided   | N/A                           | Structural                          | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 743              | 321              |
| Required reductions      | 932              | 171              |
| Remaining reductions     | 189              | -150 (credit)    |



Table B-11. City of Winter Springs projects

TBD = To be determined; N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity            | Partners                        | Project Number | Project Name                                                                     | Project Description                                                                                                  | Project Type                        | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost        | Cost Annual O&M | Funding Source                        | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|------------------------|---------------------------------|----------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|-------------|-----------------|---------------------------------------|----------------|-------------------------------|-------------------------------------|------------|
| City of Winter Springs | City of Oviedo/ Seminole County | WS-01          | Solary Canal STA–missing from model                                              | Regional stormwater treatment facility consisting of 8.0-acre wet pond and 4.8-acre wetland.                         | Regional Stormwater Treatment (RST) | Completed      | 2011            | 730                   | 147                   | 1,471         | \$1,700,000 | \$25,000        | SJRWMD Grant                          | \$1,700,000    | N/A                           | Structural                          | 2017       |
| City of Winter Springs | N/A                             | WS-06          | Education Efforts–Update Local Codes and Ordinances (Fertilizer Rule, etc.), FYN | FYN, PSAs, distribution of pamphlets, presentations to various groups, and inspection program on illicit discharges. | Education Efforts                   | Completed      | N/A             | 2,638                 | 180                   | N/A           | \$4,000     | \$4,000         | Stormwater Utility Fund               | \$4,000        | N/A                           | Nonstructural                       | 2017       |
| City of Winter Springs | N/A                             | WS-07          | Street Sweeping                                                                  | Quarterly street sweeping–14,674 cubic feet of material collected.                                                   | Street Sweeping                     | Completed      | N/A             | 486                   | 316                   | N/A           | \$40,000    | N/A             | Stormwater Utility Fund               | \$40,000       | N/A                           | Nonstructural                       | 2017       |
| City of Winter Springs | SJRWMD                          | WS-09          | Solary Canal Water Quality Improvements                                          | Retrofit outflow to include nutrient removal filtration system.                                                      | Wet Detention Pond                  | Completed      | TBD             | 850                   | 213                   | 1,471         | \$200,000   | TBD             | Stormwater Utility Fund/ SJRWMD Grant | \$207,564      | N/A                           | Structural                          | 2017       |
| City of Winter Springs | N/A                             | WS-10          | North Tuskawilla Outfall Drainage and Water Quality Improvements                 | Dual baffle boxes and repair of outfall weir structure.                                                              | Baffle Boxes–2nd Generation         | Planned        | TBD             | 14                    | 3                     | 20            | \$200,000   | Not provided    | Not provided                          | Not provided   | N/A                           | Structural                          | 2017       |
| City of Winter Springs | N/A                             | WS-11          | Credits for Missing BMPs                                                         | BMPs missing from model.                                                                                             | Stormwater System Rehabilitation    | Completed      | N/A             | 464                   | 78                    | N/A           | N/A         | N/A             | N/A                                   | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 5,182            | 937              |
| Required reductions      | 8,875            | 1,660            |
| Remaining reductions     | 3,693            | 723              |



Table B-12. FDOT District 5 projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity | Partners        | Project Number | Project Name                                                                            | Project Description                                                                                                                                  | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source            | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-------------|-----------------|----------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|---------------------------|----------------|-------------------------------|-------------------------------------|------------|
| FDOT        | Seminole County | FDOT-02        | Soldiers Creek Alum Treatment Facility                                                  | Flow-through alum system along CR 427 in Seminole County to reduce nutrient loads in Soldiers Creek.                                                 | Alum Injection System            | Completed      | 2016            | N/A                   | 80                    | 5,692         | Not provided | Not provided    | Legislative Appropriation | Not provided   | N/A                           | Structural                          | 2017       |
| FDOT        | N/A             | FDOT-03        | FM: 240196-1 SR 17-92 Basin C and D                                                     | Proposed widening of SR 15/600 (US 17/92) from Shepard Road to Lake Mary Boulevard; drainage improvements and treatment of existing impervious area. | Dry Detention Pond               | Underway       | 2019            | 55                    | 16                    | 48            | Not provided | Not provided    | Legislative Appropriation | Not provided   | N/A                           | Structural                          | 2017       |
| FDOT        | N/A             | FDOT-05        | Street Sweeping                                                                         | Monthly street sweeping– 48,581 cubic feet of material collected.                                                                                    | Street Sweeping                  | Completed      | N/A             | 1,166                 | 736                   | 0             | Not provided | Not provided    | Legislative Appropriation | Not provided   | N/A                           | Nonstructural                       | 2017       |
| FDOT        | N/A             | FDOT-06        | Education Efforts                                                                       | Public education efforts– 1 %.                                                                                                                       | Education Efforts                | Completed      | N/A             | 46                    | 4                     | 0             | Not provided | Not provided    | Legislative Appropriation | Not provided   | N/A                           | Nonstructural                       | 2017       |
| FDOT        | N/A             | FDOT-08        | FM 240216-2 SR 46 (add lanes and reconstruct from Mellonville Avenue to east of SR 415) | Pond 2 (also known as Pond A).                                                                                                                       | Wet Detention Pond               | Underway       | 2018            | 64                    | 0                     | 25            | Not provided | Not provided    | Legislative Appropriation | Not provided   | N/A                           | Structural                          | 2017       |
| FDOT        | N/A             | FDOT-09        | Credits for Missing BMPs                                                                | BMPs missing from model.                                                                                                                             | Stormwater System Rehabilitation | Completed      | N/A             | 476                   | 65                    | N/A           | N/A          | N/A             | N/A                       | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 1,807            | 901              |
| Required reductions      | 938              | 223              |
| Remaining reductions     | -869 (credit)    | -678 (credit)    |

Table B-13. Orange County projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity   | Partners                                   | Project Number | Project Name                         | Project Description                                                                                                                   | Project Type                              | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source                                     | Funding Amount     | DEP Contract Agreement Number  | Structural, Nonstructural, or Trade | Year Added |
|---------------|--------------------------------------------|----------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------------------------------------------|--------------------|--------------------------------|-------------------------------------|------------|
| Orange County | N/A                                        | OC-04          | Street Sweeping                      | Street sweeping for total of 971.93 curb miles per year–113,000 lbs/yr of material collected.                                         | Street Sweeping                           | Completed      | N/A             | 6                     | 3                     | 0             | N/A          | N/A             | N/A                                                | N/A                | N/A                            | Nonstructural                       | 2017       |
| Orange County | N/A                                        | OC-05          | Education Efforts                    | FYN, ordinances (landscaping, irrigation, fertilizer, pet waste), PSAs, pamphlets, presentations, website, Illicit Discharge Program. | Education Efforts                         | Completed      | N/A             | 219                   | 8                     | 0             | Not provided | Not provided    | Not provided                                       | Not provided       | N/A                            | Nonstructural                       | 2017       |
| Orange County | N/A                                        | OC-08          | Lake Burkett Inlet Baskets Phase I   | Curb inlet basket installation, operation, and maintenance–20,000 lbs/yr collected.                                                   | Catch Basin Inserts/Inlet Filter Cleanout | Completed      | N/A             | 1                     | 1                     | 130           | \$41,600     | \$4,680         | Orange County Board of County Commissioners (BOCC) | Orange County BOCC | N/A                            | Nonstructural                       | 2017       |
| Orange County | N/A                                        | OC-09          | Lake Burkett Inlet Baskets Phase II  | Curb inlet basket installation, operation, and maintenance–17,000 lbs/yr collected.                                                   | Catch Basin Inserts/Inlet Filter Cleanout | Canceled       | N/A             | 0                     | 0                     | N/A           | N/A          | N/A             | N/A                                                | N/A                | N/A                            | Nonstructural                       | 2017       |
| Orange County | N/A                                        | OC-10          | Lake Killarney Inlet Baskets         | Curb inlet basket installation, operation, and maintenance–6,000 lbs/yr collected.                                                    | Catch Basin Inserts/Inlet Filter Cleanout | Completed      | N/A             | 1                     | 1                     | 62            | \$38,500     | \$3,960         | Orange County BOCC                                 | Orange County BOCC | N/A                            | Nonstructural                       | 2017       |
| Orange County | City of Winter Park/ SJRWMD/ Orange County | OC-11          | Lake Killarney Sediment Inactivation | Surface treatments with alum bind nutrients to sediments.                                                                             | Alum Injection System                     | Completed      | 2018            | 227                   | 141                   | 239           | \$300,00     | \$0             | SJRWMD                                             | \$99,000           | Reimbursement Agreement #28089 | Nonstructural                       | 2017       |
| Orange County | N/A                                        | OC-12          | Credits for Missing BMPs             | BMPs missing from model.                                                                                                              | Stormwater System Rehabilitation          | Completed      | N/A             | 548                   | 28                    | N/A           | N/A          | N/A             | N/A                                                | N/A                | N/A                            | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 1,002            | 182              |
| Required reductions      | 736              | 70               |
| Remaining reductions     | -266 (credit)    | -112 (credit)    |

**Table B-14. Seminole County projects**

TBD = To be determined; N/A = Not applicable; O&amp;M = Operations and maintenance

| Lead Entity     | Partners                                                                                                                             | Project Number | Project Name                                                    | Project Description                                                                                                                                                   | Project Type                        | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost        | Cost Annual O&M | Funding Source                            | Funding Amount                                                | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|-------------|-----------------|-------------------------------------------|---------------------------------------------------------------|-------------------------------|-------------------------------------|------------|
| Seminole County | DEP                                                                                                                                  | SC-01          | Cassel Creek RSF                                                | RSF to treat water in sub-basin upstream.                                                                                                                             | Wet Detention Pond                  | Completed      | 7/1/2013        | 996                   | 157                   | 830           | \$2,126,000 | \$8,500         | SJRWMD/ Seminole County ad valorem tax    | \$2,126,000                                                   | N/A                           | Structural                          | 2017       |
| Seminole County | City of Oviedo/ City of Winter Springs                                                                                               | SC-07          | Solary Canal STA–missing from model                             | Regional stormwater treatment facility consisting of 8.0-acre wet pond and 4.8-acre wetland.                                                                          | Regional Stormwater Treatment (RST) | Completed      | 12/1/2011       | 730                   | 147                   | 1,471         | \$1,700,000 | \$5,000         | SJRWMD Grant                              | \$1,700,000                                                   | N/A                           | Structural                          | 2017       |
| Seminole County | N/A                                                                                                                                  | SC-09          | Street Sweeping                                                 | Street sweeping monthly of 66.8 miles and quarterly of 160.2 miles– 14,364 cubic feet of material collected annually.                                                 | Street Sweeping                     | Completed      | N/A             | 383                   | 238                   | N/A           | \$130,000   | 0               | Ad valorem tax                            | \$130,000                                                     | N/A                           | Nonstructural                       | 2017       |
| Seminole County | City of Winter Springs/ City of Altamonte/ City of Longwood/ City of Casselberry/ City of Oviedo/ City of Lake Mary/ City of Sanford | SC-10          | Education Efforts                                               | FYN, ordinances (irrigation, landscaping, pet waste, fertilizer), PSAs, pamphlets, presentations, website, Illicit Discharge Program.                                 | Education Efforts                   | Completed      | N/A             | 5,778                 | 378                   | N/A           | \$65,000    | N/A             | Cities/Ad valorem tax                     | \$28,000 cities, \$37,000 Seminole County                     | N/A                           | Nonstructural                       | 2017       |
| Seminole County | SJRWMD/ FDOT                                                                                                                         | SC-12          | Soldiers Creek at CR 427 RSF                                    | RSF with alum to treat water in sub-basin upstream.                                                                                                                   | Alum Injection System               | Completed      | 3/30/2017       | 18,863                | 2,230                 | 5,692         | \$7,500,000 | \$75,000        | FDOT/ SJRWMD/ Seminole County sales tax   | \$6,500,000 FDOT, \$800,000 SJRWMD, \$200,000 Seminole County | N/A                           | Structural                          | 2017       |
| Seminole County | N/A                                                                                                                                  | SC-13          | Bear Gully Creek Diversion to Mikler Pond                       | Design and construct RSF to treat water from Bear Gully Canal sub-basin.                                                                                              | Wet Detention Pond                  | Planned        | TBD             | 9,121                 | 1,004                 | 1,098         | \$800,000   | N/A             | N/A                                       | N/A                                                           | N/A                           | Structural                          | 2017       |
| Seminole County | DEP/ SJRWMD                                                                                                                          | SC-17          | Black Hammock Creek Reclamation and Floodplain Treatment System | Reconnection of historical meander and floodplain from channelized Salt Creek; restoration, muck, and vegetation removal from Sweetwater Creek in Black Hammock area. | Hydrologic Restoration              | Underway       | 12/1/2018       | 4,854                 | 1,160                 | 5,619         | \$2,200,000 | N/A             | DEP TMDL grant, Seminole County sales tax | \$2,200,000                                                   | S0636                         | Structural                          | 2017       |

| Lead Entity     | Partners                                                 | Project Number | Project Name                                              | Project Description                                                                        | Project Type                            | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost        | Cost Annual O&M | Funding Source                                                           | Funding Amount                                    | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-----------------|----------------------------------------------------------|----------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|-------------|-----------------|--------------------------------------------------------------------------|---------------------------------------------------|-------------------------------|-------------------------------------|------------|
| Seminole County | N/A                                                      | SC-20          | BMP Clean Out                                             | Clean out of BMPs, 6,936 cubic feet of material per year.                                  | BMP Clean Out                           | Completed      | N/A             | 295                   | 116                   | N/A           | N/A         | \$20,000        | Transportation Trust                                                     | \$20,000                                          | N/A                           | Nonstructural                       | 2017       |
| Seminole County | N/A                                                      | SC-25          | 5 Points Access Road                                      | Master stormwater facility for 5 Points area.                                              | Wet Detention Pond                      | Planned        | TBD             | 213                   | 39                    | N/A           | N/A         | N/A             | N/A                                                                      | N/A                                               | N/A                           | Structural                          | 2017       |
| Seminole County | N/A                                                      | SC-26          | Howell Creek Erosion Control Project                      | Erosion control measures on Howell Creek.                                                  | Shoreline Stabilization                 | Underway       | 3/1/2018        | 0                     | 0                     | N/A           | \$1,300,000 | \$2,000         | Seminole County sales tax                                                | \$1,300,000                                       | N/A                           | Structural                          | 2017       |
| Seminole County | N/A                                                      | SC-27          | Credits for Missing BMPs                                  | BMPs missing from model.                                                                   | Stormwater System Rehabilitation        | Completed      | N/A             | 1,786                 | 0                     | N/A           | N/A         | N/A             | N/A                                                                      | N/A                                               | N/A                           | Nonstructural                       | 2017       |
| Seminole County | Altamonte/ Casselberry/ Lake Mary/ Longwood/ Oviedo/ DEP | SC-28          | Seminole County Fertilizer Ordinance                      | Reduce nitrogen and phosphorus sources through public education and restrictions on usage. | Regulations, Ordinances, and Guidelines | Completed      | 2017            | TBD                   | TBD                   | 14,267        | \$250,000   | \$65,000        | Ad valorem taxes/ Florida Friendly Landscaping Cost-Share/ DEP 319 grant | City–\$28,000/yr County–\$37,000/yr DEP–\$100,000 | NF034                         | Nonstructural                       | 2018       |
| Seminole County | N/A                                                      | SC-29          | Lake of the Woods Retention Pond                          | Construct retention pond to capture untreated runoff into Lake of the Woods.               | 100 % Onsite Retention                  | Planned        | TBD             | TBD                   | TBD                   | TBD           | \$500,000   | N/A             | TBD                                                                      | TBD                                               | N/A                           | Structural                          | 2018       |
| Seminole County | N/A                                                      | SC-30          | Bear Gully Lake Upstream Shallow Wetland Treatment System | Implement upstream shallow wetland treatment system.                                       | Wetland Treatment                       | Planned        | TBD             | TBD                   | 16                    | TBD           | \$370,000   | N/A             | TBD                                                                      | TBD                                               | N/A                           | Structural                          | 2018       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 43,019           | 5,485            |
| Required reductions      | 19,439           | 3,494            |
| Remaining reductions     | -23,580 (credit) | -1,991 (credit)  |

Table B-15. Site 10 projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity             | Partners | Project Number | Project Name              | Project Description     | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|-------------------------|----------|----------------|---------------------------|-------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| Site 10–City of Sanford | N/A      | Site10-01      | Credits for Missing BMPs. | BMPs missing from model | Stormwater System Rehabilitation | Completed      | N/A             | 1,150                 | 146                   | N/A           | N/A  | N/A             | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 1,150            | 146              |
| Required reductions      | 774              | 148              |
| Remaining reductions     | -376 (credit)    | 2                |

Table B-16. Town of Eatonville projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity        | Partners | Project Number | Project Name     | Project Description                                                            | Project Type      | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|--------------------|----------|----------------|------------------|--------------------------------------------------------------------------------|-------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| Town of Eatonville | N/A      | E-01           | Street Sweeping  | Monthly street sweeping of 3.7 miles.                                          | Street Sweeping   | Completed      | N/A             | 0                     | 0                     | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| Town of Eatonville | N/A      | E-04           | Public Education | Brochures, newsletters, public displays, workshops, Illicit Discharge Program. | Education Efforts | Completed      | N/A             | 1                     | 0                     | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 1                | 0                |
| Required reductions      | 19               | 5                |
| Remaining reductions     | 18               | 5                |

Table B-17. Turnpike Authority projects

N/A = Not applicable; O&M = Operations and maintenance

| Lead Entity        | Partners | Project Number | Project Name                        | Project Description                                                              | Project Type                     | Project Status | Completion Date | TN Reduction (lbs/yr) | TP Reduction (lbs/yr) | Acres Treated | Cost         | Cost Annual O&M | Funding Source | Funding Amount | DEP Contract Agreement Number | Structural, Nonstructural, or Trade | Year Added |
|--------------------|----------|----------------|-------------------------------------|----------------------------------------------------------------------------------|----------------------------------|----------------|-----------------|-----------------------|-----------------------|---------------|--------------|-----------------|----------------|----------------|-------------------------------|-------------------------------------|------------|
| Turnpike Authority | N/A      | T-02           | Monthly Street Sweeping of 48 Miles | Street sweeping to remove 60,885 lbs/yr of material.                             | Street Sweeping                  | Completed      | N/A             | 24                    | 14                    | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| Turnpike Authority | N/A      | T-03           | Education Efforts                   | No fertilizer on rights-of-way, educational signage, illicit discharge training. | Education Efforts                | Completed      | N/A             | 77                    | 7                     | N/A           | Not provided | Not provided    | Not provided   | Not provided   | N/A                           | Nonstructural                       | 2017       |
| Turnpike Authority | N/A      | T-04           | Credits for Missing BMPs            | BMPs missing from model.                                                         | Stormwater System Rehabilitation | Completed      | N/A             | 902                   | 110                   | N/A           | N/A          | N/A             | N/A            | N/A            | N/A                           | Nonstructural                       | 2017       |

| Category                 | TN Load (lbs/yr) | TP Load (lbs/yr) |
|--------------------------|------------------|------------------|
| Total project reductions | 1,003            | 131              |
| Required reductions      | 1,031            | 258              |
| Remaining reductions     | 28               | 127              |