DRAFT

Lake Jesup
Basin Management Action Plan

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

with participation from the
Lake Jesup Basin Stakeholders

March 2025

2600 Blair Stone Road
Tallahassee, FL 32399-2400
https://floridadep.gov

Acknowledgements

This *2025 Lake Jesup Basin Management Action Plan (BMAP)* 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 (DEP) in coordination with the Lake Jesup stakeholders.

Florida Department of Environmental Protection
Alexis A. Lambert, Secretary

Table ES-1. Lake Jesup stakeholders

Type of Organization/Entity	Name
Responsible Entities	Agriculture Orange County Seminole County City of Altamonte Springs City of Casselberry City of Lake Mary City of Longwood City of Maitland City of Orlando City of Oviedo City of Sanford City of Winter Park City of Winter Springs Town of Eatonville
Responsible Agencies	County Health Departments Florida Department of Agriculture and Consumer Services Florida Department of Environmental Protection Florida Department of Transportation District 5 Florida Turnpike Enterprise St. Johns River Water Management District
Other Interested Stakeholders	Residents/Homeowners East Central Florida Regional Planning Council Florida Farm Bureau Florida Onsite Wastewater Association Septic System Contractors

See **Appendix A** for links to resources referenced in this document. For additional information, contact:

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Table of Contents

List of Figures

List of Tables

List of Acronyms and Abbreviations

ACE	Agricultural Cooperative Regional Elements
ALG	Agricultural Land Geodatabase
AWT	Advanced Waste Treatment
ATU	Aerobic Treatment Unit
BEBR	Bureau of Economic and Business Research
BMAP	Basin Management Action Plan
BMP	Best Management Practice
BOCC	Board of County Commissioners
BOD	Biochemical Oxygen Demand
CAFO	Confined Animal Feeding Operation
CASTNET	Clean Air Status and Trends Network
CDS	Continuous Deflective Separation (unit)
CMAQ	Community Multiscale Air Quality
CR	County Road
CWA	Clean Water Act
DACS	Florida Department of Agriculture and Consumer Services
DEP	Florida Department of Environmental Protection
DMR	Discharge Monthly Report
DO	Dissolved Oxygen
DOT	Florida Department of Transportation
DWTS	Distributed Wastewater Treatment System
EFDC	Environmental Fluid Dynamics Code (model)
ENR	Enhanced Nutrient Reducing
EPA	Environmental Protection Agency
F.A.C.	Florida Administrative Code
FFS	Florida Forest Service
FLWMI	Florida Water Management Inventory
FNAI	Florida Natural Areas Inventory
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
GIS	Geographic Information System
HSPF	Hydrological Simulation Program–FORTRAN (model)
IA	Implementation Assurance
IV	Implementation Verification
lbs/yr	Pounds Per Year
LID	Low Impact Development
LVS	Linear Vegetation Survey
mgd	Million Gallons Per Day

mg/L	Milligrams Per Liter
MS4	Municipal Separate Storm Sewer System
N	Nitrogen
N/A	Not Applicable
NADP	National Atmospheric Deposition Program
NARF	Nutrient Application Record Form
NELAC	National Laboratory Environmental Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NHD	National Hydrography Database
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSF	NSF International (formerly National Sanitation Foundation)
NTN	National Trends Network
O&M	Operations and Maintenance
OAWP	Office of Agricultural Water Policy (DACS)
OSTDS	Onsite Sewage Treatment and Disposal System
P	Phosphorus
PBTS	Performance-based Treatment System
PLRG	Pollutant Load Reduction Goal
PSA	Public Service Announcement
QA/QC	Quality Assurance/Quality Control
RAP	Reasonable Assurance Plan
RIB	Rapid Infiltration Basin
RPS	Rapid Periphyton Survey
RSF	Regional Stormwater Facility
RST	Regional Stormwater Treatment
SAV	Submerged Aquatic Vegetation
SBIO	DEP Statewide Biological Database
SCI	Stream Condition Index
SJRWMD	St. Johns River Water Management District
SR	State Road
STA	Stormwater Treatment Area
STORET	Florida Storage and Retrieval Database
TBD	To Be Determined
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids
UF–IFAS	University of Florida-Institute of Food and Agricultural Sciences
USGS	U.S. Geological Survey
WASP	Water Quality Analysis Simulation Program (model)

WBID	Waterbody Identification (number)
WIN	Florida Watershed Information Network Database
WMD	Water Management District
WWTF	Wastewater Treatment Facility

Executive Summary

Background

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 BMAP was adopted in 2010 to implement the adopted total maximum daily load (TMDL) for total phosphorus (TP) and subsequently, implementation of the total nitrogen TMDL was added. This 2025 Lake Jesup BMAP provides updates to legislative requirements that are in effect for the BMAP area. This document is to be used as a supplement to the 2010 BMAP and 2019 BMAP Amendment.

In 2028, DEP anticipates the completion of a model revision to the Lake Jesup Basin as part of a larger effort to model the entire St. Johns River Basin. This work will provide the necessary technical support for potential updates to allocations to meet the TMDLs and achieve the requirements of the BMAPs, including the Lake Jesup BMAP. After model completion, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP which may include updated pollutant loading information and potential updates to required reductions for the responsible stakeholders. The BMAP provides 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 nutrient 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.

Currently, most surface waters in Florida, including Lake Jesup, are categorized as Class III waters, meaning they must be suitable for recreation and support fish consumption and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. In 2004, DEP identified Lake Jesup as impaired for total phosphorus (TP), total nitrogen (TN), and un-ionized ammonia. A TMDL is the maximum amount of a specific pollutant that a waterbody can assimilate while maintaining its designated uses. The Lake Jesup TP and TN TMDLs, 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.

A BMAP is a framework for water quality restoration that contains a comprehensive set of solutions to achieve the pollutant reductions established by a TMDL. Examples include permit limits on regulated facilities, urban and agricultural best management practices (BMPs), wastewater and stormwater infrastructure, regional projects and conservation programs designed to achieve pollutant reductions established by a TMDL. A BMAP is developed with local stakeholders and relies on local input and commitment for successful implementation. BMAPs are adopted by Secretarial Order and are legally enforceable. BMAPs use an adaptive management approach that allows for incremental load reductions through the implementation of projects and management strategies, while simultaneously monitoring and conducting studies to

better understand the water quality and hydrologic dynamics. Progress is tracked by assessing project implementation and water quality analyses.

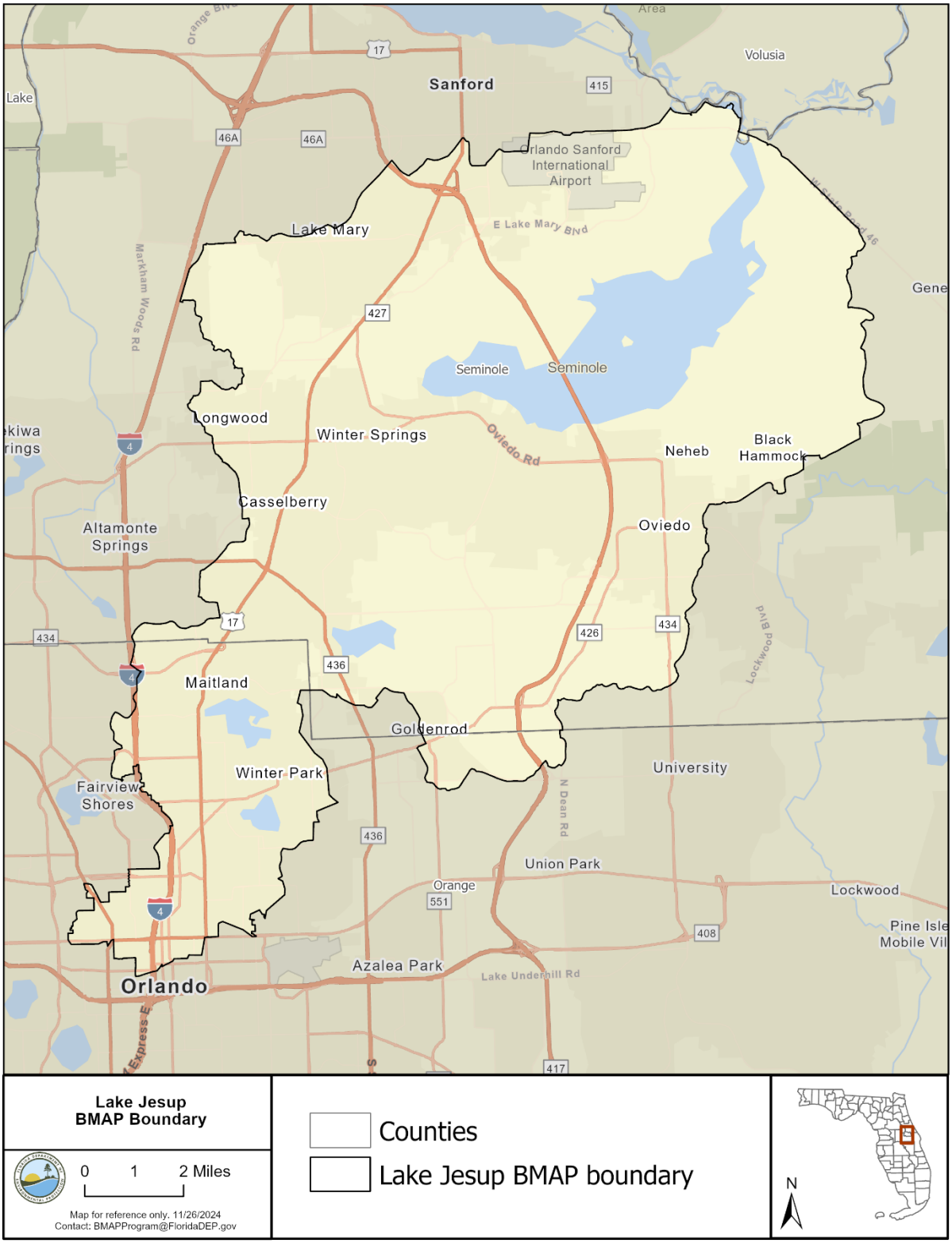

Figure ES-1. Lake Jesup and local government jurisdictions in the basin

The Florida Watershed Restoration Act (FWRA), section 403.067, F.S., establishes an adaptive management process for BMAPs that continues until the TMDLs are achieved and maintained. This approach allows for incrementally reducing nutrient loads through the implementation of projects and programs, while simultaneously monitoring and conducting studies to better understand water quality dynamics (sources and response variables) in each impaired waterbody. The Lake Jesup BMAP was first adopted in April 2010, and the Lake Jesup BMAP Amendment was adopted July 2019.

Required Reductions and Options to Achieve Reductions

In the original BMAP, a BATHTUB model was used to estimate loads and load reductions. After 2010 BMAP adoption, St. Johns River Water Management District (SJRWMD) developed three models for Lake Jesup to set the pollutant load reduction goal (PLRG) for the lake. These models included the watershed Hydrological Simulation Program - FORTRAN (HSPF) model, in-lake hydrodynamics Environmental Fluid Dynamics Code (EFDC) model, and in-lake water quality dynamics Water Quality Analysis Simulation Program (WASP) model. These models provided more detailed watershed loading, updated land use coverage, updated urban BMP coverage, and in-lake water quality dynamics, which were all improvements from the original BATHTUB model.

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. The 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. This 2025 BMAP update will not update the modeling information presented in the 2019 Lake Jesup Amendment. The existing load estimates and allocations of load reductions to the responsible stakeholders will remain in effect.

A multi-year effort is underway to model the entire St. Johns River Basin and provide updates to the existing watershed, hydrodynamic and water quality models, including those that have been developed by SJRWMD. The modeling framework will be comprised of different mechanistic models including HSPF, EFDC and WASP.

DEP anticipates that this effort will be completed in 2028. This work will provide the necessary technical support for potential updates to allocations to meet the TMDLs and achieve the requirements of the BMAPs, including the Lake Jesup BMAP. After model completion, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP which may include updated pollutant loading information and potential updates to required reductions for the responsible stakeholders.

Section 1. Context, Purpose, and Scope of the Plan

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 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 DEP worked with the local stakeholders and 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.

The Lake Jesup BMAP Amendment was adopted in 2019 as a supplement to the 2010 BMAP and to be used in conjunction with the 2010 BMAP. The 2019 BMAP Amendment provided information 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. The Amendment also set a deadline for achieving load reductions no later than 2030, which is 20 years after the initial BMAP adoption.

This 2025 Lake Jesup BMAP incorporates new legislative requirements that are now in effect. This document is to be used as a supplement to the 2010 BMAP and 2019 BMAP Amendment. In 2028, DEP anticipates the completion of a model revision to the Lake Jesup Basin because of a larger effort to model the entire St. Johns River Basin. This work will provide the necessary technical support for potential updates to allocations to meet the TMDLs and achieve the requirements of the BMAPs, including the Lake Jesup BMAP. After model completion, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP which may include updated pollutant loading information and potential updates to required reductions for the responsible stakeholders. 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 nutrient 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.

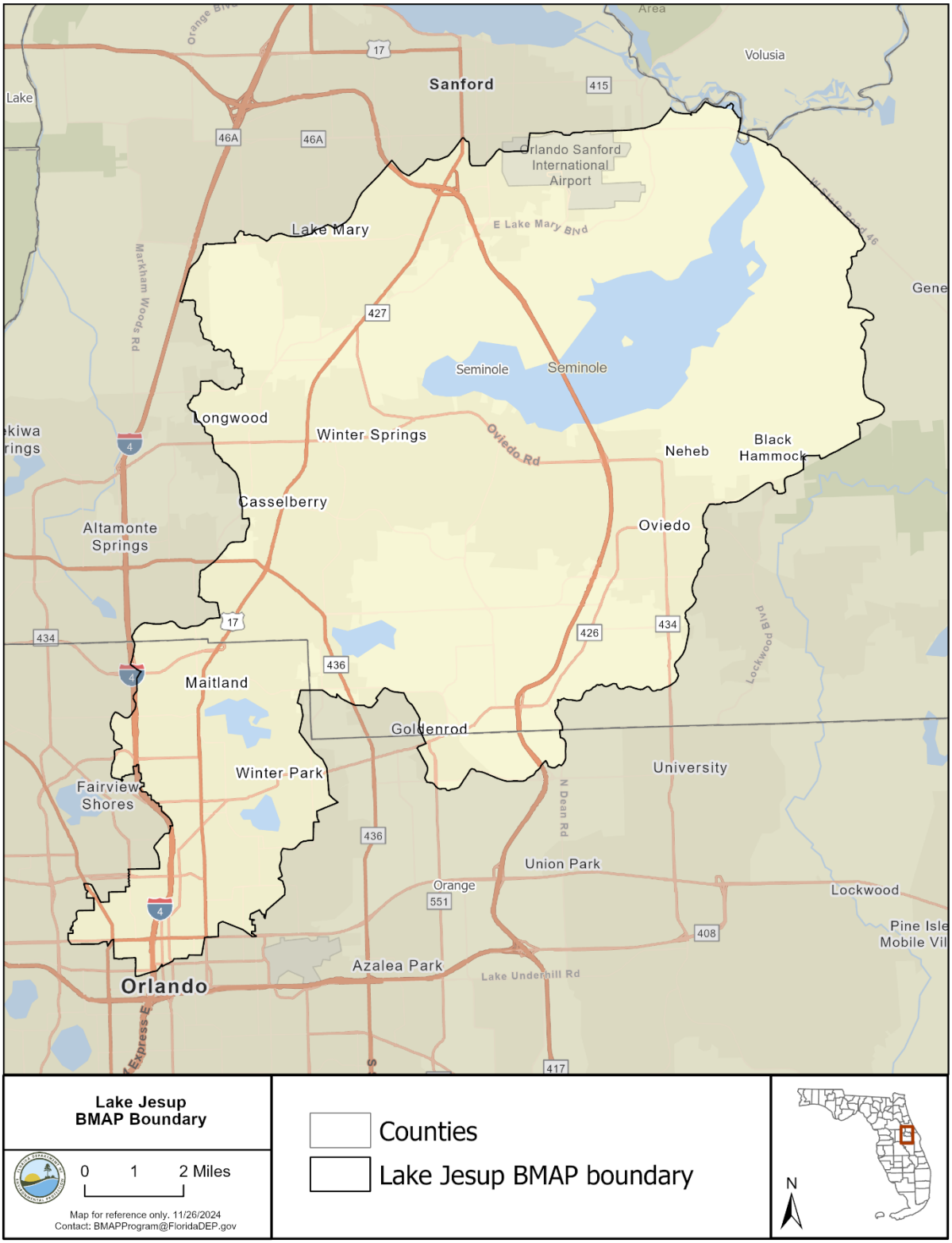

Figure 1. Lake Jesup and local government jurisdictions in the basin

1.1 Water Quality Standards and Total Maximum Daily Loads (TMDLs)

Florida's water quality standards are designed to ensure that surface waters fully support their designated uses, such as drinking water, aquatic life, recreation, and agriculture. Currently, most surface waters in Florida, including Lake Jesup, are categorized as Class III waters, meaning they must be suitable for recreation and support fish consumption and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. **Table 1** lists all designated use classifications for Florida's surface waters.

Table 1. Designated use attainment categories for Florida surface waters

[1] Class I, I-Treated, and II waters additionally include all Class III uses.

Classification	Description
Class I[1]	Potable water supplies
Class I-Treated[1]	Treated potable water supplies
Class II[1]	Shellfish propagation or harvesting
Class III	**Fish consumption; recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife**
Class III-Limited	Fish consumption, recreation or limited recreation, and/or propagation and maintenance of a limited population of fish and wildlife
Class IV	Agricultural water supplies
Class V	Navigation, utility, and industrial use (*no current Class V designations*)

Section 303(d) of the federal Clean Water Act (CWA) requires that every two years each state must identify its "impaired" waters, including estuaries, lakes, rivers, and streams that do not meet their designated uses. DEP is responsible for assessing Florida's waters for inclusion on the Verified List of Impaired Waters (when a causative pollutant for the impairment has been identified) and Study List (when a causative pollutant for the impairment has not been identified, and additional study is needed). These lists are then provided to the U.S. Environmental Protection Agency (EPA) as a biennial update to the state "303(d) list." In 2004, DEP identified Lake Jesup as impaired for total phosphorus, total nitrogen, and un-ionized ammonia.

1.2 Lake Jesup TMDL

A TMDL is the maximum amount of a specific pollutant that a waterbody can assimilate while maintaining its designated uses. The Lake Jesup TP and TN TMDLs, adopted in 2006 (Gao 2006), identified the TP and TN loads that the lake could receive and still maintain designated uses for these Class III waters. The 2010 BMAP focused on achieving TP reductions from the watershed. At the time of BMAP development in 2010, 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 system dynamics. SJRWMD also developed a HSPF model for the watershed and EFDC and 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 2 lists the Lake Jesup TMDLs for waterbody identification (WBID) number 2981, including 2981A, in units of pounds per year (lbs/yr). The TMDLs are adopted in rule, into subsection 62-304.505(1), Florida Administrative Code (F.A.C.), as a load (see **Table 2**). The purpose of the TMDLs is to achieve the target in-lake TP and TN concentrations in milligrams per liter (mg/L) listed in the table. The TMDLs assigned wasteload allocations for National Pollutant Discharge Elimination System (NPDES) permit holders as well as assigned load allocations to additional nutrient sources.

Table 2. TMDLs for Lake Jesup

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

1.3 Lake Jesup BMAP

A BMAP is a framework for water quality restoration that contains a comprehensive set of solutions to achieve the pollutant reductions established by a TMDL. Examples include permit limits on regulated facilities, urban and agricultural BMPs, wastewater and stormwater infrastructure, regional projects and conservation programs designed to achieve pollutant reductions established by a TMDL. A BMAP is developed with local stakeholders and relies on local input and commitment for successful implementation. BMAPs are adopted by Secretarial Order and are legally enforceable. BMAPs use an adaptive management approach that allows for incremental load reductions through the implementation of projects and management strategies, while simultaneously monitoring and conducting studies to better understand the water quality and hydrologic dynamics. Progress is tracked by assessing project implementation and evaluating water quality analyses.

The FWRA, section 403.067, F.S., establishes an adaptive management process for BMAPs that continues until TMDLs are achieved and maintained. This approach allows for incrementally reducing nutrient loads through the implementation of projects and programs, while simultaneously monitoring and conducting studies to better understand water quality dynamics (sources and response variables) in each impaired waterbody. The Lake Jesup BMAP was first adopted in April 2010, and the Lake Jesup BMAP Amendment was adopted in July 2019.

1.4 Stakeholder Involvement

Local stakeholders are a significant part of the Upper Ocklawaha River BMAP process.

In the context of the BMAP, there are different organizations named in the plan.

- Responsible entities are those organizations who are assigned load reductions and must comply with the BMAP provisions; these organizations are sometimes referred to as "Lead Entities."
- Responsible agencies may be accountable for reducing loads from their own activities or have an important public sector role in BMAP implementation such as regulatory oversight, monitoring, research, or other related duties.
- Interested stakeholders are those organizations that have engaged with BMAP development and implementation with the intention to influence the implementation process and outcomes.
- Stakeholders is a more general term often used in the BMAP context to include all three of the previously mentioned organizations—responsible entities, responsible agencies, and interested stakeholders.

The BMAP process engages responsible entities, responsible agencies, and interested stakeholders and promotes coordination and collaboration to address the pollutant load reductions necessary to achieve the TMDL.

DEP held a series of individual meetings with responsible stakeholders to review their BMAP progress and ensure they are aware of the legislative changes that apply to the BMAP. A public meeting was held on March 26, 2025 to present and receive public comments on the 2025 BMAP update. The purpose of this meeting was to solicit comments from all interested parties, disseminate information, and allow for public discussion. Prior to adoption, all public meetings are formally noticed in the Florida Administrative Register, and at least one meeting is noticed in local newspapers.

Section 2. Modeling

2.1 2010 BMAP

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 excluded. 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.

2.2 2019 BMAP Amendment

After 2010 BMAP adoption, SJRWMD developed three models for Lake Jesup to set the 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 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 3** summarizes the annual loading to Lake Jesup from the watershed, atmospheric deposition onto the lake, groundwater seepage to the lake, and sediment flux. **Figure 2** and **Figure 3** show the TP and TN loads by source, respectively.

As previously mentioned, this 2025 BMAP update will not include updated modeling information. Loading estimates and allocations of load reductions to the responsible stakeholders presented in the 2019 Lake Jesup BMAP will remain in effect.

Table 3. Loading to Lake Jesup by source

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

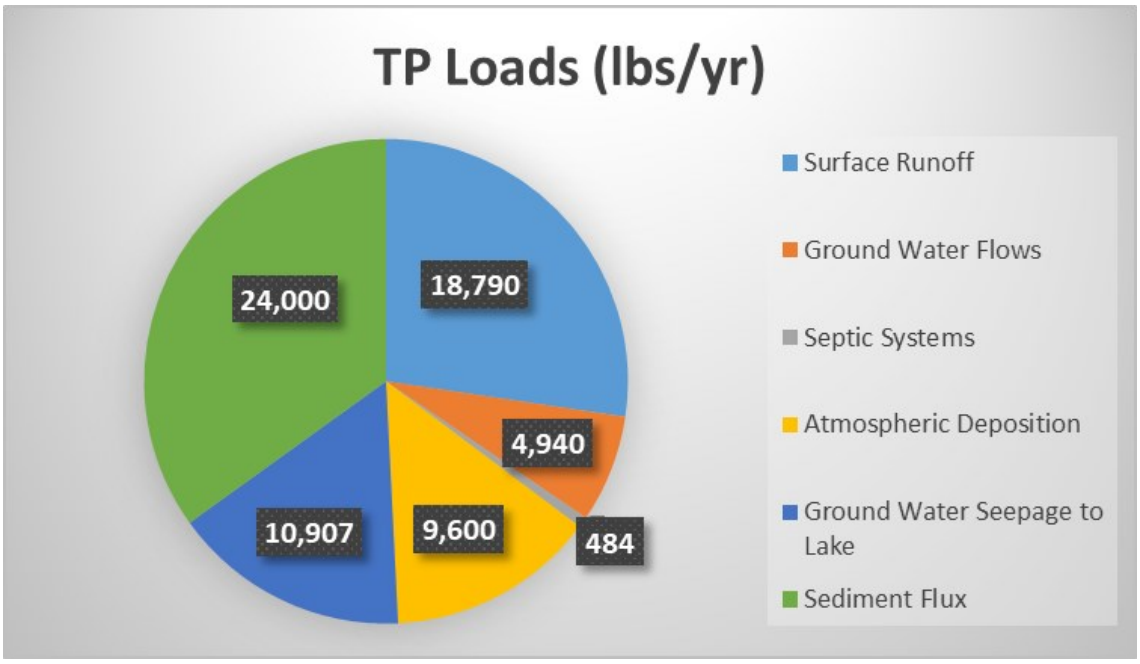

Figure 2. TP loading by source

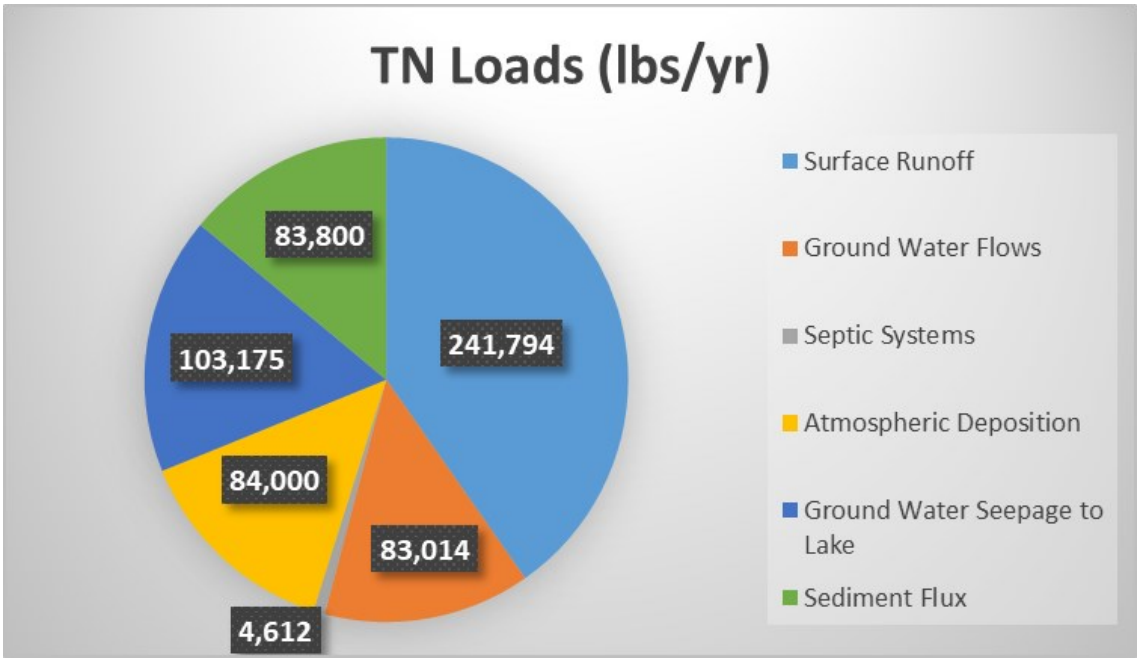

Figure 3. TN loading by source

2.3 St. Johns River Basin Model Update

At the time of the 2025 Lake Jesup BMAP update, a multi-year effort is underway to model the entire St. Johns River Basin. DEP and SJRWMD have contracted with Environmental Science Associates (ESA), GHD, and Wildwood Consulting to provide a more comprehensive estimation of pollutant loading to the entire basin and provide updates to the existing watershed, hydrodynamic and water quality models, including those that have been developed by SJRWMD.

The modeling framework will be comprised of different mechanistic models including HSPF, EFDC, and WASP. Public meetings will be held to share progress and update information with interested stakeholders.

DEP anticipates that this effort will be completed in 2028. After the St. Johns River Basin model is complete, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP, most likely before 2030. The next iteration may include updated required reductions, timelines, and 5-year milestones.

Section 3. Calculating and Allocating Load Reductions

As noted in **Section 1.2**, 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. The purpose of the allowable loadings is to achieve in-lake concentrations of 0.096 mg/L of TP and 1.27 mg/L of TN. 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 used to calculate the load reductions needed to achieve the TMDL loads and to allocate the load reduction requirements to the responsible stakeholders, as outlined in the 2019 Amendment.

3.1 Calculating Load Reductions

The TMDL 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 Phlips et al. (2004), an estimated 95% reduction in nitrogen fixation is 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 4**). Reductions of direct atmospheric deposition loads were not assigned to local entities. 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 the 2019 Amendment. Load reductions from the river will occur as part of upstream TMDL implementation.

The EFDC and WASP models were then run with 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 4. 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
Watershed	329,421	274,407	16.7	24,217	13,197	45.5
Groundwater Seepage to Lake	103,175	85,945	16.7	10,907	5,944	45.5
Atmospheric Deposition	84,000	84,000	0.0	9,600	9,600	0.0
Nitrogen Fixation	633,894	31,695	95.0	NA	NA	NA
Sediment Flux	83,800	69,852	16.7	24,000	13,080	45.5
Total Load	**1,234,290**	**545,899**		**68,724**	**41,821**	

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. For the 2019 Amendment, 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 (DOT) 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 5** summarizes the resulting area and loading assigned to each entity.

Table 5. 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
DOT 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

Entity	Area (acres)	TN Load (lbs/yr)	TP Load (lbs/yr)
Site 10	532	3,835	266
Natural Lands	32,360	56,881	4,347
Totals	**85,258**	**329,421**	**24,217**

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 6). 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 6. 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 7. 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 8** 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 8. 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

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
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
DOT 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
Totals	**272,540**	**55,013**		**19,870**	**11,019**	

3.2.1 5-Year Milestones

Section 403.067, F.S., requires that BMAPs include 5-year milestones for the implementation of TMDLs. Any responsible entity within the BMAP that has an assigned pollutant load reduction requirement must identify projects or strategies to meet their upcoming 5-year milestone, even if the identified project or strategy will not be completed by the milestone. Each project must include a planning-level cost estimate and an estimated date of completion that is included in the BMAP and updated in the statewide annual reporting process.

Table 9 summarizes the required reduction milestones for TN and TP for each entity in the Lake Jesup BMAP. Consistent with the timeline outlined in the 2019 Lake Jesup BMAP Amendment, this 2025 BMAP update includes two future milestones. Consistent with statute, entities must provide a list of projects and strategies to DEP that show how entities will meet their required reductions to achieve the next upcoming BMAP milestone. **Table 11** summarizes the current reductions made towards the 2027 milestone for TN and TP by entity.

Responsible entities must submit a sufficient list of additional projects and management strategies to DEP no later than January 14, 2026, to be compliant with the upcoming BMAP milestone or be subject to further department enforcement.

If any lead entity's management strategies list falls short of meeting their next 5-year milestone reductions, additional projects and management strategies are required. To remain in compliance with the BMAP until January 14, 2026, responsible entities with project deficits must catalog their efforts to identify management strategies to meet their milestone reduction requirements. These planning efforts are ineligible for BMAP credit themselves but are necessary to demonstrate that additional eligible management actions will be forthcoming and BMAP compliance will be achieved. Examples of project identification efforts are included in **Appendix C**.

After the St. Johns River Basin model is complete, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP, most likely before 2030. The next iteration may include updated required reductions, timelines, and 5-year milestones.

Table 9. Required reductions for 5-year milestones by entity

Entity	2027 Required Reduction (60% Milestone) TN (lbs/yr)	2027 Required Reduction (60% Milestone) TP (lbs/yr)	2030 Required Reduction (100% Milestone) TN (lbs/yr)	2030 Required Reduction (100% Milestone) TP (lbs/yr)
Agriculture	4,457	936	7,428	1,560
City of Altamonte Springs	35	4	58	6
City of Casselberry	1,774	328	2,956	547
City of Lake Mary	601	108	1,002	180
City of Longwood	672	109	1,120	181
City of Maitland	388	82	646	137
City of Orlando	34	8	57	14
City of Oviedo	2,823	621	4,705	1,035
City of Sanford	2,578	798	4,297	1,330
City of Winter Park	559	103	932	171
City of Winter Springs	5,325	996	8,875	1,660
DOT District 5	563	134	938	223
Orange County	442	42	736	70
Seminole County	11,663	2,096	19,439	3,493
Town of Eatonville	11	3	19	5
Turnpike Enterprise	619	155	1,031	258
Site 10	464	88	774	148
Totals	**33,008**	**6,611**	**55,013**	**11,019**

3.2.2 In-Lake Reductions

Reductions in loads from in-lake sources are also needed to achieve the TMDLs. **Table 10** summarizes the total required TN and TP reductions.

Table 10. Required in-lake reductions

Source	TN Required Reduction (lbs/yr)	TP Required Reduction (lbs/yr)
Groundwater Seepage to Lake	17,230	4,963
Sediment Flux	13,948	10,920
Totals	**31,178**	**15,883**

3.2.3 Project Progress

Table 11 summarizes the total required reductions and the estimated reductions achieved for completed and ongoing projects for each entity. **Appendix B** includes the project details. As part of the annual reporting process, stakeholders will be required to provide a detailed and quantified description of their ordinance enforcement and environmental education activities to receive credits for these activities. Based on progress towards meeting the TMDL and water quality monitoring results, reductions from ordinances and education efforts may be reevaluated in future BMAP updates, particularly with respect to enforcement of ordinances.

DEP continues to work with the appropriate agencies and other stakeholders to identify and prioritize needed projects and management strategies required to meet the reduction milestones.

Table 11. TN and TP load reductions

Entity	TN Full Required Reduction (lbs/yr)	TN Completed and Ongoing Project Reductions Achieved (lbs/yr)	% of TN Reductions Achieved	TP Full Required Reduction (lbs/yr)	TP Completed and Ongoing Project Reductions Achieved (lbs/yr)	% of TP Reductions Achieved
City of Altamonte Springs	58	50	86%	6	12	200%
City of Casselberry	2,956	1,866	63%	547	691	126%
City of Lake Mary	1,002	593	59%	180	97	54%
City of Longwood	1,120	2,426	217%	181	377	208%
City of Maitland	646	575	89%	137	324	236%
City of Orlando	57	133	233%	14	122	871%
City of Oviedo	4,705	3,108	66%	1,035	575	56%
City of Sanford	4,297	12,916	301%	1,330	2,782	209%
City of Winter Park	932	681	73%	171	317	185%
City of Winter Springs	8,875	5,169	58%	1,660	934	56%
Agriculture	7,428	9,536	128%	1,560	717	46%
DOT District 5	938	1,979	211%	223	926	415%
Orange County	736	1,002	136%	70	182	260%
Seminole County	19,439	33,901	174%	3,494	4,465	128%
Town of Eatonville	19	1	5%	5	0	0%
Turnpike Authority	1,031	981	95%	258	118	46%
Site 10	774	1,150	149%	146	146	100%
Totals	**55,013**	**76,067**	**138%**	**11,016**	**12,785**	**116%**

Section 4. Management Actions

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 required upcoming 5-year milestone 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 timeframe. 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 Wastewater

Recent legislative updates have expanded the requirements for addressing onsite sewage treatment and disposal systems (OSTDS or septic systems) and wastewater treatment facility (WWTF) sources within BMAPs.

4.1.1 OSTDS

Beginning July 1, 2023, section 403.067, F.S., prohibits any new conventional OSTDS serving a lot of one acre or less where central sewer is available. Within all BMAP areas, if central sewer is unavailable, then the owner must install a DEP-approved enhanced nutrient-reducing OSTDS that achieves 65% nitrogen reduction, or other wastewater system that achieves 65% reduction.

4.1.1.1 BMAP OSTDS Remediation Plan

This BMAP contains a remediation plan for OSTDS consisting of management actions, including those described in **Appendix B** and updated annually through the statewide reporting process that reduce loads from existing OSTDS through either sewer connection, adding enhancement nitrogen treatment to OSTDS, or installing another type of wastewater system on the property, as applicable.

Subparagraph 403.067(7)(a)9., F.S., also requires local governments within a BMAP to develop an OSTDS remediation plan that is adopted as part of the BMAP no later than July 1, 2025, if DEP identifies OSTDS as contributors of at least 20% of point source or nonpoint source nutrient pollution or if DEP determines remediation is necessary to achieve the TMDL. When applicable, the OSTDS remediation plans must be developed by each local government in cooperation with DEP, water management districts (WMDs), and public and private domestic wastewater facilities. Each OSTDS remediation plan for this BMAP must contain the information outlined in DEP Final Order 23-0118. Based on data from the Florida Water Management Inventory (FLWMI) database, there are 8,664 known septic systems located throughout the Lake Jesup BMAP area. Stakeholders submit projects describing how septic system loads are addressed as part of BMAP reporting and estimate the load reductions associated with each project. The estimated reductions to the basin from addressing these septic

systems will be based on several factors, including location, how they are addressed, and the amount of attenuation that occurs.

4.1.1.2 Local Government Ordinances

Local governments may have existing ordinances or could adopt new ordinances that add additional requirements for enhancement of OSTDS. To expedite remediation of wastewater sources and to facilitate achievement of assigned milestones in this BMAP, DEP encourages local governments to adopt such ordinances.

4.1.2 Wastewater Treatment

4.1.2.1 Facility Improvements and Effluent Limits

WWTFs located in the Lake Jesup BMAP are shown in **Figure 4**. The U.S. EPA authorizes DEP to issue permits for discharges to surface waters under the NPDES Program.

Permits for discharges to groundwater are issued by DEP based on Florida law and rules. Wastewater discharge permits establish specific limitations and requirements based on the location and type of facility or activity releasing industrial or domestic wastewater from a point source. In areas with an adopted, nutrient-related BMAP prior to July 1, 2023, section 403.086, F.S., requires any facility discharging to a waterbody to upgrade to advanced waste treatment (AWT) by January 1, 2033. Further, waterbodies determined not to be attaining nutrient or nutrient-related standards after July 1, 2023, or subject to a BMAP or reasonable assurance plan (RAP) after July 1, 2023, have 10 years to provide AWT after such determination or adoption.

The nitrogen and phosphorus effluent limits set forth in **Error! Reference source not found.** and **Table 13** will be applied as an annual average, taken at end of pipe before any land disposal (or other authorized compliance point), to all new and existing WWTFs with a DEP-permitted discharge or disposal area within this BMAP.

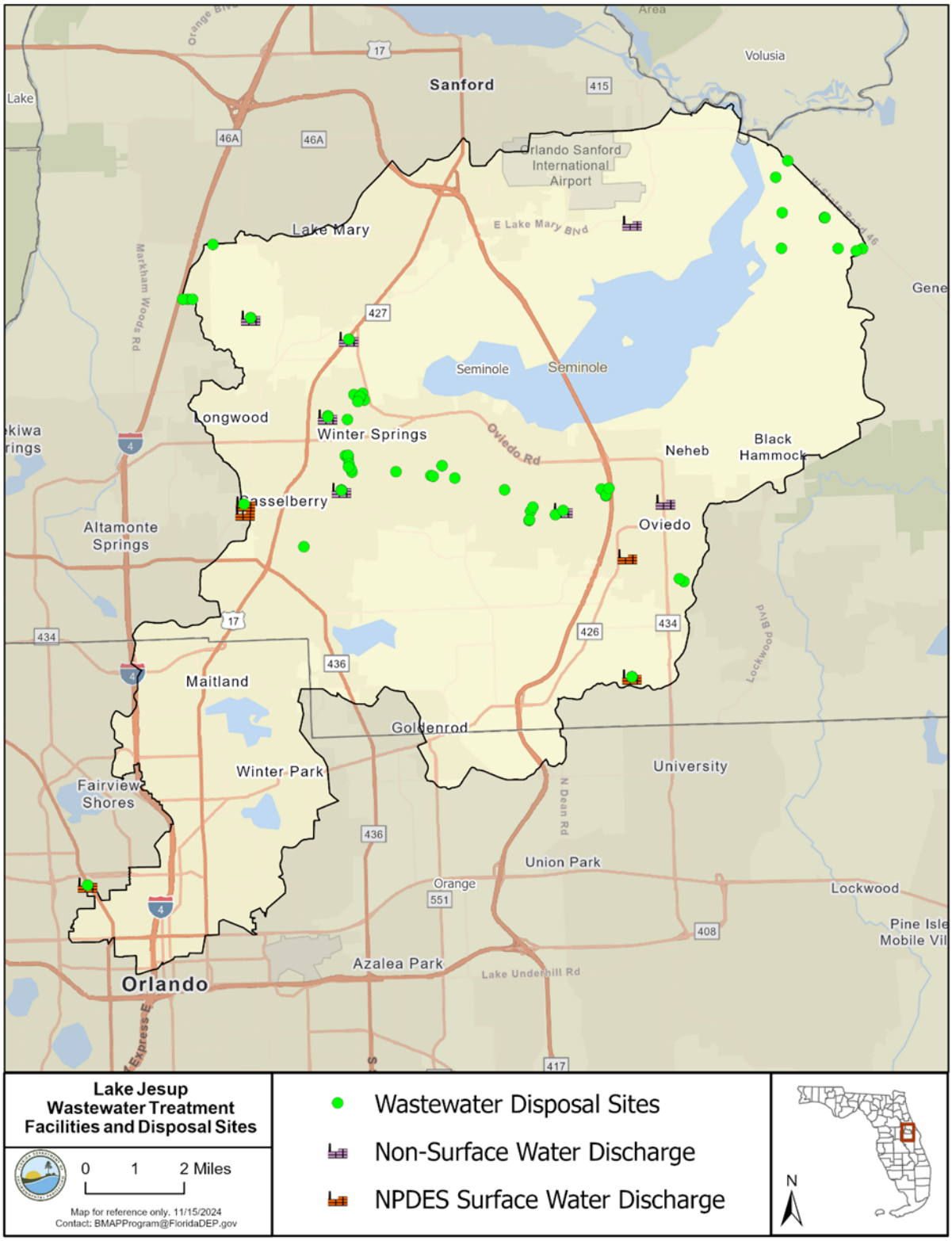

Figure 4. Wastewater treatment facilities in the Lake Jesup BMAP

Table 12. Nitrogen effluent limits for wastewater facilities

mgd = million gallons per day. mg/L = milligrams per liter. N/A = Not applicable.

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix D (mg/L)	WWTFs Not Listed in Appendix D – Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix D – All Other Disposal Methods, Including Reuse (mg/L)
≥ 0.5	3	3	3	10
< 0.5, ≥ 0.1	3	3	6	10
< 0.1	3	N/A	10	10

Table 13. Phosphorus effluent limits wastewater facilities

Facility Capacity (mgd)	Surface Water Discharges (mg/L)	WWTFs Listed in Appendix D (mg/L)	WWTFs Not Listed in Appendix D – Rapid Rate Land Application Effluent Disposal System (mg/L)	WWTFs Not Listed in Appendix D – All Other Disposal Methods, Including Reuse (mg/L)
≥ 0.5	1	1	1	6
< 0.5, ≥ 0.1	1	1	3	6
< 0.1	1	N/A	6	6

Where the law does not provide a compliance timeframe, new effluent standards will take effect at the time of permit renewal or no later than five years after BMAP adoption, whichever is sooner.

Additionally, new and existing wastewater permits in the BMAP area must require at least quarterly sampling of the effluent discharge for TN and TP concentrations and report these sampling results in the discharge monitoring reports (DMRs) submitted to DEP.

In 2021, subsection 403.064(16), F.S., was amended where domestic wastewater utilities that dispose of effluent, reclaimed water, or reuse water by surface water discharge were required to submit for DEP review and approval, a plan for eliminating non-beneficial surface water discharge by January 1, 2032. A utility must fully implement the approved plan by January 1, 2032. If a plan was not timely submitted or approved by DEP, the utility's domestic WWTFs may not dispose of effluent, reclaimed water, or reuse water by surface water discharge after January 1, 2028. Violations are subject to administrative and civil penalties pursuant to sections 403.121, 403.131, and 403.141, F.S.

4.1.2.2 Reclaimed Water Effluent Limits

In accordance with section 403.086. F.S., by July 1, 2034, any WWTF providing reclaimed water that will be used for commercial or residential irrigation or be otherwise land applied within a nutrient BMAP or reasonable assurance plan (RAP) area is required to meet AWT standards for TN and TP, such that the reclaimed water product contains not more, on a

permitted annual average basis, of 3 mg/L of TN and 1 mg/L of TP if the department has determined in an applicable basin management action plan or reasonable assurance plan that the use of reclaimed water as described in this subparagraph is causing or contributing to the nutrient impairment being addressed in such plan.. These requirements do not apply to reclaimed water that is land applied as part of a water quality restoration project or water resource development project approved by DEP to meet a TMDL or minimum flow or level and where the TN and TP will be at or below AWT standards prior to entering groundwater or surface water.

DEP has determined that certain WWTFs providing reclaimed water for the purpose of commercial or residential irrigation or that is otherwise being land applied within this BMAP area are causing or contributing to the nutrient impairments being addressed in this BMAP. Based on DEP's determination, these facilities are identified in **Appendix D** and are subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S. The facilities listed in **Appendix D** have 10 years from BMAP adoption to meet the applicable AWT standards. This requirement does not prevent the department from requiring an alternative treatment standard, if the department determines the alternative standard is necessary to achieve the TMDL(s) or applicable water quality criteria. For facilities that did not have adequate information to complete an evaluation or where a change occurs to the facility's application of reclaimed water after the initial evaluation (e.g., an increase in facility capacity or change in location of reclaimed water application), the department will evaluate the land application of reclaimed water as more information becomes available pursuant to section 403.086, F.S.

All new permitted facilities providing reclaimed water that will be used for commercial or residential irrigation or be otherwise land applied within the BMAP area are required to meet AWT standards for TN and TP in accordance with section 403.086, F.S.

4.1.2.3 Wastewater Treatment Facility Plans

Subparagraph 403.067(7)(a)9., F.S., requires local governments within a BMAP to develop WWTF plans to be adopted as part of nutrient BMAPs no later than July 1, 2025, if DEP identifies domestic wastewater as contributors of at least 20% of point source or nonpoint source nutrient pollution or if DEP determines remediation is necessary to achieve the TMDL. The WWTF plans must be developed by each local government in cooperation with DEP, WMDs, and public and private domestic wastewater facilities within the jurisdiction of the local government. Each local government's wastewater treatment plan for this BMAP must contain the information outlined in Final Order 23-0118 for each existing or proposed domestic wastewater facility in the local government's jurisdiction.

Subparagraph 403.067(7)(a)9., F.S., was amended in 2024 to clarify that private domestic wastewater facilities must provide this information to local governments effective July 1, 2024. Information related to private facilities will need to be included in future local government WWTF plans if not captured in the initial plans.

4.1.2.3 Connection to Sewer

The installation of new OSTDS within a BMAP area is prohibited where connection to sewer lines is available. For existing OSTDS, the owner must connect to sewer within 365 days of written notification by the utility that connection to its sewer line is available. A utility is statutorily required (section 381.00655, F.S.) to provide written notice to existing OSTDS owners regarding the availability of sewer lines for connection. Additionally, existing OSTDS needing repair or modification must connect to available sewer lines within 90 days of notification by DEP.

To facilitate an inventory of noncompliant properties, by February 2, 2026, and every two years thereafter, each utility with sewer lines in the BMAP shall provide DEP a list of properties with existing OSTDS where sewer is available but has not connected. For each identified property, include the date(s) which the utility provided written notice to the owners of the availability of sewer.

4.1.2.4 Biosolids and Septage Application Practices

To provide assurance that nitrogen and phosphorus losses to surface water and groundwater are minimized from the permitted application of biosolids and septage in the BMAP area, the requirements in Chapter 62-640 F.A.C. apply to newly permitted application sites and existing application sites upon permit renewal. Where biosolids materials mixed with yard waste or other organic materials are distributed as compost or soil amendments, DEP recommends the recipients of these materials be notified of their increased nutrient content, so that any fertilization practices on the site can be adjusted accordingly. FDACS and University of Florida Institute of Food and Agricultural Sciences (UF-IFAS) are coordinating efforts to ensure that the distribution process for these kinds of materials includes notification of the nutrient content to the site manager.

4.2 Stormwater

Urban stormwater is a considerable source of nutrient loading to Lake Jesup and many urban areas are already regulated under the Municipal Separate Storm Sewer System (MS4) NPDES Stormwater Program. An MS4 is a conveyance or system of conveyances, such as roads with stormwater systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains. If an MS4 permittee is identified as a contributor in the BMAP, the permitted MS4 must undertake projects specified in the BMAP. Refer to **Appendix A** for a link to a list of MS4 permittees.

Regulated MS4s are required to implement stormwater management programs (SWMP) to reduce pollutants to the maximum extent practicable and address applicable TMDL allocations. Both Phase I and Phase II MS4 permits include provisions for the modification of SWMP activities. Phase I medium and large MS4s are regulated under an individual permit, with multiple permittees having coverage under the same permit as “co-permittees.” Phase II small MS4s are regulated under a generic permit. Under the “NPDES Two-Step Generic Permit for Discharge of Stormwater from Phase II MS4s” (paragraph 62-621.300(7)(a), F.A.C.), regulated

Phase II MS4s must develop a SWMP that includes BMPs with measurable goals and a schedule for implementation to meet six minimum control measures.

DEP can designate an entity as a regulated MS4 if its discharges meet the requirements of the rule and are determined to be a significant contributor of pollutants to surface waters of the state in accordance with Rule 62-624.800, F.A.C. A Phase II MS4 can be designated for regulation when a TMDL has been adopted for a waterbody or segment into which the MS4 discharges the pollutant(s) of concern. Because urban areas located in the BMAP that are not currently covered by an MS4 permit also significantly contribute to nutrient loading, individually or in aggregate, the NPDES Stormwater Program will, within five years of BMAP adoption, evaluate any entity located in the BMAP area that serves a minimum resident population of at least 1,000 individuals that is not currently covered by an MS4 permit and designate eligible entities as regulated MS4s, in accordance with Chapter 62-624, F.A.C.

On June 28, 2024, Governor Ron DeSantis signed Senate Bill 7040 into law, which updates Florida's stormwater rules and design criteria, including Chapter 62-330 F.A.C., to protect the state’s waterways. The new regulations aim to manage runoff from developments, ensuring that future stormwater systems are better maintained. Operation and maintenance entities will be required to have estimates for the expected routine maintenance costs and to certify that they have the financial capability to maintain the stormwater system over time. The rule will also provide for more consistent oversight through a required periodic inspection routine and reporting on the inspection results to the permitting agency.

Additionally, under Chapter 62-330 F.A.C., the new rule establishes requirements for applicants to demonstrate, through calculations or modeling, that the future stormwater management systems would provide additional treatment to meet new Environmental Resource Permits stormwater treatment performance standards for an 80% reduction for TP and 55% reduction for TN, along with additional requirements that would apply where a project discharges to Outstanding Florida Waters or impaired waters. Additional permitting requirements to protect groundwater can be found within the Applicant Handbook Volume I, Section 8.5.2.

4.2.1 Urban BMPs and Eligibility

Management actions must reduce TN and/or TP loads and meet certain criteria to be considered eligible for credit in the BMAP. The Lake Jesup 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 because permit conditions are established to prevent impacts from the new 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 excluded in the Lake Jesup 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.

4.2.2 Sports Turfgrass and Golf Courses

Sports turfgrass sources include golf courses and other sporting facilities. Sporting facilities are required to follow the 2025 Sports Turf BMP Manual to protect water resources.

Superintendents of all publicly owned golf courses within the BMAP must obtain a certification for golf course BMPs under section 403.9339 F.S. and all golf courses must implement the BMPs described in the DEP golf course BMP manual, *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021). All golf courses located within a BMAP are required to submit an NMP to DEP that is designed to sustain even plant growth while minimizing excessive growth and nutrient losses. Required information for the NMP is available in **Appendix E**. A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption. All soil, water and tissue sampling must include appropriate nitrogen and phosphorous analyses.

If a facility (either golf course or other sporting facility) uses fertilizer rates greater than those in the BMP manuals, the facility is required to conduct water quality monitoring prescribed by DEP or a WMD that demonstrates compliance with water quality standards.

4.2.3 Agriculture

4.2.3.1 Agricultural BMPs

To address nutrient loading from agricultural operations effectively, a balanced approach is necessary—one that supports agricultural productivity while safeguarding water resources. This entails promoting farming practices that optimize nutrient and water use efficiency, minimize runoff, and enhance soil health. Section 403.067, F.S., requires agricultural producers in adopted BMAPs to either enroll and properly implement the applicable FDACS BMPs for their operation or to conduct water quality monitoring activities as required by Chapter 62-307, F.A.C. Agricultural BMPs include practices such as nutrient management, irrigation management and water resource protection, and can mitigate nutrient loading while promoting environmental stewardship among Florida's agricultural producers. In many BMAPs, however, the implementation of BMPs alone will not be sufficient to meet water quality restoration goals. BMP manuals adopted by FDACS are available at https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices. Agricultural landowners that do not enroll in BMPs are referred to DEP for water quality monitoring or enforcement under sections 403.121, 403.141 and 403.161, F.S.

Every two years, FDACS is required to perform onsite inspections of each agricultural producer that enrolls in BMPs to ensure that the practices are being properly implemented. The verification includes: review and collection of nutrient application records that producers must maintain to demonstrate compliance with the BMP Program; verification that all other applicable BMPs are being properly implemented; verification that any cost shared practices are being properly implemented; and identification of potential cost share practices, projects or other applicable BMPs not identified during enrollment. Rule 5M-1.008, F.A.C., outlines the procedures used to verify the implementation of agricultural BMPs. Producers not implementing BMPs according to the process outlined in Chapter 5M-1, F.A.C., are referred to DEP for enforcement action after attempts at remedial action by FDACS are exhausted. Failure to implement BMPs or conduct water quality monitoring that demonstrates compliance with pollutant reductions may result in enforcement action by DEP (paragraph 403.067(7)(b), F.S.).

Pursuant to paragraph 403.067(7)(c), F.S., where water quality problems are demonstrated despite the appropriate implementation, operation and maintenance of adopted BMPs, DEP, a WMD, or FDACS, in consultation with DEP, must conduct a reevaluation of the BMPs. If a reevaluation of the BMPs is needed, FDACS will also include DEP, the appropriate WMD, and other partners in the reevaluation and BMP update processes. A reevaluation will occur after FDACS has completed its enrollment efforts in the area of concern.

For this 2025 BMAP update, FDACS used the parcel-level polygon Agricultural Land Geodatabase (ALG) data that is part of the Florida Statewide Agricultural Irrigation Demand (FSAID) Geodatabase to estimate agricultural acreages statewide. The percentage of agricultural land use within the Lake Jesup BMAP was then determined by comparing the FSAID 11 ALG and total acreage of the BMAP boundary. Based on FSAID 11, the total agricultural land in the BMAP is 7,764 acres. To estimate the agricultural acres enrolled in the BMP program, FDACS Office of Agricultural Water Policy (OAWP) overlayed the FSAID ALG and BMP enrollment data within a geographic information system (GIS) to calculate the acres of agricultural land in an enrolled parcel. **Table 13** summarizes agricultural lands within the Lake Jesup BMAP based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

Table 13. Agricultural lands in the Lake Jesup Basin

* Enrollment information current as of June 30, 2024.

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled*
BMAP wide	7,764	3,775	3,989	2,067

FDACS will seek further enrollment of producers in the BMAP area. As of June 30, 2024, in the Lake Jesup Basin there are 2,067 agricultural acres enrolled in the BMP program. **Table 14** and **Figure 5** summarize the acres enrolled in the BMP Program by commodity. Currently, no producers are conducting water quality monitoring in lieu of implementing BMPs.

Table 14. Agricultural lands enrolled in the Lake Jesup BMAP by BMP Program Commodity

Commodity	Agricultural Acres Enrolled
Citrus	212
Cow/Calf	947
Equine	12
Multiple Commodities	151
Nursery	588
Row/Field Crop	27
Sod	130
Total	**2,067 (52%)**

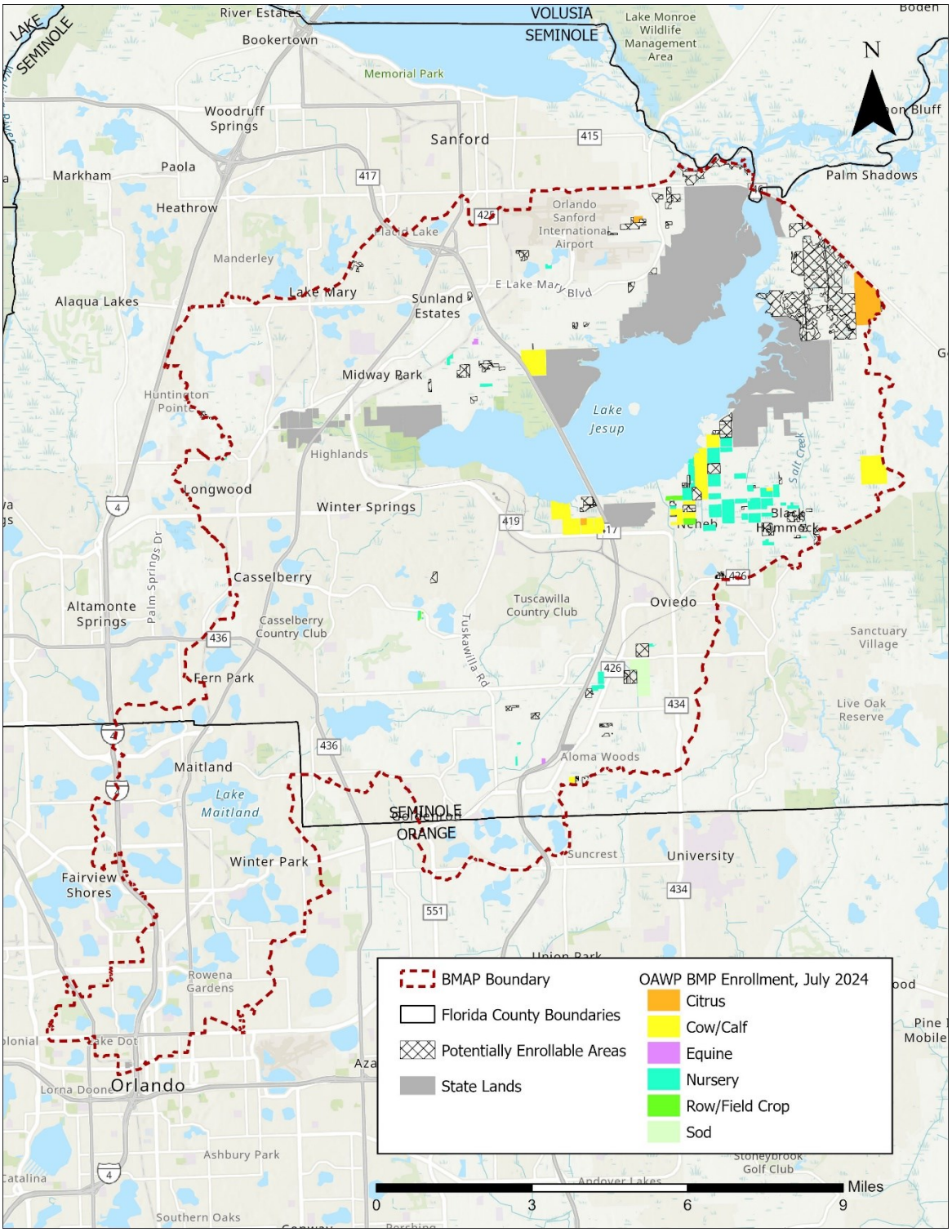

Figure 5. Agricultural BMP enrollment in the Lake Jesup Basin

4.2.3.2 Dairies and Other Confined Animal Feeding Operations (CAFOs)

CAFO dairies permitted under Chapter 62-670, F.A.C., located within a BMAP, may not cause or contribute to a violation of water quality standards and must implement nutrient management practices identified in the permits. To minimize infiltration of liquid manure, waste storage ponds must be lined using a concrete or geosynthetic liner. If a clay liner exists, then the operation will need to upgrade to a concrete or geosynthetic liner when funding is available, or it must demonstrate that the liner does not allow leaching that results in water quality exceedances.

Additionally, sampling for TN and TP of land applied effluent/wastewater must be included in the DEP-approved nutrient monitoring plan established in the permit and implemented in accordance with the monitoring plan.

4.2.3.3 Livestock Operations Without CAFO Permits

Livestock operations may not cause or contribute to a violation of water quality standards. Not all livestock operations are large enough to require an NPDES CAFO permit under Chapter 62-670, F.A.C. For these operations, section 403.067, F.S., requires the operation to enroll in the FDACS BMP Program and implement applicable BMPs or to conduct a monitoring program according to Chapter 62-307, F.A.C., that is approved by DEP or the applicable WMD.

4.2.3.4 Aquaculture

Under the federal Clean Water Act, aquaculture activities are defined as a point source. In 1999, the Florida Legislature amended Chapter 597, F.S., Florida Aquaculture Policy Act, to create a program within FDACS that requires those who sell aquatic species to annually acquire an Aquaculture Certificate of Registration and implement Chapter 5L-3, F.A.C., Aquaculture BMPs. Permit holders must be certified every year.

4.2.3.5 Silviculture

The Florida Forest Service (FFS) within FDACS is the lead entity responsible for assisting landowners, loggers, and forestry professionals with silviculture BMP implementation as well as for conducting statewide silviculture BMP training and compliance monitoring. The FFS implements Chapter 5I-6, F.A.C., and requires both private and public forest landowners across the state to comply with BMPs and the rule. Compliance with the rule involves submitting a Notice of Intent to Implement BMPs (NOI) to the FFS and thereby committing to follow BMPs during all current and future forestry operations.

4.2.3.6 Agricultural Cooperative Regional Elements (ACE)

Section 403.067, Florida Statutes (F.S.), requires FDACS, DEP, and agricultural producers to work together to establish Agricultural Cooperative Regional Water Quality Elements (ACE) in BMAPs where agricultural nonpoint sources contribute at least 20% of nonpoint source nutrient discharges to impaired waterbodies, or where DEP determines this element is necessary to achieve the total maximum daily load(s) (TMDL). FDACS is responsible for providing DEP a list of projects which, in combination with BMPs, state-sponsored regional projects and other

management strategies, will achieve the needed pollutant load reductions established for agricultural nonpoint sources. The list of projects included in the ACE must include a planning-level cost estimate of each project along with the estimated amount of nutrient reduction that such project will achieve. Partner agencies and key stakeholders referred to in this process include FDACS, DEP and agricultural producers.

Addressing nutrient loading from agricultural sources in Florida's waterways requires collective action and partnership among the key stakeholders, and in consultation with the WMDs. By fostering cooperation and engagement, the ACE framework facilitates the exchange of knowledge, resources, and expertise, leading to innovative solutions and effective strategies for tackling water quality challenges. Engaging producers in the decision-making process ensures that projects are practical, feasible, and tailored to the needs and realities of agricultural operations. Partner agencies provide technical support, regulatory guidance, and funding opportunities that will enhance the implementation and success of regional water quality improvement initiatives. This cooperative effort is essential for implementing targeted actions that balance the economic and social benefits of agriculture with the obligation to address agricultural nonpoint source loading beyond BMP implementation and cost share.

The ACE framework leverages resources and technical expertise to efficiently identify regional projects and other strategies tailored to the diverse agriculture production methods, landscapes, and watersheds that will need to be implemented to achieve the TMDLs. Regional project types will vary among the different BMAPs, and can include, but are not limited to, a combination of traditional projects that focus on water treatment, land acquisition in fee or conservation easements on the lands of willing sellers, site-specific water quality improvement projects, dispersed water management projects, innovative technologies, and regional projects funded through existing or enhanced cost share programs administered by FDACS or the WMDs.

While FDACS is assigned the lead role on project solicitation, development, selection, and implementation, they will work closely with all the key stakeholders, including DEP as a partner agency, to define and identify regional projects that will be included in the BMAP and to leverage existing programs and resources. FDACS will lead engagement with producers and industry groups through workshops to identify potential regional projects. Identified projects will be implemented through various mechanisms, such as existing agency cost share or grant programs or through a legislative budget request and eventual appropriation. Upon identification of a project, FDACS will update DEP on project development and implementation, including the funding strategy.

FDACS and DEP will work together to track progress on agricultural water quality projects under the ACE framework through the development of performance metrics and evaluation of water quality monitoring data in the basin or, if necessary, at the project level. The default performance measures will be the expected range of pollutant removal efficiencies associated with a project or strategy. Tools may be needed to determine the effectiveness of projects, such as modeling and where feasible onsite water quality monitoring.

FDACS will report on projects annually through DEP's Statewide Annual Report (STAR) process and during BMAP update and/or development. Projects and other management strategies implemented through the ACE will be evaluated cooperatively by partner agencies using the predetermined performance metrics. The ACE process provides for adaptive management, allowing flexibility to adapt and improve based on regional project or management strategy results.

Currently, agricultural nonpoint sources contribute 13.5% of the TN and 14.1% TP nutrient sources in the Lake Jesup BMAP. However, DEP, in collaboration with the SJRWMD, is updating the hydrodynamic, water quality, and watershed models for the St. Johns River basin, which includes the area in the Lake Jesup BMAP. This effort is expected to take at least two years to complete, at which point more current land use and pollutant load information will be available for a Lake Jesup BMAP update. The department will then re-evaluate the need for ACE projects.

Most agricultural lands are engaged in livestock production. **Table 15** shows the dominant crop types within the Lake Jesup BMAP.

Table 15. Dominant crop types in the Lake Jesup BMAP

Crop Type	Acres
Grazing Land	4,002
Row Crops	1,695
Nursery	607

Targeting future funding toward precision agriculture, manure management, innovative technologies or soil health practices, including combining practices where applicable, to address nutrient impacts from row crop production on a regional scale could provide additional reductions.

FDACS will continue to work with key stakeholders in the Lake Jesup BMAP to identify additional options for addressing agricultural nonpoint source nutrient loading. For more information on the FDACS Regional Projects Program, see the links in **Appendix F**.

4.2.3.7 Description of BMPs Adopted by Rule

Appendix F provides detailed information on BMPs and agricultural practices in the BMAP area. **Table 16** identifies the adopted BMPs and BMP manuals relevant to this BMAP.

Table 16. BMPs and BMP manuals adopted by rule as of July 2025

Agency	F.A.C. Chapter	Chapter Title
FDACS OAWP	5M-1	Office of Agricultural Water Policy
FDACS OAWP	5M-06	Florida Nursery Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices

Agency	F.A.C. Chapter	Chapter Title
FDACS OAWP	5M-08	Florida Vegetable and Agronomic Crop (VAC) Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-09	Florida Sod Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-11	Florida Cattle Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-12	Conservation Plans for Specified Agricultural Operations
FDACS OAWP	5M-13	Florida Specialty Fruit and Nut Crop Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-14	Florida Equine Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-16	Florida Citrus Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-17	Florida Dairy Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-18	Florida Agriculture Wildlife Best Management Practices
FDACS OAWP	5M-19	Florida Poultry Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS OAWP	5M-21	Florida Small Farms and Specialty Livestock Operations, 2024 Edition: Water Quality and Water Quantity Best Management Practices
FDACS Division of Agriculture Environmental Services	5E-1	Fertilizer
FDACS Division of Aquaculture	5L-3	Aquaculture Best Management Practices
FFS	5I-6	Best Management Practices for Silviculture
DEP	62-330	Environmental Resource Permitting

4.3 Atmospheric Deposition

4.3.1 Summary of Atmospheric Loading

The Lake Jesup TMDL estimated direct atmospheric deposition to the lake surface from 1995 to 2002 based on the average surface area of the lake, annual precipitation, and atmospheric TN and TP concentrations. The atmospheric deposition concentrations used in the TMDLs were 0.630 mg/L for TN and 0.05 mg/L for TP (Ahn and James, 1999). Relatively, the TMDLs estimated that direct atmospheric deposition was 12.9% of the TN loading and 10.8% of TP loading. As previously described in the section on modeling, prior to the 2019 BMAP Amendment, new models were developed and calibrated including the HSPF, EFDC, and WASP models, which included atmospheric deposition loads. The revised models, therefore, modified the original TMDL atmospheric deposition estimates.

Atmospheric deposition is largely a diffuse, albeit continual, source of nitrogen. Currently, nitrogen species and other chemical constituents are measured in wet and dry deposition at discrete locations around the U.S. In 2014, Schwede and Lear developed a hybrid model for estimating the total atmospheric deposition of nitrogen and sulfur for the entire U.S., referred to as the total atmospheric deposition model (TDEP). Deposition data from several monitoring networks-- including the Clean Air Status and Trends Network (CASTNET); the National

Atmospheric Deposition Program (NADP) Ammonia Monitoring Network; the Southeastern Aerosol Research and Characterization Network; and modeled data from the Community Multiscale Air Quality (CMAQ) Modeling System—are combined in a multistep process with National Trends Network (NTN) wet deposition values to model total deposition.

Atmospheric deposition of phosphorus can also be a source to lakes via wet deposition through rainfall and dry deposition via gaseous and particulate wind-transported particles (Anderson & Downing, 2006; Zhai et al., 2009). The movement of phosphorus between land and water sources has been greatly accelerated by anthropogenic activities, particularly related to use of fertilizers that include phosphorus (Cordell et al., 2009; Boehme et al., No Date). However, the NADP National Analytical laboratory does not include phosphorus measurements as a primary objective; orthophosphate is measured, but only for quality assurance as an indicator of sample pollution (University of Wisconsin, 2024). Therefore, fewer data are available on the trends of atmospheric deposition of phosphorus in the basin.

4.3.2 Description of Approach

Atmospheric sources of nutrients are local, national, and international. Nitrogen atmospheric sources are generally of low concentration compared with other sources and are further diminished through additional biological and chemical processes before they reach groundwater. Recent data (Himes and Dawson, 2017) indicate that the deposition of nitrogen has been generally decreasing in Florida with an up to 55% decrease in atmospheric deposition by 2028, possibly related to power plant fuel source changes and air treatment upgrades as well as the increased use of electric vehicles, decreasing mobile sources (Himes and Dawson, 2017). This gradual decrease in atmospheric deposition of nitrogen will assist with creating the necessary reductions. Currently, since the scale of the national and international programs to address air deposition loads are difficult to integrate into the much smaller scale of this water quality plan, there are no specific nitrogen or phosphorus reductions assigned to this source category. Atmospheric deposition sources and trends will be re-evaluated periodically.

4.4 Future Growth

Nutrient impacts from new development are addressed through a variety of mechanisms outlined in this BMAP, as well as provisions of Florida law. While most of the restoration projects and management strategies listed in this BMAP address current nutrient loading, there is a need to plan and implement sound management strategies to address loading associated with population growth. DEP has included in this BMAP specific elements to address current and future WWTF effluent, OSTDS, and stormwater sources. Broader requirements—such as local land development regulations, comprehensive plans, ordinances, incentives, environmental resource permit requirements and consumptive use permit requirements—all provide additional mechanisms and avenues to protect water resources and reduce the impact of new development and other land use changes as they occur.

Further strengthening of comprehensive plans is required under section 163.3177, F.S., which requires local governments to amend their comprehensive plans with the following considerations:

- Identify and prioritize projects to meet the TMDLs.

- Update the wastewater section to include plans for treatment updates, not just capacity, and AWT must be prioritized.

- In developments with more than 50 lots with more than one OSTDS per acre, the plan must consider the feasibility of providing sanitary sewer within a 10-year planning horizon and identify the facility that could receive the flows. The plan must review the capacity of the facility and any associated transmission facilities; projected wastewater flow at that facility for the next 20 years, including expected future new construction and connections of OSTDS to sanitary sewer; and timeline for the construction of the sanitary sewer system. The plan was initially required to be updated by July 1, 2024.

- Comprehensive plans must contain capital improvements element to consider the need for and the location of public facilities:
    - Construction, extension, or increase in capacity of public facilities as well as principals for correcting existing public facility deficiencies. Components must cover at least a 5-year period.
    - Costs, timeline, general location, and projected revenue sources to fund the facilities.
    - Standards to meet an acceptable level of service.
    - Schedule of capital improvements, which may include privately funded projects.
    - A list of projects necessary to achieve the pollutant load reductions attributable to the local government, as established in a BMAP.
    - The element must address coordinating the extension of, increase in the capacity of, or upgrade in treatment of facilities to meet future needs; prioritizing AWT while maximizing the use of existing facilities and discouraging urban sprawl; conserving potable water resources; and protecting the functions of natural groundwater recharge areas and natural drainage features.

Through this array of laws and the requirements in this BMAP, new development must undertake certain nutrient-reduction measures before the development is complete. DEP recommends that local governments revise their planning and land use ordinance(s) to adequately address future growth and the associated environmental impact. Maintaining land at lower intensity uses through land purchases or easements for conservation and recreational use is one strategy that can help reduce water quality impacts in the basin. Any additional nutrient loading from land use intensification will be evaluated during future BMAP update efforts. If an increase in loading occurs, a responsible entity may receive additional reduction allocations that will require additional management actions by the responsible entity to mitigate those water quality impacts.

4.4.1 Future Growth Analysis

An analysis was done to consider the impacts of future population growth and urban development on loading in the basin. Wastewater sources were evaluated using per-person estimations calculated for portions of the population estimated to be served by OSTDS and those connected to central sewer. Stormwater sources were evaluated using per-acre estimations calculated for portions of a jurisdictional area that may be developed.

First, population growth for each county was taken from the Bureau of Economic and Business Research (BEBR) 2040 Medium Growth Projections. Then, a spatial analysis was performed to determine the proportion of developable land area attributed to each entity within each county. Areas where there are permanent waterbodies, or which have been set aside for conservation are unlikely to see future development or increased population so the National Hydrography Database (NHD) for lake and ponds and the Florida Natural Areas Inventory (FNAI) conservation lands were used to remove lands from the analysis. The percentage of remaining land attributed to each entity was applied to the county projected population growth to determine the number of additional people anticipated to contribute to loading by 2040.

The next step was to distinguish the future population expected to be served by sewer versus those with OSTDS based on the most recent FLWMI for each BMAP county. For this, FLWMI parcels within each entity's jurisdiction were counted and categorized based on the Wastewater Type field. The number of points in "Known Sewer," "Likely Sewer," and "Somewhat Likely Sewer" divided by the total number of points estimated a portion of the population that are served by central wastewater collection system. The remainder are assumed to have an OSTDS.

Per person loading calculations were used to estimate future loads from WWTFs and OSTDS under different planning scenarios, as described below. DEP's Domestic Wastewater Program estimates each person in Florida generates 100 gallons of wastewater per day. For OSTDS, DOH estimates each person in Florida generates 10 lbs TN/yr. US-IFAS estimates each person in Florida generates 10 grams TP/day. Phosphorus loading rates from OSTDS are not affected by new technologies or BMAP management strategies. An attenuation rate of 50% for wastewater effluent disposal was applied to loading calculations to derive the estimated future load to the basin.

Per acre loading calculations were used to estimate future loads from increased urban runoff as a result of development under different planning scenarios, described below. First, a number of developed acres were derived by applying percentages to the developable land areas from the initial GIS analysis for each entity. Then, the loadings were based on DEP's statewide EMCs and ROCs for low density residential, with a generalized rainfall for Central Florida from Harper 2007 Stormwater Evaluation. Finally, a generalized attenuation rate of 70% for urban runoff was applied to loading calculations to derive the estimated future load to the basin.

Scenario 1 represents a future planning scenario with the highest levels of treatment feasible. It assumes all local governments within the BMAP have a minimum of 90% of their population served by centralized sewer, and all domestic wastewater will be treated to AWT standards (3

mg/L TN or less and 1mg/L TP or less) by 2040 based on current Florida law and BMAP management strategies. This scenario also assumes that all future OSTDS will be enhanced nutrient-reducing systems or other wastewater systems with a nitrogen treatment efficiency of at least 65%. For urban development, this scenario represents a conservative growth future where 2% of developable land is converted to low density residential.

Scenario 2 utilizes the current rates of sewer availability based on the FLWMI parcels to estimate the population served by central wastewater collection system. This future planning scenario assumes that all domestic wastewater will be treated to AWT standards (3 mg/L TN or less and 1mg/L TP or less) by 2040 based on current Florida law and BMAP management strategies. This scenario also assumes that all future OSTDS will be enhanced nutrient-reducing systems or other wastewater systems with a nitrogen treatment efficiency of at least 65%. For urban development, this scenario represents a moderate growth future where 10% of developable land is converted to low density residential.

Scenario 3 represents a future planning scenario with the lowest levels of treatment feasible. It utilizes the current rates of sewer availability based on the FLWMI parcels to estimate the population served by central wastewater collection system and assumes that all domestic wastewater will be treated to 6 mg/L TN and 3 mg/L TP by 2040. This scenario also assumes that all future OSTDS will be conventional systems. For urban development, this scenario represents an extreme growth future where 17% of developable land is converted to low density residential.

Future development will likely also result in an increase in loading from turfgrass. This change is difficult to model because much of it depends on the type and location of development, enforcement of local ordinances, future home values, and future social attitudes towards turfgrass lawns. There are also complex dynamics associated with new urban development in which loading from human activities is compounded by potential removal or conversion of forest lands or green spaces, which had previously provided natural remediation of atmospheric and soil nitrogen.

Based on the methodology above, using nitrogen loads as an example, **Table 17** shows the estimated future loads from wastewater and urban stormwater sources that may be assigned to local governments if growth continues as projected under the three planning scenarios. DEP encourages local governments to consider these additional nutrient loads when authorizing new development or changes in land uses, and when developing local plans for wastewater infrastructure expansion and maintenance, to ensure that the TMDL target is achieved and maintained.

Table 17. Estimated nitrogen load from future growth in the BMAP area

Entity	2040 Additional Population	2040 Additional TN Loading (lbs/yr) Scenario 1	2040 Additional TN Loading (lbs/yr) Scenario 2	2040 Additional TN Loading (lbs/yr) Scenario 3
Orange County	1,456	1,925	2,842	5,685
Eatonville	307	284	284	569
Maitland	1,764	2,332	2,345	4,690
Orlando	2,757	3,130	3,130	6,261
Winter Park	3,343	4,421	5,457	10,914
Seminole County	10,804	14,288	17,463	34,925
Altamonte Springs	143	145	145	289
Casselberry	1,494	1,633	1,633	3,267
Lake Mary	848	1,122	2,072	4,143
Longwood	961	1,270	2,045	4,090
Oviedo	1,540	2,036	5,169	10,338
Sanford	2,529	2,516	2,516	5,033
Winter Springs	3,204	3,611	3,611	7,222
Orange County	1,456	1,925	2,842	5,685
Eatonville	307	284	284	569
Maitland	1,764	2,332	2,345	4,690
Orlando	2,757	3,130	3,130	6,261
Winter Park	3,343	4,421	5,457	10,914
Seminole County	10,804	14,288	17,463	34,925
Basin Totals	**31,150**	**327,740**	**446,263**	**892,526**

Scenario 1 resulted in an additional basin load of 327,740 lbs/yr TN. Scenario 3 resulted in an additional basin load of 892,526 lbs/yr TN.

While it is unlikely that additional nutrient loading from future populations can be entirely avoided, the results of this analysis provide local governments information on how they can mitigate future nitrogen loading by pursuing planning scenarios which prioritize the expansion of centralized sewer services that meet or exceed AWT standards for wastewater effluent. Entities with minor or no changes in 2040 loading under Scenarios 1 and 2 already have a high rate of sewering in their jurisdiction.

This broad analysis is not being used to determine allocated reductions for responsible entities because it does not capture all local considerations and complexities of mixed land use, or current allocation approaches for wastewater. In addition, changes in nutrient loading from future population and development are difficult to model because much of it is dependent on the type

and location of development, enforcement of local ordinances, future home values, and future social attitudes towards lawn maintenance and waste management. There are also complex dynamics associated with new urban development in which loading from human activities is compounded by potential removal or conversion of forest lands or green spaces, which had previously provided natural remediation of atmospheric and soil nutrients, as well as other ecosystem benefits. However, the results show trends in how loading in the basin might change in the coming decades without comprehensive local and regional planning.

Other mechanisms discussed in this section are available to local governments to further mitigate future nutrient loading from existing and future developed land. For example, strengthening and enforcing fertilizer ordinances, working with homeowners' associations or neighborhood groups to reduce fertilizer use on community landscaping, or incentivizing Florida Friendly development practices could reduce the overall impact of additional nutrient loading associated with urban fertilizer. Additionally, wastewater can be treated to higher standards than those built into this analysis through upgrades to WWTFs and use of enhanced nutrient-reducing OSTDS certified with higher nitrogen treatment efficiencies or other wastewater treatment systems with higher treatment levels. Local governments can use this information to incorporate water quality considerations when developing and implementing local ordinances, comprehensive plans, stormwater planning, and enhanced OSTDS incentive programs in areas of urban expansion.

4.4.2 Funding Opportunities

Chapter 2023-169, L.O.F., expanded grant opportunities for local governments and eligible entities working to address TMDLs or impaired waters. Through the DEP Water Quality Improvement Grant program, eligible entities can apply for grant funding for wastewater, stormwater, and regional agricultural projects. Projects are prioritized that have the maximum nutrient load per project, demonstrate project readiness, are cost-effective, have cost-share by the applicant (except for Rural Areas of Opportunity), have previous state commitment, and are in areas where reductions are most needed. Multiple competitive funding resources are available under the Protecting Florida Together website.

Financial and technical assistance through FDACS and the SJRWMD are available to agricultural producers within the Lake Jesup BMAP. FDACS and conservation district technicians provide outreach and education on BMP implementation for enrolled agricultural operations, as well as work with interested producers to provide cost share funding for projects to improve on-farm nutrient and irrigation efficiencies that work in tandem with the applicable practices from the producer’s BMP checklist. The SJRWMD cost share program also provides outreach and funding for projects that provide nutrient and irrigation management benefits. FDACS and the SJRWMD work closely to ensure their cost share programs complement each other to meet the needs of the producers while considering the specific characteristics of the region.

Section 5. Monitoring Strategy

5.1 Monitoring Objectives

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 2019 BMAP Amendment and will remain the same for this 2025 BMAP update, as noted below. Primary objectives involve evaluating 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 nutrient loading sources 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).
- Total Phosphorus (as P).
- Orthophosphate as P.
- Ammonium as N.
- Nitrate/nitrite as N.
- Total Kjeldahl nitrogen (TKN).
- Biochemical oxygen demand (BOD).

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

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

The BMAP monitoring network has remained consistent since the 2019 Amendment (**Figure 6**). In addition, the stakeholders are conducting sampling that will provide supplemental data to meet the monitoring strategy objectives. This additional monitoring is described in detail in the 2010 BMAP and 2019 BMAP Amendment.

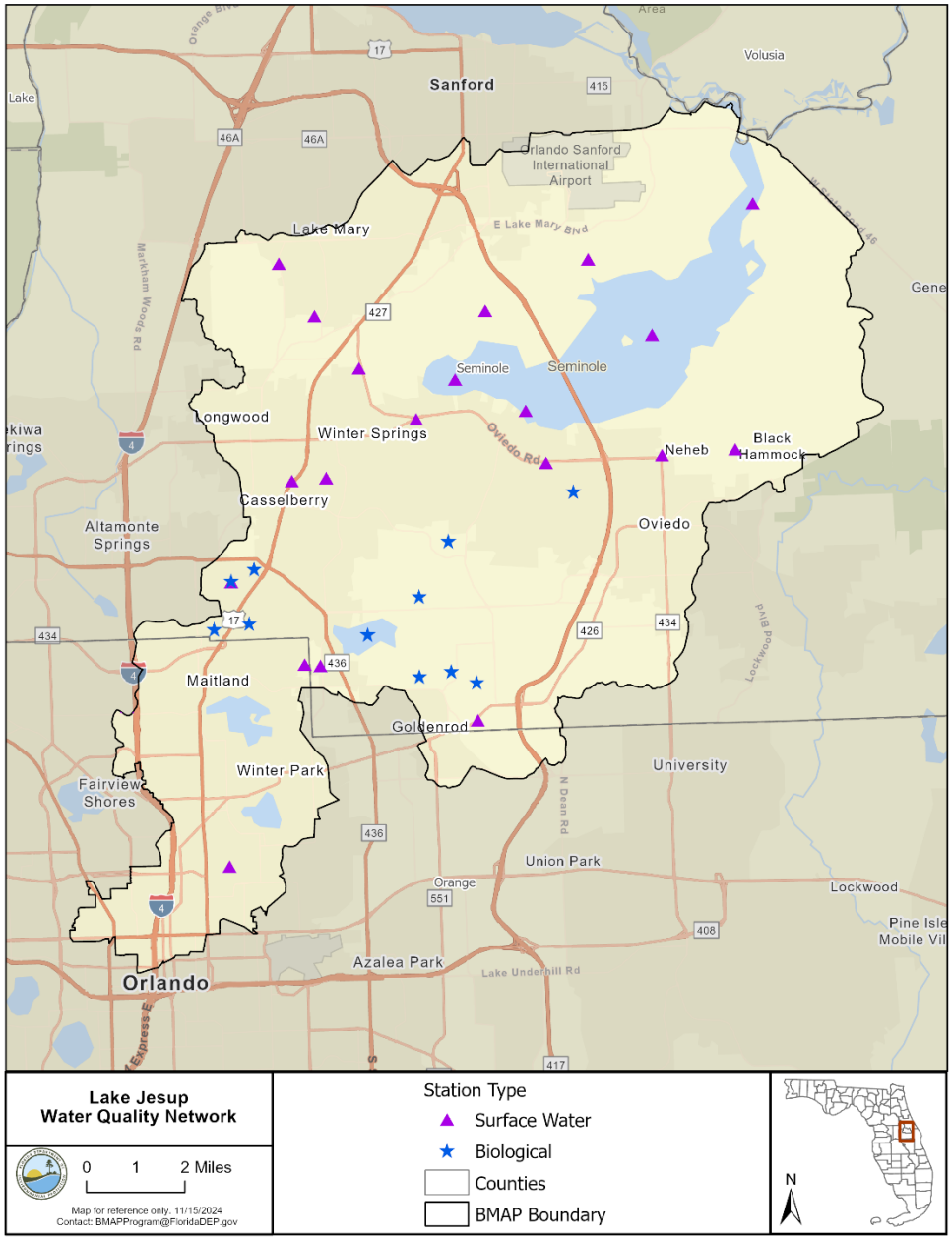

Figure 6. Lake Jesup water quality monitoring network

5.2 Hot Spot Analysis

To better prioritize and focus resources to achieve restoration most efficiently in the Lake Jesup BMAP, DEP developed the hot spot analysis approach. This approach uses measured data collected throughout the watershed to evaluate TN and TP concentrations. This process is not intended to be a management strategy under section 403.067, F.S. The benchmarks are not intended to measure progress towards restoration or compliance; they will only be used to assist with prioritizing resources.

The measured nutrient concentrations were compared with selected benchmarks to identify areas that should be the highest priority for restoration. Four statistics are calculated for the whole BMAP and are used to compare against each station average: TN or TP concentration average; TN or TP 90th percentile; TN or TP standard deviation; and TN or TP percent frequency of samples over the BMAP threshold. Stations are assigned a rank of 0, 1, or 2 for each category, as shown in Error! Reference source not found..

Figure 7. Summary of the hot spot analysis approach

The scores for the four categories are added for a total index rank. The total index rank ranges between 0 and 8, with high rank values (8, 7, and 6) being stations of high concern and low ranks (0, 1, and 2) of least concern. This analysis will be run as needed to identify areas of concern within the BMAP boundary.

Figure 8 and **Error! Reference source not found.** summarize the most recent TN and TP hot spot analysis results. The period of record used was 2019 to 2023, using ambient monitoring sites with at least four samples per year and at least two years of data.

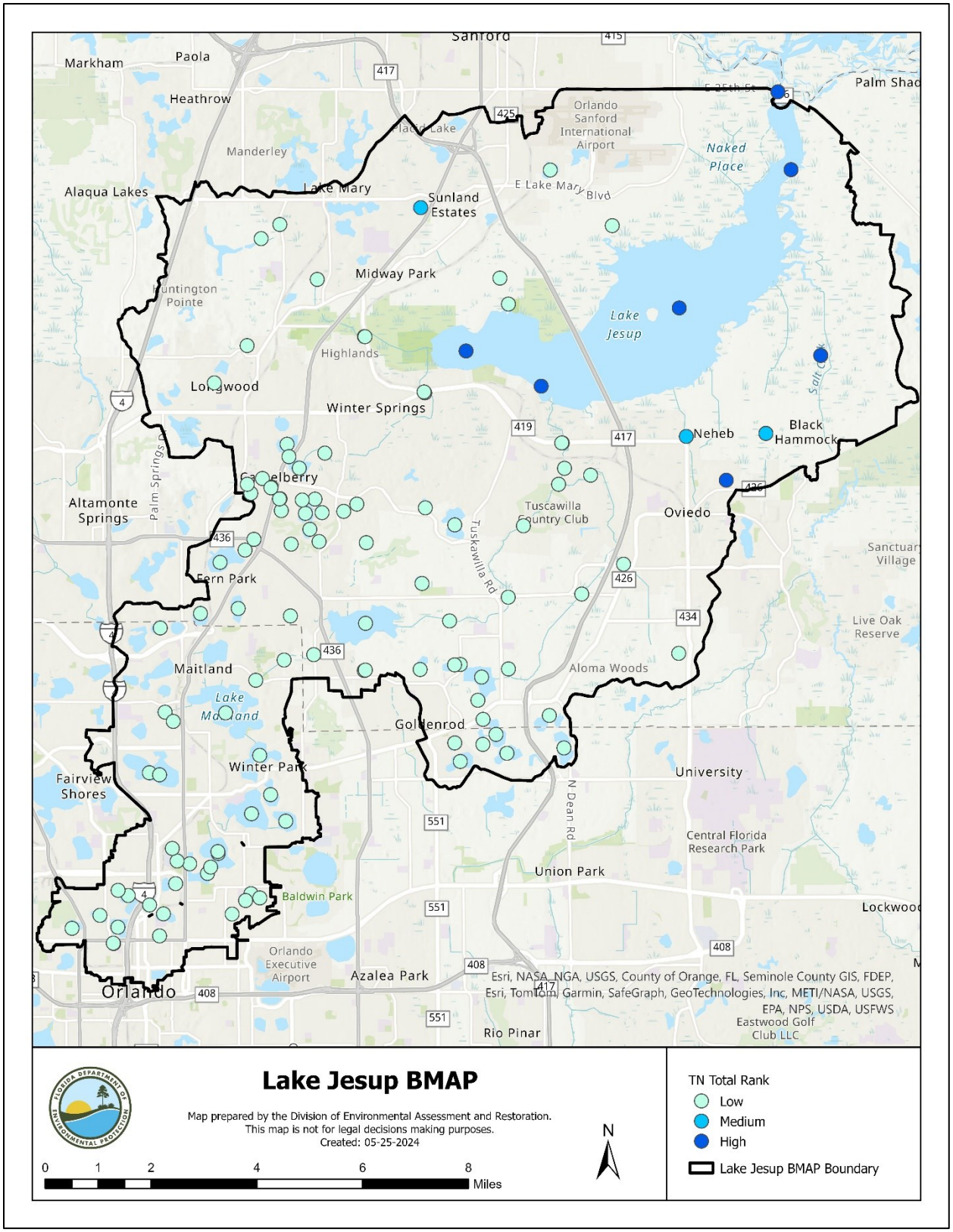

Figure 8. TN hot spot results

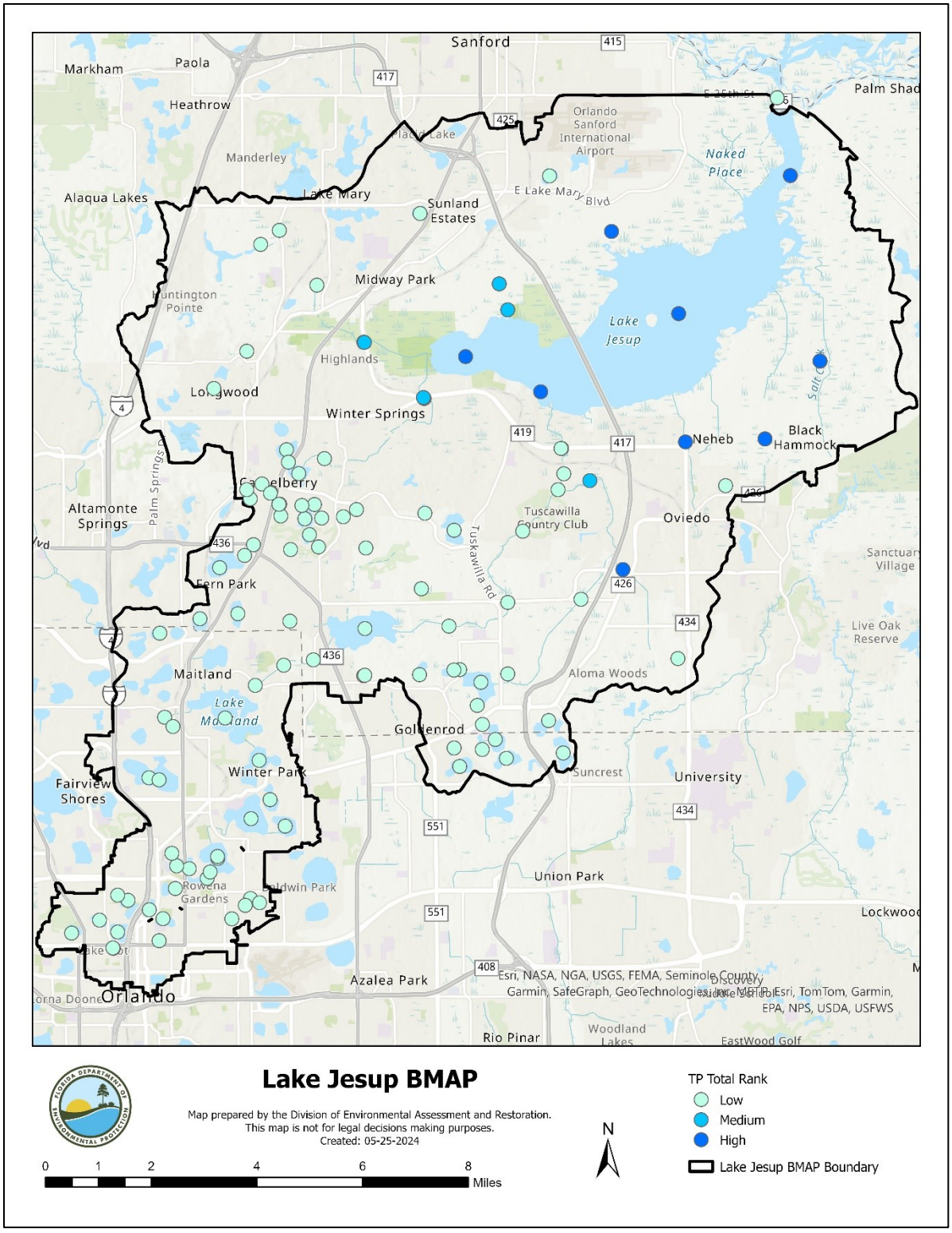

Figure 9. TP hot spot results

Section 6. Commitment to Plan Implementation

6.1 Adoption Process

The 2025 BMAP update 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. Each entity responsible for implementing management actions to meet their upcoming 5-year milestone 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. Section 403.067, F.S., 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:

- Need to update based on new information, including model updates.
- New law requirements.
- 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.

DEP anticipates that the St. Johns River Basin model will be completed in 2028. After the St. Johns River Basin model is complete, DEP will reevaluate and, if necessary, adopt another iteration of the Lake Jesup BMAP, most likely before 2030. The next iteration may include updated required reductions, timelines and 5-year milestones. Tracking implementation, monitoring water quality and pollutant loads, and holding periodic meetings to share information and expertise are key components of adaptive management.

Section 7. References

Ahn, H., and James, T. 1999. *Variability, uncertainty, and sensitivity of phosphorus deposition load estimates in south Florida.* Ecosystem Restoration Department, South Florida Water Management District.

Anderson, K.A. and Downing, J.A. 2006. *Dry and wet atmospheric deposition of nitrogen, phosphorus, and silicon in an agricultural region*. Water, Air, and Soil Pollution 176: 351–374.

Boehme, J., Schulhauser, R., and Bejankiwar, R., Undated. *Atmospheric Deposition of Phosphorus to Freshwater Lakes*. Great Lakes Regional Office, International Joint Commission.

Cordell, D., Drangert, J.O. and White, S. 2009. *The story of phosphorus: Global food security and food for thought*. Global Environmental Change 19: 292–305.

Dobberfuhl, D.R. 2003. Cylindrospermopsis raciborskii *in three central Florida lakes: population dynamics, controls, and management implications*. Lake and Reservoir Management 19(4): 341–348.

Florida Department of Environmental Protection. 2021. *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses*. Tallahassee, FL.

Florida Stormwater Association. 2012. *Methodology for calculating nutrient load reductions using the FSA assessment tool.*

Gao, X. 2006. *Nutrient and un-ionized ammonia TMDLs for Lake Jesup, WBIDs 2981 and 2981A.* TMDL report. Tallahassee, FL: Florida Department of Environmental Protection.

Huber, W.C., P.L. Brezonik, and J.P. Heaney. 1982. *A classification of Florida lakes*. Report ENV-05-82-1. Prepared for the Florida Department of Environmental Regulation.

Paerl, H.W., and L.E. Prufert. 1987. *Oxygen-poor microzones as potential sites of microbial N2 fixation in nitrogen-depleted aerobic marine waters*. Appl. Environ. Microbiol. 53:1078–1087.

Phlips, E.J., J. Frost, N. Yilmaz, and M. Cichra. 2004. *Factors controlling the abundance and composition of blue-green algae in Lake Griffin.* Project # SF669AA. Final report to the St. Johns River Water Management District.

Sansalone, J., Raje, S., Berretta, C. 2011. *Quantifying Nutrient Loads Associated with Urban Particulate Matter (PM), and Biogenic/Litter Recovery Through Current MS4 Source Control and Maintenance Practices.* University of Florida College of Engineering. Final Report to the Florida Stormwater Association.

Tetra Tech, Inc. 2017. *Final hydrology and water quality modeling report for the Lake Jesup Watershed, Florida.* Prepared for the Florida Department of Environmental Protection.

University of Wisconsin. December 2024. *National Trends Network*. National Atmospheric Deposition Program. Retrieved December 31, 2024, from https://nadp.slh.wisc.edu/networks/national-trends-network/.

Zhai, S., Yang, L. and Hu, W. 2009. *Observations of Atmospheric Nitrogen and Phosphorus Deposition During the Period of Algal Bloom Formation in Northern Lake Taihu, China*. Environmental Management 44: 542–551.

Appendices

Appendix A. Important Links

The links below were correct at the time of document preparation. Over time, the locations may change and the links may no longer be accurate. None of these linked materials are adopted into this BMAP.

- DEP Website: http://www.floridadep.gov
- DEP Map Direct Webpage: https://ca.dep.state.fl.us/mapdirect/
- Florida Statutes: http://www.leg.state.fl.us/statutes:
    a. Florida Watershed Restoration Act (Section 403.067, F.S.)
- DEP Model Ordinances: http://fyn.ifas.ufl.edu/fert_ordinances.html
- DEP Standard Operating Procedures for Water Quality Samples: https://floridadep.gov/dear/quality-assurance/content/dep-sops
- FDACS BMPs: Best Management Practices (BMPs) / Agriculture Industry / Home - Florida Department of Agriculture & Consumer Services
- FDACS BMP and Field Staff Contacts: Agricultural Water Policy / Divisions & Offices / Home - Florida Department of Agriculture & Consumer Services
- FDACS Regional Projects Program: https://www.fdacs.gov/Divisions-offices/Agricultural-Water-Policy.
- Florida Administrative Code (Florida Rules): https://www.flrules.org/
- Florida Stormwater Rule: https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center
- NELAC NELAP: https://floridadep.gov/dear/florida-dep-laboratory/content/nelap-certified-laboratory-search
- SJRWMD 2002 Middle St. Johns River Surface Water Improvement and Management (SWIM) Plan: https://www.sjrwmd.com/static/plans/2002_MSJRB_SWIM_Plan.pdf
- UF–IFAS Research: http://research.ifas.ufl.edu/
- MS4 Permittee list https://floridadep.gov/water/stormwater/content/stormwater-facilities-lists

Appendix B. Projects to Reduce Nutrient Sources

Table B-1. Stakeholder projects

TBD = To be determined.

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1926	City of Altamonte Springs	A-02	Street Sweeping	Street Sweeping of 4.4 miles, twice monthly.	Street Sweeping	Ongoing	NA	35	12	$0.00	NA	NA - $0.00
1977	City of Altamonte Springs	A-03	Education Efforts	FYN, irrigation and fertilizer ordinances, PSAs, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	17	1	$0.00	Altamonte Springs	Altamonte Springs - $6,000.00
1874	City of Altamonte Springs	A-04	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	1	0	$0.00	Not provided	Not provided - $0.00
1973	City of Altamonte Springs	A-05	Altamonte Springs Science Incubator (AS2I)	AS2I is an innovative program that promotes career readiness in the high-tech, high demand fields of science, technology, engineering, and math (STEM).	Enhanced Public Education	Ongoing	NA	0	0	$110,000.00	FSAWWA; Duke Energy; Adventist Health	FSAWWA - $510.00; Duke Energy - $150,000.00; Adventist Health - $25,000.00
1971	City of Altamonte Springs	A-07	Fertilizer Ordinance	Fertilizer Ordinance adopted City-wide. Credits included in AS-03.	Regulations, Ordinances, and Guidelines	Completed	2017	0	0	$0.00	NA	NA - $0.00
7578	City of Altamonte Springs	A-08	Westmonte Animal Clinic	Construct a parking lot and onsite retention pond.	100% On-site Retention	Completed	2019	TBD	TBD	$0.00	Private Developer	Private Developer - $0.00
1876	City of Longwood	L-14	East Longwood Septic Tank Abatement Project - Phase 2	125 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Completed	2023	88	0	$5,698,320.00	City of Longwood; DEP SRF; SJRWMD; DEP	DEP SRF - $3,747,049.00; SJRWMD - $984,086.00; DEP - $925,540.00; City of

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
												Longwood - $41,645.00
1966	City of Casselberry	C-17	530 South Lake Triplet Drive Bioswales	Construction of bioswales and other drainage improvements.	Bioswales	Completed	2016	1	0	$163,000.00	City of Casselberry	City of Casselberry - $163,000.00
1965	City of Casselberry	C-20	Park Drive Drainage/Wetland Improvements	Retention area on Lots 10A & 11 on north side of Park Drive.	100% On-site Retention	Planned	TBD	1	0	$229,000.00	TBD	TBD - $0.00
1942	City of Casselberry	C-21	Whole Lake Alum Treatment	Execution of whole lake alum treatments to directly treat Queens Mirror Lake and the Triplet Lake chain to address loads due to groundwater seepage and internal recycling.	In Waterbody - Alum Injection System	Completed	2015	120	185	$170,000.00	City of Casselberry	City of Casselberry - $170,000.00
1888	City of Casselberry	C-27	Street Sweeping	Monthly street sweeping, approximately 25,704 cubic feet per year (ft/yr) of material collected annually based upon 2015 values.	Street Sweeping	Ongoing	NA	434	285	$0.00	City of Casselberry	City of Casselberry - $0.00
1903	City of Casselberry	C-28	Enhanced Public Education	FYN, landscape and irrigation ordinances, PSAs, pamphlets/presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	732	49	$0.00	City of Casselberry	City of Casselberry - $0.00
1902	City of Casselberry	C-30	Structures Cleaning	729 cubic feet of solids collected from catch basins, baffle boxes, and other structures per year.	BMP Cleanout	Ongoing	NA	15	9	$0.00	Not provided	Not provided - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1901	City of Casselberry	C-31	Queens Mirror Nutrient Reduction Facility	Treatment of runoff from upstream areas prior to entering Queens Mirror Lake.	Stormwater - Alum Injection System	Underway	2025	867	173	$2,225,172.00	City of Casselberry; ARPA	City of Casselberry - $725,172.00; ARPA - $1,500,000.00
1921	City of Casselberry	C-32	Lake Concord Park (South Phase)	New development with wet detention.	Wet Detention Pond	Completed	2017	0	0	$7,324,162.00	City of Casselberry	City of Casselberry - $7,324,162.00
1900	City of Casselberry	C-33	Triplet Lake Drive Signature Street	New stormwater treatment for existing road.	Dry Detention Pond	Completed	2017	3	0	$3,092,425.00	City of Casselberry	City of Casselberry - $3,092,425.00
1944	City of Casselberry	C-34	North Oxford Road Complete Street Improvements	Road diet with addition of bioswales.	Bioswales	Completed	2018	1	0	$2,134,100.00	City of Casselberry	City of Casselberry - $2,134,100.00
1899	City of Casselberry	C-35	Concord Drive Improvements	New stormwater treatment for existing road.	Wet Detention Pond	Completed	2021	9	0	$1,793,137.00	City of Casselberry	City of Casselberry - $1,793,137.00
1898	City of Casselberry	C-36	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	33	30	$0.00	NA	NA - $0.00
1897	City of Casselberry	C-37	Enhanced Street Sweeping	Additional street sweeping 1X/month for first five months of each year (heavy leaf fall season) beyond base level.	Street Sweeping	Ongoing	NA	181	119	$0.00	City of Casselberry	City of Casselberry - $31,719.00
1896	City of Casselberry	C-38	Lake Jesup Basin Nitrogen Removal Projects	Evaluation of supplemental nitrogen load reduction projects in the Lake Jesup watershed with a focus on utilizing a BAM downflow treatment wetland.	Study	Underway	TBD	0	0	$300,000.00	City of Casselberry	City of Casselberry - $300,000.00
5707	City of Casselberry	C-39	Lake Concord Whole Lake Alum Treatment	Execution of whole lake alum treatments to directly treat Lake	In Waterbody - Alum Injection System	Completed	2022	198	14	$130,755.00	City of Casselberry	City of Casselberry - $130,755.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				Concord to address loads due to groundwater seepage and internal recycling.								
5708	City of Casselberry	C-40	Lake Kathryn Circle Utility and Roadway Improvement Project	Extend sanitary sewer service and decommission approximately 34 septic tanks in proximity to Lake Kathryn.	OSTDS Phase Out	Completed	2023	139	0	$3,996,205.00	City of Casselberry; DEP Grant	City of Casselberry - $3,188,651.50; DEP Grant - $807,553.50
6979	City of Casselberry	C-41	Wheel Park Phase I Wet Detention Pond	Wet detention pond for Wheel Park Phase I construction project.	Wet Detention Pond	Planned	2025	TBD	TBD	$10,000.00	City of Casselberry Parks Bond	City of Casselberry Parks Bond - $5,000.00
6980	City of Casselberry	C-42	Wheel Park Phase II Wet Detention Pond Expansion	Expansion of a wet detention pond during the construction of Wheel Park Phase II.	Wet Detention Pond	Planned	2025	TBD	TBD	$5,000.00	City of Casselberry Parks Bond	City of Casselberry Parks Bond - $5,000.00
6981	City of Casselberry	C-43	Dew Drop Wet Detention Pond	Wet detention pond being constructed with new Dew Drop Park construction.	Wet Detention Pond	Planned	2025	TBD	TBD	$2,500.00	City of Casselberry Parks Bond	City of Casselberry Parks Bond - $2,500.00
6982	City of Casselberry	C-44	Secret Lake Park Wet Detention Pond	Wet detention pond installed with the construction completed at Secret Lake Park.	Wet Detention Pond	Completed	2023	TBD	TBD	$2,500.00	City of Casselberry Parks Bond	City of Casselberry Parks Bond - $2,500.00
6983	City of Casselberry	C-45	Wirz Park Dry Detention Pond	Dry detention pond getting installed with the construction at Wirz Park.	Dry Detention Pond	Planned	2025	TBD	TBD	$4,000.00	City of Casselberry Parks Bond	City of Casselberry Parks Bond - $4,000.00
1890	City of Lake Mary	LM-05	Catch Basin Clean Out	Removal of 1,620 cubic feet of material per year.	BMP Cleanout	Ongoing	NA	35	20	$80,000.00	City of Lake Mary	City of Lake Mary - $80,000.00
1919	City of Lake Mary	LM-02	Street Sweeping	140,895 lbs/year of material removed.	Street Sweeping	Ongoing	NA	29	18	$0.00	City of Lake Mary	City of Lake Mary - $13,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1922	City of Lake Mary	LM-06	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	231	39	$0.00	NA	NA - $0.00
1934	City of Lake Mary	LM-03	Enhanced Public Education	FYN, ordinances (landscape, irrigation, pet waste, fertilizer), PSAs, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	298	20	$0.00	City of Lake Mary	City of Lake Mary - $5,500.00
7305	City of Lake Mary	LM-07	Lake View Septic-to-Sewer	Lake View Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	873.65	0	$0.00	NA	NA - $0.00
7307	City of Lake Mary	LM-08	Cardinal Oaks Septic-to-Sewer	Cardinal Oaks Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	645.36	0	$0.00	NA	NA - $0.00
7309	City of Lake Mary	LM-09	Evansdale Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	548.78	0	$0.00	NA	NA - $0.00
7312	City of Lake Mary	LM-10	Cardinal Oaks PH II Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	439.02	0	$0.00	NA	NA - $0.00
7313	City of Lake Mary	LM-11	Woldunn Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	360	0	$0.00	NA	NA - $0.00
7314	City of Lake Mary	LM-12	Longwood-LM RD Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	412.68	0	$0.00	NA	NA - $0.00
7315	City of Lake Mary	LM-13	Cardinal Oaks Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	645.36	0	$0.00	NA	NA - $0.00
7316	City of Lake Mary	LM-14	Country Downs Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	333.66	0	$0.00	NA	NA - $0.00
7317	City of Lake Mary	LM-15	Lake Bingham Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	245.85	0	$0.00	NA	NA - $0.00
7318	City of Lake Mary	LM-16	Greenleaf Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	153.66	0	$0.00	NA	NA - $0.00
7319	City of Lake Mary	LM-17	Woodfield Estates Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	171.22	0	$0.00	NA	NA - $0.00
7320	City of Lake Mary	LM-18	Preserve at Soldiers Creek Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	158.05	0	$0.00	NA	NA - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
7321	City of Lake Mary	LM-19	Humphrey Road Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	158.05	0	$0.00	NA	NA - $0.00
7322	City of Lake Mary	LM-20	Countryside Septic-to-Sewer	Septic-to-sewer.	OSTDS Phase Out	Planned	TBD	118.54	0	$0.00	NA	NA - $0.00
1877	City of Longwood	L-13	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	162	14	$0.00	Not provided	Not provided - $0.00
1878	City of Longwood	L-12	Longdale Septic Tank Abatement	219 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Completed	2022	153	0	$4,144,313.00	City of Longwood; DEP; DEP SRF; SJRWMD	City of Longwood - $0.00; DEP - $720,000.00; DEP SRF - $2,096,554.00; SJRWMD - $1,327,759.00
1936	City of Winter Park	WP-45	W. Fawsett Road Outfall Retrofit	CDS.	Hydrodynamic Separators	Completed	2015	0	0	$50,000.00	Winter Park	Winter Park - $0.00
1879	City of Longwood	L-11	Septic Tank Abatement - Phase 1 Project	198 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Completed	2021	139	0	$3,588,403.00	DEP; DEP; City of Longwood; DEP SRF; SJRWMD	DEP - $557,670.00; City of Longwood - $830,014.00; DEP SRF - $1,108,984.00; SJRWMD - $785,008.00; DEP - $306,727.00
1881	City of Longwood	L-09	North CR 427 & Lake Ruth Septic Tank Removal	103 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Completed	2021	72	0	$3,614,177.00	DEP SRF; City of Longwood; SJRWMD; DEP	DEP SRF - $3,002,597.00; City of Longwood - $0.00; SJRWMD - $401,340.00; DEP - $210,240.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1882	City of Longwood	L-08	South Longwood Septic Tank Abatement Project	245 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Completed	2018	172	0	$6,072,622.00	City of Longwood; DEP SRF; SJRWMD; DEP	City of Longwood - $0.00; DEP SRF - $3,781,919.00; SJRWMD - $1,290,703.00; DEP - $1,000,000.00
1883	City of Longwood	L-07	Florida Central Commerce Park Wastewater Interconnect Program	Project will improve wastewater effluent quality by routing flow from a decommissioned plant to a Seminole County plant for higher treatment, maximizing reuse availability, and abandoning irrigation wells for an urbanized area in the City of Longwood.	WWTF Diversion to Reuse	Completed	2017	1173	280	$1,900,309.56	SJRWMD; City of Longwood	SJRWMD - $269,420.00; City of Longwood - $1,630,889.56
1884	City of Longwood	L-05	Public Education	FYN, irrigation ordinance, pamphlets, presentations, City website, Illicit Discharge Program, and recently implemented social media articles (Facebook, Twitter, Instagram).	Education Efforts	Ongoing	NA	250	15	$12,500.00	City of Longwood	City of Longwood - $15,000.00
1885	City of Longwood	L-04	Street Sweeping - Additional Credit	Street sweeping of 142 miles 7 times a year - minimum of 119,000 lbs of material collected annually.	Street Sweeping	Ongoing	NA	16	8	$33,600.00	City of Longwood	City of Longwood - $33,600.00
1886	City of Longwood	L-03	BMP Clean Out	Clean out of BMPs, an average of 4,401 cubic	BMP Cleanout	Ongoing	NA	144	41	$112,000.00	City of Longwood	City of Longwood - $112,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				feet of material per year.								
1887	City of Longwood	L-01	Fairy Lake Outfall	Design and construction of 62 LF of 4-by-7 box culvert with headwalls and 1,200 sqft retaining wall system.	Control Structure	Completed	2013	0	0	$300,000.00	City of Longwood	City of Longwood - $300,000.00
5264	City of Longwood	L-15	Reiter Park Stormwater Redesign	Added an island, swale/ditch with rocks to prevent erosion, planted trees, added a littoral zone, and installed three aerators/fountains into the wet detention pond.	BMP Treatment Train	Completed	2019	TBD	TBD	$16,000.00	City of Longwood; FDACS	FDACS - $8,000.00; City of Longwood - $8,000.00
5265	City of Longwood	L-16	Citywide Stormwater Master Plan	Citywide study to identify all new stormwater facilities and locations where stormwater improvements are necessary, including water quality projects.	Study	Completed	2020	0	0	$225,480.00	City of Longwood	City of Longwood - $225,480.00
5266	City of Longwood	L-17	Florida Central Parkway Improvements	Swales were regraded, an outfall and a control structure were added to the reuse pond.	Grass swales without swale blocks or raised culverts	Completed	2018	TBD	TBD	$957,231.20	FDOT; City of Longwood	FDOT - $0.00; City of Longwood - $957,231.20
5267	City of Longwood	L-18	Stormwater Pond Restoration Program	Restoration of wet detention ponds that were not previously maintained (to date 10 ponds have been restored to design levels).	Stormwater System Rehabilitation	Completed	2020	0	0	$100,000.00	Private Pond Owners	Private Pond Owners - $100,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
5268	City of Longwood	L-19	Fertilizer Ordinance Implementation	The City of Longwood adopted Seminole County's Fertilizer Ordinance.	Regulations, Ordinances, and Guidelines	Ongoing	NA	0	0	$3,000.00	City of Longwood	City of Longwood - $3,000.00
5269	City of Longwood	L-20	Citywide Sanitary Sewer Inspection Program	CCTV inspections, cleaning, smoke testing, and inspections.	Sanitary Sewer Inspections	Ongoing	NA	0	0	$40,000.00	City of Longwood	City of Longwood - $40,000.00
5270	City of Longwood	L-21	West Warren Avenue Streets and Drainage Study	Study to identify stormwater elements in need of retrofit activities.	Study	Completed	2022	0	0	$340,674.00	City of Longwood; FDOT	City of Longwood - $43,129.00; FDOT - $297,545.00
5271	City of Longwood	L-22	SR 434 Landscape and Water Quality Improvements	Conversion of grassed medians into tree islands to reduce erosion contributing to stormwater system.	Stormwater System Rehabilitation	Completed	2018	0	0	$215,000.00	City of Longwood	City of Longwood - $215,000.00
5272	City of Longwood	L-23	Highway U.S. 17/92 Landscape and Water Quality Improvements	Conversion of grassed medians into tree islands to reduce erosion contributing to stormwater system.	Stormwater System Rehabilitation	Completed	2024	0	0	$494,936.00	FDOT; City of Longwood	FDOT - $316,002.00; City of Longwood - $178,934.00
5709	City of Longwood	L-24	West Warren Avenue Streets and Drainage Improvements Design & Construction	Complete Streets project which includes stormwater elements in need of retrofit.	Stormwater System Upgrade	Planned	2028	TBD	TBD	$5,100,000.00	FDOT LAP; City of Longwood	FDOT LAP - $350,000.00; City of Longwood - $4,750,000.00
5710	City of Longwood	L-25	UPS Pond and Bennett Drive Drainage Improvements	Retrofit project to enhance water quality and flood protection.	Stormwater System Upgrade	Underway	2025	0	0	$877,000.00	EDA; City of Longwood	EDA - $676,500.00; City of Longwood - $200,500.00
5711	City of Longwood	L-26	Pet Waste Ordinance	City Ordinance 19-2153 adopting the	Education Efforts	Ongoing	NA	28	2	$3,200.00	City of Longwood	City of Longwood - $3,200.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				County's related ordinance.								
6308	City of Longwood	L-28	East Longwood Septic Tank Abatement - Phase 3 Project	90 septic tanks will be removed and converted to central sewer.	OSTDS Phase Out	Underway	2027	63	0	$4,000,000.00	City of Longwood; DEP	City of Longwood - $3,126,450.00; DEP - $873,550.00
6309	City of Longwood	L-27	Ronald Reagan Boulevard (CR 427) Streetscape	Implementation of rain gardens as stormwater improvements in addition to the installation of pavers and landscape to beautify Longwood's historic district.	LID- Rain Gardens	Planned	2026	0	0	$1,385,000.00	Seminole County; City of Longwood	Seminole County - $930,000.00; City of Longwood - $455,000.00
7184	City of Longwood	L-30	SR 434 Landscape Retrofit (from Rangeline Road to Interstate 4)	Conversion of grassed medians into tree islands to reduce erosion contributing to stormwater system. Also, the City will install trees around the pond perimeter and a littoral zone.	Stormwater System Rehabilitation	Planned	2025	0	0	$350,000.00	City of Longwood	City of Longwood - $350,000.00
7185	City of Longwood	L-29	Citywide Stormwater Master Plan Update	Citywide study to identify all new stormwater facilities and locations where stormwater improvements are necessary, including water quality projects. This will be an update to the existing Stormwater Master Plan.	Study	Planned	2026	0	0	$50,000.00	City of Longwood	City of Longwood - $50,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1924	City of Maitland	M-16	Street Sweeping	Street sweeping once every two weeks of 71 miles.	Street Sweeping	Ongoing	NA	311	283	$100,000.00	City of Maitland	City of Maitland - $100,000.00
1906	City of Maitland	M-17	Enhanced Public Education	Landscaping, irrigation, fertilizer, and pet waste ordinances, PSAs, presentations/pamphlets, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	96	7	$5,000.00	City of Maitland	City of Maitland - $5,000.00
1908	City of Maitland	M-21	Minnehaha Circle Baffle Box	Construction 2nd generation baffle box.	Baffle Boxes-Second Generation	Completed	2014	0	0	$0.00	Not provided	Not provided - $0.00
5273	City of Maitland	M-22	BMP Cleanout	Cleaning out of baffle boxes and CDS units.	BMP Cleanout	Ongoing	NA	13	7	$40,000.00	City of Maitland	City of Maitland - $40,000.00
5274	City of Maitland	M-23	Wetland Restoration: Tuscarora Trail and Temple Trail	Remove invasive vegetation to restore wetland system.	Exotic Vegetation Removal	Completed	2020	0	0	$25,000.00	City of Maitland	City of Maitland - $25,000.00
5275	City of Maitland	M-24	Wetland Restoration: Community Park	Remove invasive vegetation to restore wetland system.	Exotic Vegetation Removal	Completed	2020	0	0	$25,000.00	City of Maitland	City of Maitland - $25,000.00
5278	City of Maitland	M-27	Lake Gem Alum Surface Treatment	Alum surface treatment to eliminate nutrient recycling within the lake.	In Waterbody - Alum Injection System	Completed	2020	155	27	$262,100.00	City of Maitland	City of Maitland - $200,000.00
5280	City of Maitland	M-29	Citywide Sanitary Sewer Inspection Program	CCTV inspections, cleaning, smoke testing, inspections.	Sanitary Sewer Inspections	Ongoing	NA	0	0	$30,000.00	City of Maitland	City of Maitland - $30,000.00
5281	City of Maitland	M-30	Stormwater and Lakes Management Plan (SLMP)	Study to identify stormwater management improvement projects and water quality projects throughout the	Study	Completed	2023	0	0	$250,000.00	City of Maitland	City of Maitland - $250,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				City. SLMP is revised and updated every few years.								
5282	City of Maitland	M-31	Mayo Avenue Septic to Sewer System Transition	Phase out of 40 OSTDS systems and expansion of WWTF service area to convert systems to central sewer.	OSTDS Phase Out	Planned	2032	28	0	$2,000,000.00	City of Maitland	City of Maitland - $2,000,000.00
5283	City of Maitland	M-32	Sewer System Master Plan Update	Study to identify sewer system improvement projects throughout the City.	Study	Completed	2021	0	0	$70,000.00	City of Maitland	City of Maitland - $70,000.00
5284	City of Maitland	M-33	Tuscarora Trail / Dommerich Hills Sewer (Phases 1-4)	Phase out of 400 OSTDS systems and expansion of WWTF service area to convert systems to central sewer.	OSTDS Phase Out	Underway	2025	280	0	$17,918,121.00	DEP WQIP; City of Maitland; DEP SRF	DEP WQIP - $6,135,000.00; City of Maitland - $14,218,121.00; DEP SRF - $3,700,000.00
5286	City of Maitland	M-35	Homer Hough Park Shoreline Project	Exotic Species Removal Project.	Exotic Vegetation Removal	Completed	2020	0	0	$25,000.00	City of Maitland	City of Maitland - $25,000.00
6198	City of Maitland	M-44	LS No. 7 Upgrade	Lift Station No. 7 replacement and upgrade.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Planned	2025	0	0	$1,200,000.00	City of Maitland	City of Maitland - $1,200,000.00
6181	City of Maitland	M-45	LS No. 17 Forcemain Upgrade	Lift Station No. 17 upgrade forcemain replacement.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Planned	2026	0	0	$3,310,000.00	City of Maitland	City of Maitland - $3,310,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
6356	City of Maitland	M-49	Thistle Lane Drainage Improvements	Improve stormwater along Thistle Lane.	Stormwater System Upgrade	Planned	TBD	0	0	$1,000,000.00	City of Maitland	City of Maitland - $1,000,000.00
1905	City of Orlando	ORL-30	BMP Clean Out	9,977 cubic feet of material collected.	BMP Cleanout	Ongoing	NA	8	4	$0.00	City of Orlando	City of Orlando - $0.00
1916	City of Orlando	ORL-19	Street Sweeping	Sweep two times per month. 215,908 cubic feet of material collected.	Street Sweeping	Ongoing	NA	95	72	$0.00	City of Orlando	City of Orlando - $0.00
1917	City of Orlando	ORL-25	Educational Component	FYN, ordinances (fertilizer, landscape, irrigation, pet waste), PSAs, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	17	2	$51,500.00	City of Orlando	City of Orlando - $0.00
1918	City of Orlando	ORL-26	Lake Concord Alum Treatment and Baffle Box	Construct alum injection system into an existing box culvert on N Hughey Ave to treat runoff from two subbasins within the Downtown Orlando area.	Stormwater - Alum Injection System	Completed	2014	5	1	$0.00	DEP; City of Orlando	DEP - $0.00; City of Orlando - $291,323.00
1928	City of Orlando	ORL-29	Catch Basin Clean Out	Inlet baskets - 6,354.5 cubic feet of material collected.	BMP Cleanout	Ongoing	NA	2	2	$0.00	City of Orlando	City of Orlando - $0.00
1933	City of Orlando	ORL-31	Lake Concord Alum Treatment and Baffle Box	Construct 2nd generation baffle box on W Concord St. to treat runoff from residential and industrial area. 108 cubic feet of material collected.	Baffle Boxes-Second Generation	Completed	2014	0	0	$0.00	DEP; City of Orlando	DEP - $0.00; City of Orlando - $259,560.00

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5293	City of Orlando	ORL-32	N Ivanhoe Boulevard Drainage Improvements (Phase I)	Retrofit existing drainage system along N Ivanhoe Blvd from Gerda Terrace to North Shore Terrace and install two (2) second generation baffle boxes within Dormont Ln and Hopkins Cir.	Baffle Boxes-Second Generation	Completed	2020	6	41	$1,550,000.00	City of Orlando	City of Orlando - $1,550,000.00
5295	City of Orlando	ORL-34	Lake Druid Emergent Vegetation Harvesting	Harvesting of Typha and Oxycaryum cubense in Lake Druid.	Aquatic Vegetation Harvesting	Completed	2017	0	0	$45,696.30	City of Orlando	City of Orlando - $0.00
5296	City of Orlando	ORL-35	LS8, 30, 47, and 77 Replacements	Lift Station Replacement (only LS #8 in Howell Branch basin).	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Completed	2018	0	0	$0.00	TBD	TBD - $0.00
5297	City of Orlando	ORL-36	Federal Street CDS Unit	Install CDS unit to capture gross pollutants before they enter Lake Dot.	Hydrodynamic Separators	Completed	2019	TBD	TBD	$0.00	TBD	TBD - $0.00
6138	City of Orlando	ORL-38	Colonialtown (Phase 2)-Oregon Street (From Fern Creek Avenue to Shine Avenue) Drainage Improvements (PhaseII)	Retrofit existing drainage system along Oregon Street from Fern Creek Avenue to Shine Avenue. Project includes the installation of two (2) second generation baffle boxes at Spokane Avenue prior to discharge into drainage well.	Baffle Boxes-Second Generation	Planned	2026	0	0	$5,070,220.00	FEMA HMGP; City of Orlando	FEMA HMGP - $2,440,040.25; City of Orlando - $813,346.75
6139	City of Orlando	ORL-39	Water Reclamation Lift	Install emergency generators in 7 lift	WWTF Upgrade	Completed	2023	0	0	$0.00	TBD	TBD - $0.00

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			Station Emergency Generators	stations throughout City to prevent sanitary overflows during power outages, including tropical systems; 3 lift stations located within Wekiva Basin.								
1945	City of Winter Park	WP-34	Street Sweeping	Street sweeping two times per month of 130 miles - 124,200 cubic feet of material collected annually.	Street Sweeping	Ongoing	NA	434	301	$0.00	Not provided	Not provided - $0.00
6831	City of Orlando	ORL-40	Colonialtown (Phase 3)- Shine Avenue (From Oregon St to Marks St) Drainage Improvements	Retrofit existing drainage system along Shine Avenue from Oregon Street to Marks Street. Project is only stormwater system rehabilitation - not eligible for nutrient-reduction credits. The drainage project expected to be completed regardless.	Stormwater System Rehabilitation	Planned	2027	0	0	$5,177,172.00	City of Orlando; FEMA HMGP	City of Orlando - $0.00; FEMA HMGP - $0.00
7124	City of Orlando	ORL-41	Marks & Pasadena Drainage Improvement Project	Upgrade stormwater and sanitary infrastructure. Install baffle box at outfall pipe into Lake Highland.	Baffle Boxes-Second Generation	Underway	2024	TBD	TBD	$0.00	City of Orlando Streets and Stormwater Division	City of Orlando Streets and Stormwater Division - $0.00
7125	City of Orlando	ORL-42	Leu Gardens - Dredging Near Overlook (within Lake Rowena)	Remove/dredge accumulated sediment from lake bottom at outfall pipe discharging into Lake Rowena.	Stormwater System Rehabilitation	Planned	2027	0	0	$0.00	City of Orlando Streets and Stormwater Division	City of Orlando Streets and Stormwater Division - $295,000.00

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7422	City of Orlando	ORL-47	Colonialtown (Phase 4)- Shine Avene (From Marks Street to Illinois Street) Drainage Improvements	Retrofit existing drainage system along Shine Avenue from Marks Street to Illinois Street. Project includes the installation of two (2) second generation baffle boxes at Shine Avenue prior to discharge into drainage well.	Baffle Boxes-Second Generation	Planned	2028	TBD	TBD	$0.00	FEMA HMGP; City of Orlando	FEMA HMGP - $0.00; City of Orlando - $0.00
7431	City of Orlando	ORL-44	Biosolids Processing Improvements at Iron Bridge WRF	Improve the biosolids dewatering, dewatering system ventilation, and treatment infrastructure at the Iron Bridge WRF. (CIP Project No. 1, 3, 5).	WWTF Upgrade	Underway	2026	TBD	TBD	$33,000,000.00	City of Orlando Water Reclamation	City of Orlando Water Reclamation - $33,000,000.00
7432	City of Orlando	ORL-45	Iron Bridge WRF Improvements	Improve the grit removal, EQ mixing and secondary clarifier, water pump station, and power system infrastructure at the Iron Bridge WRF. (CIP Project No. 2, 4, 6, 7).	WWTF Upgrade	Planned	2027	TBD	TBD	$27,679,000.00	City of Orlando Water Reclamation	City of Orlando Water Reclamation - $29,679,000.00
7442	City of Orlando	ORL-43	Aquatic Vegetation Harvesting & Trash Removal in the Lake Jesup Basin	Special equipment (Weedoo) to mechanically remove aquatic vegetation and trash from Lake Dot, Lake Highland, Spring Lake, and Park Lake on a routine basis.	Aquatic Vegetation Harvesting	Ongoing	2034	0	0	$0.00	City of Orlando Streets and Stormwater Division	City of Orlando Streets and Stormwater Division - $0.00
1932	City of Oviedo	OV-01	Aulin Regional Stormwater Pond	Aulin Regional Stormwater Pond.	Wet Detention Pond	Completed	2013	2	0	$0.00	Not provided	Not provided - $0.00

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1931	City of Oviedo	OV-03	Sweetwater Creek Project	Sweetwater Creek Project.	Dry Detention Pond	Completed	2017	87	19	$0.00	Not provided	Not provided - $0.00
1930	City of Oviedo	OV-04	Solary Canal Stormwater Treatment Area - missing from model	Regional stormwater treatment (RST) facility.	BMP Missing from Model	Completed	2017	730	230	$1,700,000.00	Not provided	Not provided - $0.00
1929	City of Oviedo	OV-05	Street Sweeping	528,111 lbs/yr of material collected.	Street Sweeping	Ongoing	NA	244	152	$0.00	Not provided	Not provided - $0.00
1920	City of Oviedo	OV-06	Enhanced Public Education	FYN; fertilizer ordinance, landscape, irrigation, and pet waste ordinances; Illicit Discharge Program, Adopt A Pond Program, Fats Oils & Grease ordinance.	Education Efforts	Ongoing	NA	1399	112	$0.00	Not provided	Not provided - $0.00
1927	City of Oviedo	OV-08	Inlets and Pipe Cleaning	Routine cleaning of inlets and pipes - 435 lbs/yr of material collected.	BMP Cleanout	Ongoing	NA	0	0	$0.00	Not provided	Not provided - $0.00
1935	City of Oviedo	OV-09	Aulin Avenue North	Construction of stormwater conveyance system and treatment area.	Bioswales	Planned	TBD	3	0	$50,000.00	Not provided	Not provided - $0.00
1925	City of Oviedo	OV-10	Oviedo Regional Pond/Solary Wetland Park	Construction of 6 acre retention pond and a wetland park to receive and treat drainage from 58 acres of untreated runoff.	Regional Stormwater Treatment	Completed	2022	192	35	$5,979,754.68	DEP	DEP - $500,000.00
1974	City of Oviedo	OV-11	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	454	27	$0.00	Not provided	Not provided - $0.00
1975	City of Oviedo	OV-12	Orange Avenue BMP	Baffle Box Second Generation to reduce nutrients to Sweetwater Creek (Oviedo).	Baffle Boxes-Second Generation	Planned	2026	TBD	TBD	$0.00	TBD	TBD - $0.00

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5712	City of Oviedo	OV-14	Pollutant Prevention Baskets in Inlets x 21	Oviedo on the Park treatment for 49.17 acres.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	TBD	TBD	$0.00	Not provided	Not provided - $0.00
6623	City of Oviedo	OV-15	Allendale Drive Outfall Improvement	Outfall improvement to reduce nutrients.	Stormwater System Upgrade	Planned	2026	TBD	TBD	$0.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $560,686.88
6624	City of Oviedo	OV-16	High Street/Wood Street BMP	Installing inlet BMP treatment with flood abatement.	Stormwater System Upgrade	Planned	2025	TBD	TBD	$25,000.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $25,000.00
6625	City of Oviedo	OV-17	Lake Charm Baffle Box	Installing baffle box with media (Bold and Gold) to Lake Charm Outfall (Major Outfall category).	Baffle Boxes-Second Generation with Media	Planned	2026	TBD	TBD	$125,000.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $125,000.00
6626	City of Oviedo	OV-18	Magnolia Street BMP	Installing catch basins with catch basin baskets.	Catch Basin Inserts/Inlet Filter Cleanout	Planned	2026	TBD	TBD	$40,000.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $40,000.00
6627	City of Oviedo	OV-19	Mead Manor Storm System Upgrade	Improvement of storm system and outfall with BMPs prior to discharging to Lake Charm.	Stormwater System Upgrade	Planned	2027	TBD	TBD	$0.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $435,155.24
6628	City of Oviedo	OV-20	Shady Lane BMP	Installing a BMP at the west end of Shady Lane to provide treatment where no traditional infrastructure is in place.	BMP Cleanout	Planned	2026	TBD	TBD	$125,000.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $125,000.00
6629	City of Oviedo	OV-21	St Johanna Drive BMP Install	Installing 4 catch basin baskets.	Catch Basin Inserts/Inlet Filter Cleanout	Planned	2026	TBD	TBD	$12,500.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $12,500.00
6630	City of Oviedo	OV-22	Sweetwater Creek Restoration BMP	Restoring Sweetwater Creek, potentially adding a diversion pond/BMP at Sweetwater Park or	Shoreline Stabilization	Planned	2027	TBD	TBD	$2,500,000.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $2,500,000.00

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				other City owned property. Restoring banks and planting native aquatic plantings along shoreline. Providing educational elements along potential boardwalk.								
6631	City of Oviedo	OV-23	Vine Street BMP	Insert inlet BMPs at 3 inlets.	Catch Basin Inserts/Inlet Filter Cleanout	Planned	2024	TBD	TBD	$0.00	City of Oviedo Utility Fee	City of Oviedo Utility Fee - $10,000.00
1976	City of Sanford	S-01	Street Sweeping	Weekly street sweeping - removes 17,347 cubic feet of material annually.	Street Sweeping	Ongoing	NA	426	267	$0.00	City of Sanford	City of Sanford - $0.00
1979	City of Sanford	S-02	Enhanced Public Education	FYN program; pet waste, irrigation, and fertilizer ordinances; PSAs and Illicit Discharge Program.	Education Efforts	Ongoing	NA	1171	132	$0.00	City of Sanford	City of Sanford - $0.00
1990	City of Sanford	S-04	Cameron Baffle Box	Installation of 2nd generation baffle box.	Baffle Boxes-Second Generation	Planned	TBD	261	24	$500,000.00	TBD	TBD - $0.00
1989	City of Sanford	S-05	Pine Way Baffle Box	Installation of 2nd generation baffle box.	Baffle Boxes-Second Generation	Planned	TBD	490	43	$750,000.00	TBD	TBD - $0.00
1988	City of Sanford	S-06	WWTP Reclaim Water Nutrient Reduction	Upgrade to WWTP treatment process that will reduce the concentration of TN from 20mg/L to 4 mg/L and TP from 4mg/L to 1 mg/L in the reclaimed water. 1 mgd delivered to Jesup Basin - 0.29 mgd to Site 10 and 0.71 mgd for irrigation.	WWTF Nutrient Reduction	Completed	2020	10966	2056	$16,000,000.00	DEP SRF	DEP SRF - $0.00

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1987	City of Sanford	S-07	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	353	327	$0.00	NA	NA - $0.00
1946	City of Winter Park	WP-35	Enhanced Public Education	FYN, landscape and fertilizer ordinances, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	231	15	$0.00	Not provided	Not provided - $0.00
1947	City of Winter Park	WP-40	Park North Exfiltration	Exfiltration trench.	Exfiltration Trench	Completed	2014	10	1	$703,000.00	DEP	DEP - $421,000.00
1949	City of Winter Park	WP-44	Howard Drive Outfall Retrofit	CDS, detention, beemats.	Hydrodynamic Separators	Completed	2015	0	0	$411,000.00	DEP	DEP - $249,000.00
1951	City of Winter Park	WP-46	Dixie Parkway Outfall No. 3	Exfiltration.	Exfiltration Trench	Planned	2029	40	3	$300,000.00	Winter Park	Winter Park - $0.00
1952	City of Winter Park	WP-47	Lake Killarney Sediment P Deactivation	Alum - whole lake, partnered with Orange County.	In Waterbody - Alum Injection System	Completed	2017	TBD	TBD	$340,000.00	Winter Park	Winter Park - $0.00
1953	City of Winter Park	WP-48	Howell Branch Pond Modifications	Upgrade existing pond to provide treatment volume.	Wet Detention Pond	Planned	2030	22	1	$689,598.00	Winter Park	Winter Park - $0.00
7459	City of Orlando	ORL-46	Lake Highland - Macroalgal Harvesting	Special equipment (WeeDoo) to mechanically remove algae from surface of water body on routine basis.	Macroalgal Harvesting	Underway	2034	0	0	$0.00	City of Orlando Streets and Stormwater Division	City of Orlando Streets and Stormwater Division - $0.00
1954	City of Winter Park	WP-49	Nicolet Ave. Regional Pond	Regional Pond to treat discharges to Lake Killarney.	Dry Detention Pond	Completed	2024	TBD	TBD	$400,000.00	Winter Park	Winter Park - $0.00
1955	City of Winter Park	WP-50	Lee Road (S.R.423) Stormwater Outfall Water Quality Structure with Diversion Structure	CDS.	Hydrodynamic Separators	Completed	2018	0	0	$187,000.00	Winter Park	Winter Park - $0.00

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1956	City of Winter Park	WP-51	Lake Sylvan Outfall Water Quality Structure with Diversion Structure	CDS.	Hydrodynamic Separators	Completed	2018	0	0	$195,000.00	Winter Park	Winter Park - $0.00
1963	City of Winter Park	WP-41	Canton Avenue Outfall Retrofit	Suntree baffle box.	Baffle Boxes-Second Generation	Completed	2017	6	0	$129,000.00	DEP	DEP - $77,000.00
5298	City of Winter Park	WP-52	Winter Park 9th Grade Center Pond	Upgrade to existing treatment pond.	Wet Detention Pond	Planned	2030	TBD	TBD	$200,000.00	Winter Park	Winter Park - $100,000.00
6310	City of Winter Springs	WS-23	City Hall Beemat Project	Installation of 4,575 sf of beemats on the existing 2-acre City Hall stormwater pond for nutrient removal. The beemats were removed by the City in late 2023.	Floating Islands/ Managed Aquatic Plant Systems (MAPS)	Completed	2023	0	0	$60,000.00	City of Winter Springs (through Veolia)	City of Winter Springs (through Veolia) - $67,000.00
5299	City of Winter Park	WP-53	Lake Sue Outfalls Retrofits	CDS unit to treat residential runoff before entering Lake Sue.	Hydrodynamic Separators	Underway	2025	TBD	TBD	$150,000.00	Winter Park	Winter Park - $140,000.00
5300	City of Winter Park	WP-54	Highland Outfall	CDS.	Hydrodynamic Separators	Completed	2019	0	0	$200,000.00	Winter Park	Winter Park - $200,000.00
5713	City of Winter Park	WP-55	Winter Park Road Pond	Detention	Dry Detention Pond	Completed	2022	0	0	$300,000.00	Winter Park	Winter Park - $375,000.00
1957	City of Winter Springs	WS-01	Solary Canal Stormwater Treatment Area - missing from model	RST facility consisting of 8.0-acre wet pond and 4.8-acre wetland.	BMP Missing from Model	Completed	2017	730	147	$1,700,000.00	SJRWMD	SJRWMD - $1,700,000.00
1958	City of Winter Springs	WS-06	Public Education Efforts - Update Local Codes and Ordinances	FYN, PSAs, distribution of pamphlets, presentations to various groups, inspection	Education Efforts	Ongoing	NA	2638	180	$7,500.00	City of Winter Springs	City of Winter Springs - $7,500.00

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			(Fertilizer Rule, etc.), FYN	program on illicit discharges, and articles distributed via social media (Facebook, Instagram, Twitter).								
1959	City of Winter Springs	WS-07	Street Sweeping	Bimonthly street sweeping - An average of 14,700 cubic feet of material collected annually.	Street Sweeping	Ongoing	NA	486	316	$55,000.00	City of Winter Springs	City of Winter Springs - $55,000.00
1960	City of Winter Springs	WS-09	Solary Canal Water Quality Improvements	Retrofit outfall to include nutrient removal filtration system.	Wet Detention Pond	Completed	2018	850	213	$250,000.00	SJRWMD Grant; City of Winter Springs	SJRWMD Grant - $207,564.00; City of Winter Springs - $42,436.00
1962	City of Winter Springs	WS-10	North Tuskawilla Outfall Drainage and Water Quality Improvements	Dual baffle boxes and repair of the outfall weir structure.	Baffle Boxes-Second Generation	Planned	2026	14	3	$200,000.00	City of Winter Springs	City of Winter Springs - $200,000.00
1961	City of Winter Springs	WS-11	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	464	78	$0.00	City of Winter Springs	City of Winter Springs - $0.00
5301	City of Winter Springs	WS-12	Creek Bank Stabilization	Installation of steel sheet piles, concrete caps, coconut matting, native grass seed and/or gravel to stabilize particular riparian areas, waterways, and shoreline banks of Gee Creek to prevent further erosion.	Shoreline Stabilization	Completed	2019	0	0	$1,131,280.00	Hacienda Village HOA; NRCS	Hacienda Village HOA - $282,820.00; NRCS - $848,460.00
5302	City of Winter Springs	WS-13	Creek Sediment Removal	Removal of accumulated sediments within sections of Bear	Hydrologic Restoration	Completed	2019	0	0	$192,000.00	NRCS; City of Winter Springs	NRCS - $144,000.00; City of Winter

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				Creek and Gee Creek (with discharge into Lake Jesup). 1,838 cy of sediments were removed.							Stormwater Utility Fund	Springs Stormwater Utility Fund - $48,000.00
5303	City of Winter Springs	WS-14	Citywide Sanitary Sewer Line Inspection Program	CCTV inspections, cleaning, smoke testing, inspections.	Sanitary Sewer Inspections	Ongoing	NA	0	0	$35,000.00	City of Winter Springs	City of Winter Springs - $35,000.00
5304	City of Winter Springs	WS-15	Citywide Sanitary Sewer Relining Program	Relining of sanitary sewer lines, as needed.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	$290,000.00	City of Winter Springs	City of Winter Springs - $290,000.00
5305	City of Winter Springs	WS-16	East Water Reclamation Facilities Improvements	Improvements include ring-steel plants structural repairs, aeration system improvements, additional air diffusers installation, hydraulic influent screens for debris removal installation, filter repairs, and a belt filter press purchase for dewatering.	WWTF Upgrade	Underway	2029	TBD	TBD	$1,749,200.00	City of Winter Springs	City of Winter Springs - $1,749,200.00
5306	City of Winter Springs	WS-17	West Water Reclamation Facilities Improvements	Improvements include ring-steel plants structural repairs, aeration system improvements, additional air diffusers installation, hydraulic influent screens for	WWTF Upgrade	Underway	2031	TBD	TBD	$1,634,600.00	City of Winter Springs	City of Winter Springs - $1,634,600.00

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				debris removal installation, filter repairs, and a belt filter press purchase for dewatering.								
5307	City of Winter Springs	WS-18	Citywide Weed Control Program	Weed Control activities to Lake Audubon and ninety stormwater ponds.	Exotic Vegetation Removal	Ongoing	NA	0	0	$45,000.00	City of Winter Springs	City of Winter Springs - $45,000.00
5308	City of Winter Springs	WS-19	Citywide Pond Restoration Program	Dredging of stormwater ponds throughout the City.	Stormwater System Rehabilitation	Ongoing	NA	0	0	$45,000.00	City of Winter Springs	City of Winter Springs - $45,000.00
5309	City of Winter Springs	WS-20	Citywide BMP Cleanout Program	BMP clean out activities, including drainage inlets, ditches, swales, storm pipes. At least 100 cubic feet of material collected.	BMP Cleanout	Ongoing	NA	1	0	$100,000.00	City of Winter Springs	City of Winter Springs - $100,000.00
5310	City of Winter Springs	WS-21	Citywide Stormwater Pipe Relining	Relining of stormwater pipe lines, as needed.	Stormwater System Rehabilitation	Completed	2023	0	0	$250,000.00	City of Winter Springs; 3rd Generation Penny Sales Tax	City of Winter Springs - $75,000.00; 3rd Generation Penny Sales Tax - $175,000.00
5311	City of Winter Springs	WS-22	Citywide Stormwater Structure Repairs	Stormwater system repairs, outfalls, stormwater pipes, structure rehabilitation.	Stormwater System Rehabilitation	Ongoing	NA	0	0	$1,300,000.00	3rd Generation Penny Sales Tax; City of Winter Springs	3rd Generation Penny Sales Tax - $1,000,000.00; City of Winter Springs - $300,000.00
7582	City of Altamonte Springs	A-09	Altamonte Springs Advanced Wastewater Treatment	Advanced wastewater treatment.	WWTF Nutrient Reduction	Underway	TBD	648	114	$0.00	City of Altamonte Springs	City of Altamonte Springs - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
7357	City of Winter Springs	WS-24	Creek Sediment Removal 2024	Removal of accumulated sediments within sections of Bear Creek, Howell Creek, and Gee Creek (with discharge into Lake Jesup). 717 cy of sediments were removed.	Hydrologic Restoration	Completed	2024	0	0	$255,000.00	NRCS; City of Winter Springs Stormwater Utility Fund	NRCS - $191,250.00; City of Winter Springs Stormwater Utility Fund - $63,750.00
7360	City of Winter Springs	WS-25	Pond Sediment Removal 2024	Removal of accumulated sediments within various stormwater ponds throughout the City. 475 cy of sediments were removed.	Hydrologic Restoration	Completed	2024	0	0	$169,010.00	NRCS; City of Winter Springs Stormwater Utility Fund	City of Winter Springs Stormwater Utility Fund - $42,252.50; NRCS - $126,757.50
7501	City of Winter Springs	WS-26	West Water Reclamation Facilities (WRF) Replacements (5-Yr Improvements Construction of the West WRF)	Work involves Treatment Plants No. 1 and No. 3. Existing treatment basins will be replaced with a 5-stage BNR facility, capable of meeting AWT standards when needed. The upgrade will produce a much higher-quality effluent.	WWTF Upgrade	Underway	2030	TBD	TBD	$50,000,000.00	City of Winter Springs; State Revolving Fund	City of Winter Springs - $50,000,000.00; State Revolving Fund - $0.00
7502	City of Winter Springs	WS-27	East Water Reclamation Facilities (WRF) Replacements (5-Yr Improvements Construction of the East WRF)	Work involves Treatment Plants No. 1 and No. 3. Existing treatment basins will be replaced with a 5-stage BNR facility, capable of meeting AWT standards when needed. The upgrade will	WWTF Upgrade	Underway	2028	TBD	TBD	$50,000,000.00	State Revolving Fund; City of Winter Springs	State Revolving Fund - $0.00; City of Winter Springs - $50,000,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				produce a much higher-quality effluent.								
1964	FDACS	AG-01	BMP Implementation and Verification	Enrollment and verification of BMPs by agricultural producers. Acres treated based on FDACS June 2024 Enrollment and FSAID XI. Reductions based on FDACS December 2022 Enrollment and HSPF model which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	2452	226	$0.00	FDACS	FDACS - $0.00
1969	FDACS	AG-02	Credit for Changes in Land Use	Credit for changes in land use.	Land Use Change	Completed	2017	7084	491	$0.00	NA	NA - $0.00
1967	FDACS	AG-03	Remainder of Agricultural Lands Enrolled	Enrollment of remaining agricultural lands in BMP programs.	Agricultural BMPs	Underway	TBD	TBD	TBD	$0.00	NA	NA - $0.00
1893	FDOT District 5	FDOT-02	Soldiers Creek Alum Treatment Facility	Flow-through alum system along CR 427 in Seminole County to reduce nutrient loads within Soldiers Creek.	Stormwater - Alum Injection System	Completed	2016	0	80	$0.00	Florida Legislature	Florida Legislature - $0.00
1892	FDOT District 5	FDOT-03	FM: 240196-1 US 17-92 Basin C and D	Proposed widening of SR 15/600 (US 17/92) from Shepard Road to Lake Mary Blvd; drainage improvements and treatment of existing impervious area.	Dry Detention Pond	Completed	2021	55	16	$0.00	Florida Legislature	Florida Legislature - $0.00
1891	FDOT District 5	FDOT-05	Street Sweeping	Monthly street sweeping - 48,581	Street Sweeping	Ongoing	NA	1166	736	$0.00	Not provided	Not provided - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				cubic feet of material collected.								
1875	FDOT District 5	FDOT-06	Enhanced Public Education	Public Public Education Efforts - 1 %.	Education Efforts	Ongoing	NA	46	4	$0.00	Florida Legislature	Florida Legislature - $0.00
1889	FDOT District 5	FDOT-08	FM 240216-2 SR 46 (add lanes and reconstruct from Mellonville Ave. to East of SR 415)	Pond 2 (also known as Pond A).	Wet Detention Pond	Completed	2019	64	0	$0.00	Florida Legislature	Florida Legislature - $0.00
1904	FDOT District 5	FDOT-09	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	476	65	$0.00	Florida Legislature	Florida Legislature - $0.00
5312	FDOT District 5	FDOT-10	FM 424217-1 SR 414 Widening (from I-4 to CR 27/Maitland Ave)	Dry Retention Pond 1. No additional treatment provided. Credits are not applicable.	On-line Retention BMPs	Completed	2021	0	0	$0.00	Florida Legislature	Florida Legislature - $0.00
5714	FDOT District 5	FDOT-11	FM: 437931-1-52-01	Wet Detention Pond 1A.	Wet Detention Pond	Completed	2020	1	0	$0.00	Florida Legislature	Florida Legislature - $0.00
5715	FDOT District 5	FDOT-12	FM: 240196-1-52-01	Wet Detention Pond A.	Wet Detention Pond	Completed	2021	35	8	$0.00	Florida Legislature	Florida Legislature - $0.00
5716	FDOT District 5	FDOT-13	FM: 240196-1-52-01	Exfiltration Trench A1-1 and A1-2.	Exfiltration Trench	Completed	2021	7	1	$0.00	Florida Legislature	Florida Legislature - $0.00
5717	FDOT District 5	FDOT-14	FM: 240196-1-52-01	Exfiltration Trench C1.	Exfiltration Trench	Completed	2021	47	6	$0.00	Florida Legislature	Florida Legislature - $0.00
5718	FDOT District 5	FDOT-15	FM: 240196-1-52-01	Dry Retention D-S and D-N.	On-line Retention BMPs	Completed	2021	82	10	$0.00	Florida Legislature	Florida Legislature - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
6290	FDOT District 5	FDOT-16	FM: 415030-6	SR 426 Pond A (Roadway widening).	Wet Detention Pond	Underway	2024	0	0	$0.00	Florida Legislature	Florida Legislature - $0.00
6291	FDOT District 5	FDOT-17	FM: 415030-6	SR 426 Pond B2 (Roadway widening).	Wet Detention Pond	Underway	2024	0	0	$0.00	Florida Legislature	Florida Legislature - $0.00
6818	FDOT District 5	FDOT-18	FM: 436679-1	SR 600 Pond 2.	Wet Detention Pond	Underway	2024	0	0	$0.00	Florida Legislature	Florida Legislature - $0.00
1909	Orange County	OC-04	Street Sweeping	Street sweeping for a total of 971.93 curb miles per year - 113,000 lbs/yr of material collected.	Street Sweeping	Ongoing	NA	6	3	$0.00	NA	NA - $0.00
1910	Orange County	OC-05	Enhanced Public Education	FYN, ordinances (landscaping, irrigation, fertilizer, pet waste), PSAs, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	219	8	$0.00	Not provided	Not provided - $0.00
1911	Orange County	OC-08	Lake Burkett Inlet Baskets Phase I	CIB installation, operation, and maintenance - 20,000 lbs/yr collected.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	1	1	$41,600.00	OC BCC	OC BCC - $0.00
1913	Orange County	OC-10	Lake Killarney Inlet Baskets	CIB installation, operation, and maintenance - 6,000 lbs/yr collected.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	1	1	$38,500.00	OC BCC	OC BCC - $0.00
1914	Orange County	OC-11	Lake Killarney Sediment Inactivation	Surface treatments with alum bind nutrients to the sediments.	In Waterbody - Alum Injection System	Completed	2018	227	141	$300,000.00	DEP; SJRWMD	DEP - $0.00; SJRWMD - $99,000.00
1915	Orange County	OC-12	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	548	28	$0.00	NA	NA - $0.00
5313	Orange County	OC-13	Lake Martha Hydrological &	Assessment of sources and sinks of nutrient pollutants in the	Study	Completed	2019	0	0	$184,309.05	OC BCC	OC BCC - $184,309.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
			Nutrient Source Assessment	watershed which informs a lake water quality management plan.								
5314	Orange County	OC-14	Lake Burkett Hydrological & Nutrient Source Assessment	Assessment of sources and sinks of nutrient pollutants in the watershed which informs a lake water quality management plan.	Study	Completed	2019	0	0	$181,839.16	OC BCC	OC BCC - $181,839.00
5719	Orange County	OC-15	Groundwater Vulnerability Study	Countywide assessment of the risk and vulnerability of the groundwater and surface water to contamination from septic systems.	Study	Completed	2024	0	0	$202,438.00	OC BCC	OC BCC - $202,437.55
7622	Orange County	OC-16	Update Chapter 37 Wastewater Code	Increased sewer connection requirements in OC-PVAs and PFA. <2 ERU fronting gravity or force main, >2 ERU connect within 600 ft of main, Enhanced Septic (65% N Reduction) in OC-PVAs lots one acre or less, and Septic <150' from waterbody must be enhanced.	Regulations, Ordinances, and Guidelines	Underway	2025	TBD	TBD	$0.00	OC BCC	OC BCC - $0.00
1985	Seminole County	SC-01	Cassel Creek RSF	RSF to treat water in the sub basin upstream.	Wet Detention Pond	Completed	2013	996	157	$927,531.00	DEP; SJRWMD	DEP - $612,045.00; SJRWMD - $224,486.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1984	Seminole County	SC-07	Solary Canal Stormwater Treatment Area - missing from model	RST facility consisting of 8.0-acre wet pond and 4.8-acre wetland.	BMP Missing from Model	Completed	2017	730	147	$1,700,000.00	NA	NA - $0.00
1983	Seminole County	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	Ongoing	NA	383	238	$0.00	NA	NA - $0.00
1978	Seminole County	SC-10	Enhanced Public Education	FYN, ordinances (irrigation, landscaping, pet waste, fertilizer), PSAs, pamphlets, presentations, website, Illicit Discharge Program.	Education Efforts	Ongoing	NA	5778	378	$0.00	City Partners	City Partners - $28,000.00
1982	Seminole County	SC-12	Soldiers Creek at County Road 427 RSF	RSF with alum to treat water in the subbasin upstream.	Stormwater - Alum Injection System	Completed	2017	18863	2230	$7,800,000.00	FDOT; SJRWMD	FDOT - $6,500,000.00; SJRWMD - $800,000.00
1981	Seminole County	SC-13	Bear Gully Creek Diversion to Mikler Pond	Preliminary design for RSF to treat water from Bear Gully Canal subbasin.	Wet Detention Pond	Planned	TBD	9121	1004	$568,800.00	TBD	TBD - $0.00
1980	Seminole County	SC-17	Black Hammock Creek Reclamation and Floodplain Treatment System	Preliminary and final design, construction, and monitoring to treat water from the Black Hammock area.	Hydrologic Restoration	Completed	2018	4854	1160	$1,800,000.00	DEP LF	DEP LF - $1,800,000.00
1970	Seminole County	SC-20	BMP Clean Out	Clean out BMPs; 6,936 cubic feet of material per year.	BMP Cleanout	Ongoing	NA	295	116	$0.00	NA	NA - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
1948	Seminole County	SC-25	5 Points Access Road	Master stormwater facility for 5 points area.	Wet Detention Pond	Completed	2022	213	39	$5,790,000.00	NA	NA - $0.00
1937	Seminole County	SC-26	Howell Creek Erosion Control Project	Erosion control measures on Howell Creek.	Shoreline Stabilization	Completed	2019	0	0	$1,300,000.00	NA	NA - $0.00
1938	Seminole County	SC-27	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	1786	0	$0.00	NA	NA - $0.00
1939	Seminole County	SC-28	Seminole County Fertilizer Ordinance	Reduction of Nitrogen and Phosphorus sources, through public education and restrictions on usage.	Regulations, Ordinances, and Guidelines	Ongoing	NA	TBD	TBD	$150,000.00	County; DEP; City Partners	County - $37,000.00; DEP - $100,000.00; City Partners - $28,000.00
5315	Seminole County	SC-31	Sweetwater Creek Muck Removal	Remove accumulated muck from Sweetwater Creek in the Black Hammock immediately adjacent to Lake Jesup.	Muck Removal/Restoration Dredging	Completed	2018	TBD	TBD	$200,000.00	DEP	DEP - $200,000.00
5720	Seminole County	SC-32	Seminole County Fertilizer Ordinance - Commercial Education Campaign	Reduction of nitrogen and phosphorus sources education campaign focused on commercial retailers.	Regulations, Ordinances, and Guidelines	Completed	2023	TBD	TBD	$150,000.00	DEP	DEP - $90,000.00
5721	Seminole County	SC-33	Lake of the Woods Baffle Box	Install baffle box at Spartan Drive prior to discharge into Lake of the Woods.	Baffle Boxes-Second Generation with Media	Completed	2022	3	0	$780,000.00	TBD	TBD - $0.00
5723	Seminole County	SC-35	Howell Creek Nutrient Filter Pilot Project	A portion of flow is diverted through a chamber with 3 different medias and is being monitored to determine efficiencies of each media type.	Biosorption Activated Media (BAM)	Completed	2022	TBD	TBD	$115,000.00	NA	NA - $0.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
6722	Seminole County	SC-36	Howell Creek - Willa Creek Drive	Stream bank stabilization efforts along sections of Howell Creek.	Shoreline Stabilization	Underway	2024	TBD	TBD	$140,000.00	TBD	TBD - $0.00
6720	Seminole County	SC-37	East Tuscawilla Point - Howell Creek	Stream bank stabilization efforts along sections of Howell Creek.	Shoreline Stabilization	Underway	2024	TBD	TBD	$46,000.00	TBD	TBD - $0.00
6718	Seminole County	SC-38	Bear Gully - Slavia Road	Stream bank stabilization efforts along sections of Bear Gully Canal.	Shoreline Stabilization	Underway	2024	TBD	TBD	$57,000.00	TBD	TBD - $0.00
6715	Seminole County	SC-39	Soldiers Creek - Austin Street	Stream bank stabilization efforts along sections of Soldiers Creek.	Shoreline Stabilization	Planned	TBD	TBD	TBD	$61,000.00	TBD	TBD - $0.00
1986	Site 10	S10-01	Credits for Missing BMPs	BMPs missing from the model from Site 10.	BMP Missing from Model	Completed	2017	1150	146	$0.00	City of Sanford	City of Sanford - $0.00
6655	SJRWMD	SJRWMD-01	Lake Jesup Mesocosm	Experimental mesocosms will contain different amendments to observe which has the highest efficacy of phosphorus water column removal.	Study	Underway	2024	0	0	$279,985.00	DEP	DEP - $300,000.00
6676	SJRWMD	SJRWMD-02	Lake Jesup HAB and Nutrient Removal	A barge-mounted HFS algal harvesting system was used to measure the influent and effluent water for nutrient removal.	Study	Completed	2022	0	0	$1,696,600.00	DEP	DEP - $1,696,000.00
6987	SJRWMD	SJRWMD-03	Lake Jesup Nutrient Reduction Project	Design, construct, & operate a nutrient removal system using biosorption activated media-based technology that cost-	In Waterbody - Biological/ Bacteria Treatment	Planned	TBD	TBD	TBD	$0.00	SJRWMD	SJRWMD - $754,000.00

Proj ID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorus Load Reduction (lbs/yr)	Cost Estimate	Funding Source	Funding Amount
				effectively removes TN and TP from Lake Jesup. The project will pump raw water from the lake, treat influent, and discharge back to Jesup.								
6989	SJRWMD	SJRWMD-04	Loch Haven Water Quality and Flood Control	Feasibility study followed by design and construction of projects related to water quality improvement and stormwater infrastructure improvement.	Stormwater System Rehabilitation	Planned	2026	0	0	$0.00	LP, GAA LI 1705A, FY 23-24, GR	LP, GAA LI 1705A, FY 23-24, GR - $1,350,000.00
1895	Town of Eatonville	E-01	Street Sweeping	Monthly street sweeping of 3.7 miles.	Street Sweeping	Ongoing	NA	0	0	$0.00	Not provided	Not provided - $0.00
1894	Town of Eatonville	E-04	Public Education	Brochures, newsletters, public displays, workshops, Illicit Discharge Program.	Education Efforts	Ongoing	NA	1	0	$0.00	Not provided	Not provided - $0.00
7799	Town of Eatonville	E-05	Lake King and Lake Bell Stormwater Study	Hydrologic stormwater study of Lake King and Lake Bell basins.	Study	Completed	2024	0	0	$0.00	FEMA	FEMA - $375,000.00
1950	Turnpike Enterprise	T-02	Monthly Street Sweeping of 48 Miles	Street sweeping to remove 60,885 lbs/yr of material.	Street Sweeping	Ongoing	NA	2	1	$0.00	NA	NA - $0.00
1943	Turnpike Enterprise	T-03	Enhanced Public Education	No fertilizer on right-of-ways, educational signage, illicit discharge training.	Education Efforts	Ongoing	NA	77	7	$0.00	NA	NA - $0.00
1968	Turnpike Enterprise	T-04	Credits for Missing BMPs	BMPs missing from the model.	BMP Missing from Model	Completed	2017	902	110	$0.00	NA	NA - $0.00

Appendix C. Planning for Additional Management Strategies

If any lead entity's management strategies list falls short of meeting their next 5-year milestone reductions, additional projects and management strategies are required. These entities must submit a sufficient list of projects and management strategies to DEP by January 14, 2026, to be compliant with the upcoming BMAP milestone or be subject to further DEP enforcement.

To remain in compliance with the BMAP until January 14, 2026, responsible entities with project deficits must catalog their efforts to identify management strategies to meet their milestone reduction requirements. These planning efforts are ineligible for BMAP credit themselves but are necessary to demonstrate that additional eligible management actions will be forthcoming and BMAP compliance will be achieved. Examples of project identification efforts include:

- Planning and identifying water quality projects and related costs and schedules in specific plans:
  - Feasibility studies (e.g., stormwater feasibility studies or wastewater feasibility studies).
  - Flood mitigation plans with nutrient management components.
  - Basinwide water quality management plans.
  - Nutrient management plans.
- Applying for external project funding.
- Developing interagency/interdepartmental agreements or MOUs for collaboration on nutrient reduction projects that cross jurisdictional or administrative boundaries.
- Updating future growth considerations in local comprehensive plans, land development reviews, and audits of relevant codes and ordinances
- Updating existing remediation plans.
- Monitoring water quality in support of project planning and implementation.
- Researching innovative technologies.

Appendix D: Wastewater Facilities

DEP has determined that certain WWTFs providing reclaimed water for the purpose of commercial or residential irrigation or that is otherwise being land applied within this BMAP area are causing or contributing to the nutrient impairments being addressed in this BMAP. Based on DEP's determination, the facilities listed below are subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S.

These facilities have 10 years from BMAP adoption to meet the applicable AWT standards. This requirement does not prevent the department from requiring an alternative treatment standard, if the department determines the alternative standard is necessary to achieve the TMDL(s) or applicable water quality criteria.

For facilities that did not have adequate information to complete an evaluation or where a change occurs to the facility's application of reclaimed water after the initial evaluation (e.g., an increase in facility capacity or change in location of reclaimed water application), the department will evaluate the land application of reclaimed water as more information becomes available pursuant to section 403.086, F.S.

Table D-1. Wastewater facilities subject to the nitrogen and phosphorus limits set forth in section 403.086, F.S.

Facility Name	Permit Number
FLA011068	City of Winter Springs - East WWTF
FL0020141	City of Sanford - North WWTF
FLA181714	Sanford - South WRF #2
FLA011066	City of Casselberry - WWTF
FLA011067	City of Winter Springs - West WWTF

Appendix E: Golf Course NMPs

The fertilizers used to maintain golf courses can be significant sources of nutrients in watersheds that are impaired for nitrogen and/or phosphorous. To achieve the TMDL target(s), all nutrient sources need to reduce their nutrient loading. Similar to other sources, golf courses are required to implement management strategies to mitigate their nutrient loading and be in compliance with the BMAP. Florida BMAPs are adopted by Secretarial Order and therefore legally enforceable by the DEP. Requirements for golf courses located in BMAPs are below.

1. **Golf Course BMP Certification, Implementation, and Reporting.**
   a. In areas with an adopted BMAP, all golf courses must implement the BMPs described in DEP's golf course BMP manual, *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021).
   b. At minimum, the superintendent for each golf course must obtain and maintain certification through the UF-IFAS Florida Golf Courses Best Management Practices Program. It is highly recommended that course managers and landscape maintenance staff also participate in the certification program to ensure proper BMP implementation and understanding of nutrient-related water quality issues and the role of golf courses in water quality restoration and protection. By no later than January 14, 2026, the golf course superintendents must confirm to DEP whether they have completed the certification. Certification must be completed by December 31, 2026. This certification must be renewed every four years.
   c. Beginning in 2026 a nutrient application record (fertilizer, reuse, etc.) must be submitted each year during the BMAP statewide annual reporting process.
   d. Fertilizer rates should be no greater than the UF/IFAS recommendations to help prevent leaching. This includes nutrients from reuse or any other source applied. If a facility uses fertilizer rates greater than those in the BMP manual they are required to conduct water quality monitoring prescribed by DEP or WMD that demonstrates compliance with water quality standards (**Table E-1**).
   e. Example golf course BMPs applicable to protecting water quality are listed below.
      - Use slow release fertilizer to prevent volatilization.
      - Use of lined media in stormwater features.
      - Use of denitrification walls.
      - Use of rain gardens.
      - Use of tree boxes.
      - Use of bioswales.

Table E-1. Nutrient ranges for warm-season turfgrass species

Note: For more information refer to the *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021).

Nutrient	Bermudagrass (%)	St. Augustinegrass (%)	Seashore Paspalum (%)	Centipedegrass (%)	Zoysia (%)
N	1.95 - 4.63	1.53 - 2.41	2.80 -3.50	1.5 - 2.9	2.04 - 2.36

Nutrient	Bermudagrass (%)	St. Augustinegrass (%)	Seashore Paspalum (%)	Centipedegrass (%)	Zoysia (%)
P	0.15 - 0.43	0.30 - 0.55	0.30 - 60	0.18 - 0.26	0.19 - 0.22
Potassium (K)	0.43 - 1.28	1.1 - 2.25	2.00 - 4.00	1.12 - 2.50	1.05 - 1.27
Calcium (Ca)	0.15 - 0.63	0.24 - 0.54	0.25 - 1.50	0.50 - 1.15	0.44 - 0.56
Magnesium (Mg)	0.04 - 0.10	0.20 - 0.46	0.25 - 0.60	0.12 - 0.21	0.13 - 0.15
Sulfur (S)	0.07 - 0.02	0.15 - 0.48	0.20 - 0.60	0.20 - 0.38	0.32 - 0.37
Sodium (Na)	0.05 - 0.17	0.00 - 0.17	-	-	-

2. **All golf courses located within a BMAP are required to submit a nutrient management plan (NMP) that is designed to, while maintaining even plant growth, prevent nutrient losses to the Floridan aquifer and surrounding surface waters. A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption. The NMP must include the following:**
   a. ***A brief description of the goals of the nutrient management plan.***

   This should be a paragraph that describes the goals of your NMP. Talk about how you are managing for high quality turf and water quality. Remember your goal is to protect water quality while maintaining the golf course in premium condition.

   b. ***Identification of areas where nutrient applications will be made including greens, tees, fairways and roughs.***

   Discuss the areas of the course where you plan to use fertilizer, and why. Also discuss the areas that do not need or get any fertilizer applications.

   Include a GIS shapefile identifying all of these areas.

   Complete the table(s) detailing your nutrient application practices.

Turf Details

Turf Type	Turf Species	Acreage
Tees		
Greens		
Fairways		
Roughs		
Totals		

Fertilizer Applications

Month	Turf Type	TN Application Rate (lbs/acre)	TP Application Rate (lbs/acre)	Number of Applications	Total TN Applied (lbs/acre)	Total TP Applied (lbs/acre)
January	Tees					
	Greens					
	Fairways					
	Roughs					
February	Tees					
	Greens					
	Fairways					
	Roughs					
March	Tees					
	Greens					
	Fairways					
	Roughs					
April	Tees					
	Greens					
	Fairways					
	Roughs					
May	Tees					
	Greens					
	Fairways					
	Roughs					
June	Tees					
	Greens					
	Fairways					
	Roughs					
July	Tees					
	Greens					
	Fairways					
	Roughs					
August	Tees					
	Greens					
	Fairways					
	Roughs					
September	Tees					
	Greens					
	Fairways					
	Roughs					

Month	Turf Type	TN Application Rate (lbs/acre)	TP Application Rate (lbs/acre)	Number of Applications	Total TN Applied (lbs/acre)	Total TP Applied (lbs/acre)
October	Tees					
	Greens					
	Fairways					
	Roughs					
November	Tees					
	Greens					
	Fairways					
	Roughs					
December	Tees					
	Greens					
	Fairways					
	Roughs					
Totals						

Amount of Reuse/Reclaimed Water Applied

**Supply reuse/reclaimed water volumes applied, if applicable.*

Month	Reuse/Reclaimed Water Quantity (Gallons)	Monthly Average TN (mg/L)	Monthly Average TP (mg/L)	Quantity of TN Applied (lbs)	Running Total of TN Applied per Acre (lbs/acre)	Quantity of TP Applied (lbs)	Running Total of TP Applied per Acre (lbs/acre)
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							
Totals							

Are any other sources of nutrients (i.e. manure, etc.) applied to the grounds? If so, please detail in a table similar to the reuse and fertilizer tables.

c. ***Soil sampling methods and results for each area receiving fertilizer applications. Areas receiving fertilizer applications shall be sampled once every three years. Soil samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice. Soil samples shall be analyzed, at minimum, for:***

1. Nitrogen
2. Phosphorus

Describe existing soil sampling here. Describe what your planned soil sampling schedule looks like. Have you been soil testing for years already? Please describe. If you are just getting started with soil testing the course, you can discuss that. What parts of the course are priority?

If soil samples from areas of similar soil, fertilizer use and management are combined, then describe that process and justify why you feel they are similar enough to combine into a "representative" sample. That's fine, just describe why.

Keep all soil test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you've been soil testing for years, remember to add copies of all those past results to your NMP file.

d. ***Water quality sampling methods and results. Water quality sampling and analysis should be conducted in accordance with DEP's Standard Operating Procedures. Water quality samples shall be analyzed, at minimum, for:***

1. Nitrogen
2. Phosphorus.

Describe your existing water quality sampling here. Describe what your planned water quality sampling schedule looks like. Have you been sampling for years already? If you are just getting started with soil testing the course, you can discuss that. What parts of the course are priority?

Keep all water quality test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you've been testing for years, remember to add copies of all those past results to your NMP file.

e. ***Tissue sampling methods and results. Tissue samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice.***
Describe existing tissue sampling plan here. Keep all test results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP

individually. If you've been testing for years, remember to add copies of all those past results to your NMP file.

f. ***Soil, tissue and water quality sample results shall be maintained for a minimum of 5 years. Please provide records.***

When developing new (or expanding) golf courses, pre- and pos- monitoring should be implemented in accordance with UF-IFAS/DEP recommendations.

Appendix F: Agricultural Enrollment and Reductions

FDACS provides the information for this appendix for each BMAP. The information in this appendix does not represent DEP's position.

Agricultural Landowner Requirements

Section 403.067, F.S., requires agricultural producers and landowners located within BMAP areas to either enroll in the FDACS Best Management Practices (BMP) Program and properly implement BMPs applicable to their property and operation or to conduct water quality monitoring activities as required by Rule Chapter 62-307, F.A.C. Producers or agricultural landowners who are enrolled in the FDACS BMP Program and are properly implementing the applicable BMPs identified on the BMP Checklist, or who are in compliance with the Equivalent Program requirements of Rule Chapter 5M-1, F.A.C., are entitled to a presumption of compliance with state water quality standards per subparagraph 403.067(7)(c)3., F.S.

FDACS OAWP BMP Program

BMPs Definition

For the purposes of the OAWP BMP Program, the term "best management practice" means a practice or combination of practices determined based on research, field-testing, and expert review, to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural discharges. Section 403.067, F.S., requires that BMPs reflect a balance between water quality improvements and agricultural productivity. FDACS works closely with DEP, WMDs, industry experts, and academic institutions to understand the environmental and agronomic effects addressed by BMPs.

Section 403.067, F.S., authorizes and directs FDACS to develop and adopt by rule BMPs that will help Florida's agricultural industry achieve the pollution reductions allocated in BMAPs. To date, FDACS OAWP has adopted 11 commodity specific BMP manuals by rule, covering cattle, citrus, equine, dairy, nurseries, poultry, sod, small farms and specialty livestock, specialty fruit and nut, vegetable and agronomic crops, and wildlife operations. All OAWP BMP manuals are periodically revised, updated, and subsequently reviewed and preliminarily verified by DEP before re-adoption. BMPs serve as part of a multidisciplinary approach to water resource restoration and protection that includes public/private partnerships, landowner agreements and regional treatment technologies, which together form the comprehensive strategy needed to meet the goals established in BMAPs.

Enrolling in a FDACS BMP Program

To initially enroll in the FDACS BMP Program, agricultural landowners and producers must meet with a FDACS representative on site to determine the appropriate practices that are

applicable to their operation(s) and to document the BMPs on the NOI and BMP Checklist. FDACS representatives consider site-specific factors when determining the applicability of BMPs including commodity type, topography, geology, location of production, soil type, field size, and type and sensitivity of the ecological resources in the surrounding areas. Producers collaborate with the FDACS representative to complete an NOI to implement the BMPs and the BMP Checklist from the applicable BMP manual.

Once the NOI and BMP Checklist are completed, signed, and submitted to OAWP, the producer is formally enrolled in the BMP Program. Because many agricultural operations are diverse and are engaged in the production of multiple commodities, a landowner may sign multiple NOIs for a single parcel. Producers must properly implement all applicable BMPs as soon as practicable, but no later than 18 months after completion and execution of the NOI and associated BMP Checklist.

Enrollment Prioritization

To address the greatest resource concerns, OAWP utilizes a phased approach based on commodity type, irrigation, and agricultural acreages, while ensuring that all entities identified as agriculture will be notified. Enrollment efforts have previously focused on enrolling parcels that are most impactful to water quality including parcels containing many agricultural acres, irrigated acres, or more intense agricultural land uses.

Implementation Verification

Section 403.067, F.S., requires FDACS to conduct an Implementation Verification (IV) site visit at least every two years to ensure that agricultural landowners and producers are properly implementing the applicable BMPs identified in the BMP Checklist. An IV site visit includes: review and collection of nutrient application records that producers must maintain to demonstrate compliance with the BMP Program; verification that all other applicable BMPs are being properly implemented; verification that any cost shared practices are being properly implemented; and identification of potential cost share practices, projects or other applicable BMPs not identified during enrollment. During the IV site visit, FDACS representatives also identify opportunities for achieving greater nutrient, irrigation, or water resource management efficiencies, including opportunities for water conservation. Procedures used to verify the implementation of agricultural BMPs are outlined in Rule 5M-1.008, F.A.C.

Nutrient Application Records

Enrolled landowners and producers are required to keep records on the total pounds of nitrogen (N) and phosphorus (P) fertilizer from all sources that are applied to their operations to comply with BMP program requirements, including AA bio-solids. Nutrient records from Class A or B biosolids applied in accordance with Chapter 62-640, F.A.C. are collected through the DEP

permitting process as described in 5M-1.008(5). FDACS will collect information pertaining to these records for a two-year period identified when an IV site visit is scheduled. OAWP adopted a Nutrient Application Record Form (NARF) (FDACS-04005, rev. 06/24, incorporated in 5M-1.008(4), F.A.C.), to help simplify the record keeping requirement. The form is available under Program Resources at https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices. As these records relate to processes or methods of production, costs of production, profits, other financial information, fertilizer application information collected during an IV site visit is considered confidential and may be exempt from public records under Chapters 812 and 815, F.S., and section 403.067, F.S. In accordance with subsection 403.067(7)(c)5., F.S., FDACS is required to provide DEP the nutrient application records. is required to provide DEP the nutrient application records.

Compliance Enforcement

If multiple efforts to contact agricultural landowners and producers within BMAPs about enrollment in the BMP Program are unsuccessful or if the landowner or producer chooses not to enroll in the BMP Program FDACS refers them to DEP for enforcement action per section 403.067(7)(b), F.S.

If a producer is enrolled in the FDACS BMP program and the producer chooses not to properly implement the applicable BMPs, FDACS representatives provide the landowner or producer with a list of corrective measures and the timeframes within which they must be implemented. If a landowner or producer does not cooperate with FDACS to identify or implement corrective or remedial measures, or refuses an IV site visit, FDACS refers them to DEP for enforcement action after attempts at corrective and remedial action are exhausted. Chapter 5M-1, F.A.C. outlines the process to ensure compliance with the BMP Program requirements.

Equivalent Programs

Enrollees operating under one of the Equivalent Programs listed in Rule 5M-1.001(7), F.A.C., are required to complete an NOI and meet the other requirements for Equivalent Programs specified in Rule Chapter 5M-1, F.A.C. Compliance with BMPs on the area(s) of the NOI property subject to the Equivalent Program instrument is demonstrated by fulfilling the requirements of Rule 5M-1.008(8), F.A.C. An enrollee under an Equivalent Program listed in Rule 5M-1.001(7)(a)-(b), F.A.C., that is not required to complete a BMP Checklist is not subject to IV site visits. For Enrollees under an Equivalent Program listed in Rule 5M-1.001(7)(a)-(b), F.A.C., implementation verification shall be undertaken by the agency that issued the permit pursuant to its statutory and/or rule authority.

Other FDACS BMP Programs

FDACS implements other regulatory programs that help minimize nonpoint source pollution from agricultural activities.

Aquaculture

The FDACS Division of Aquaculture develops and enforces regulations governing the commercial aquaculture industry in Florida. Chapter 597, F.S., Florida Aquaculture Policy Act, requires Floridians who engage in commercial aquaculture to annually acquire an Aquaculture Certificate of Registration and implement all applicable Aquaculture Best Management Practices listed in Rule Chapter 5L-3.004, F.A.C. Facilities with certain production and discharge rates also require an NPDES permit from DEP. The Aquaculture BMPs were last updated by rule in November 2023.

FDACS Division of Aquaculture conducts annual site visits at certified facilities to confirm compliance with BMPs. These include management practices in areas of construction, containment, shrimp culture, sturgeon culture, shellfish culture, live rock culture, aquatic plants, including fertilizer application, and health management. For more information about FDACS Division of Aquaculture and Aquaculture BMPs go to https://www.fdacs.gov/Divisions-Offices/Aquaculture.

Within the Lake Jesup BMAP, there is one aquaculture facility under certification with the FDACS Division of Aquaculture as of November 2024. As with agricultural land use in Florida, aquaculture facilities are frequently in and out of production. The facilities being provided may no longer be in operation and/or there may be new companies in different parts of the basin by the next BMAP iteration.

Forestry

The FDACS FFS develops, implements (through education and training), and monitors Silviculture BMPs in Florida. Silviculture BMPs are applicable to *bona-fide* ongoing silviculture operations and are not intended for use during tree removal or land clearing operations that are associated with a land-use change to a non-forestry objective. The FFS Silviculture BMP Manual is adopted under Chapter 5I-6.002 F.A.C. and was last updated in 2008. FFS is currently in the process of updating the manual with guidance from the FDACS Silviculture BMP Technical Advisory Council. The current manual is composed of fourteen BMP categories covering many aspects of silviculture operations including timber harvesting, site preparation, forest roads, stream and wetland crossings, and forest fertilization. The primary objectives of Silviculture BMPs are to minimize the risks to Florida's water resources from silviculture-related sources of nonpoint source pollution and maintain overall ecosystem integrity. Section 403.067, F.S., provides silviculture practitioners implementing Silviculture BMPs a presumption of compliance with state water quality standards for the pollutants addressed by the BMPs.

The FFS Silviculture BMP implementation monitoring program was initiated in 1981 and follows the criteria which have been established for state forest agencies in the southeastern United States by the Southern Group of State Foresters. Monitoring surveys are conducted

biennially on a random sample of recently conducted silviculture operations throughout Florida with the goal of determining the level of implementation and compliance with Silviculture BMPs. For the period of record (1981 to 2023), Florida's statewide Silviculture BMP compliance rates range from 84% (1985) to 99.7% (2019) and have shown an overall average compliance rate above 98% since 2005. For more information about Silviculture BMPs and to download a copy of the latest FFS Silviculture BMP Implementation Survey Report go to https://www.fdacs.gov/bmps.

Agricultural Land Use

Agricultural Land Use in BMAPs

Land use data are helpful as a starting point for estimating agricultural acreage, determining agricultural nonpoint source loads, and developing strategies to reduce those loads in a BMAP area, but there are inherent limitations in the available data. Agriculture acreages fluctuate when volatile economic markets for certain agricultural commodities provide incentive for crops to change at a fast pace, properties are sold, leases are terminated, production areas decrease, or production ceases, among other reasons. Florida's recent population growth has also resulted in accelerated land use changes statewide, some of which include transitioning agricultural or fallow agricultural lands to developed land uses. The dynamic nature of Florida's agricultural industry creates challenges with comparing agricultural acres from year to year.

When developing a BMAP, agricultural nonpoint source loading is estimated using a broad methodology based on statewide land use data. Oftentimes, this results in properties being designated as agricultural nonpoint pollution sources and creates an obligation for these properties to enroll in the FDACS BMP Program when they may be better addressed under other programs more applicable to the practices occurring on those properties. Examples of these properties include: rural residential/homesteads, ranchettes, or single-family homes with accessory structures for livestock or groves that serve the needs of those living on the property. Continued identification of these properties as agricultural nonpoint sources limits the ability to reliably direct programmatic resources to meet water quality restoration goals.

FDACS uses the parcel-level polygon ALG data that is part of the FSAID Geodatabase to estimate agricultural acreages statewide. FSAID provides acreages and specific crop types of irrigated and non-irrigated agricultural lands statewide. FSAID is updated annually based on WMD land use data, county property appraiser data, OAWP BMP enrollment data, U.S. Department of Agriculture data for agriculture, such as the Cropland Data Layer and Census of Agriculture, FDACS Division of Plant Industry citrus data, as well as field verification performed by the U.S. Geological Survey, WMDs, and OAWP. As the FSAID is detailed and updated on an annual basis, it provides a reliable characterization of agricultural land uses that accounts for the fast-growing population and resultant land use changes taking place statewide. The FSAID also provides FDACS a clearer picture of agriculture's impact on the landscape and

consistent method to better track, direct, and assess BMP implementation, cost share projects, and regional projects.

Table F-1 shows a comparison of the agricultural acres within the BMAP boundary compared to the total acreage. **Figure F-1** shows the percentage of agricultural land use within the Lake Jesup BMAP, determined by comparing the FSAID 11 ALG and total acreage of the BMAP boundary. Understanding what proportion of a BMAP is comprised of agriculture provides insight as to the potential contribution of agricultural nonpoint sources.

Table F-1. Agricultural versus non-agricultural acreages

Acreage Type	Acres
Non-agricultural acres	87,939
Agricultural acres	3,989

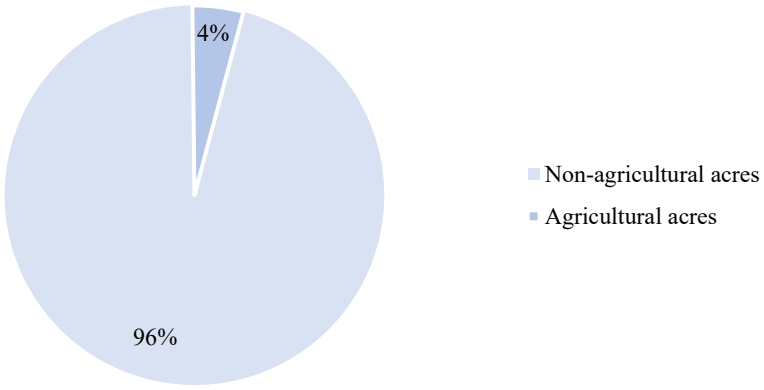

Figure F-1. Relative agricultural land uses in the Lake Jesup BMAP

FDACS BMP Program Metrics

Enrollment Delineation and BMAP Metrics

BMP enrollments are delineated in GIS using county property appraiser parcels. In terms of NOIs, enrolled acreage fluctuates when parcels are sold, when leases end or change hands, or when production areas downsize or production ceases, among other reasons. Nonproduction areas such as forest, roads, urban structures, and water features are often included within the parcel boundaries. Conversely, agricultural lands in the FSAID ALG only include areas identified as agriculture. To estimate the agricultural acres enrolled in the BMP program, OAWP overlays the FSAID ALG and BMP enrollment data within GIS to calculate the acres of agricultural land in an enrolled parcel.

Summary Tables

Table F-2. Agricultural lands enrolled in the Lake Jesup BMAP by BMP Program commodity

Commodity	Agricultural Acres Enrolled
Citrus	212
Cow/Calf	947
Equine	12
Multiple Commodities	151
Nursery	588
Row/Field Crop	27
Sod	130
Total	2,067 (52%)

As of July 2024, 52% of the agricultural acres in the Lake Jesup BMAP area are enrolled in FDACS BMP program. **Table F-2** shows the acreages enrolled in the BMP Program by commodity. **Figure F-2** shows a map of the enrolled acres in the basin. It is important to note that producers often undertake the production of multiple commodities on their operations, resulting in the requirement to implement the applicable BMPs from more than one BMP manual. When this occurs, the acres enrolled under more than one BMP manual are classified as "multiple commodity" and not included in the individual commodity totals to prevent duplication.

Enrollment Map

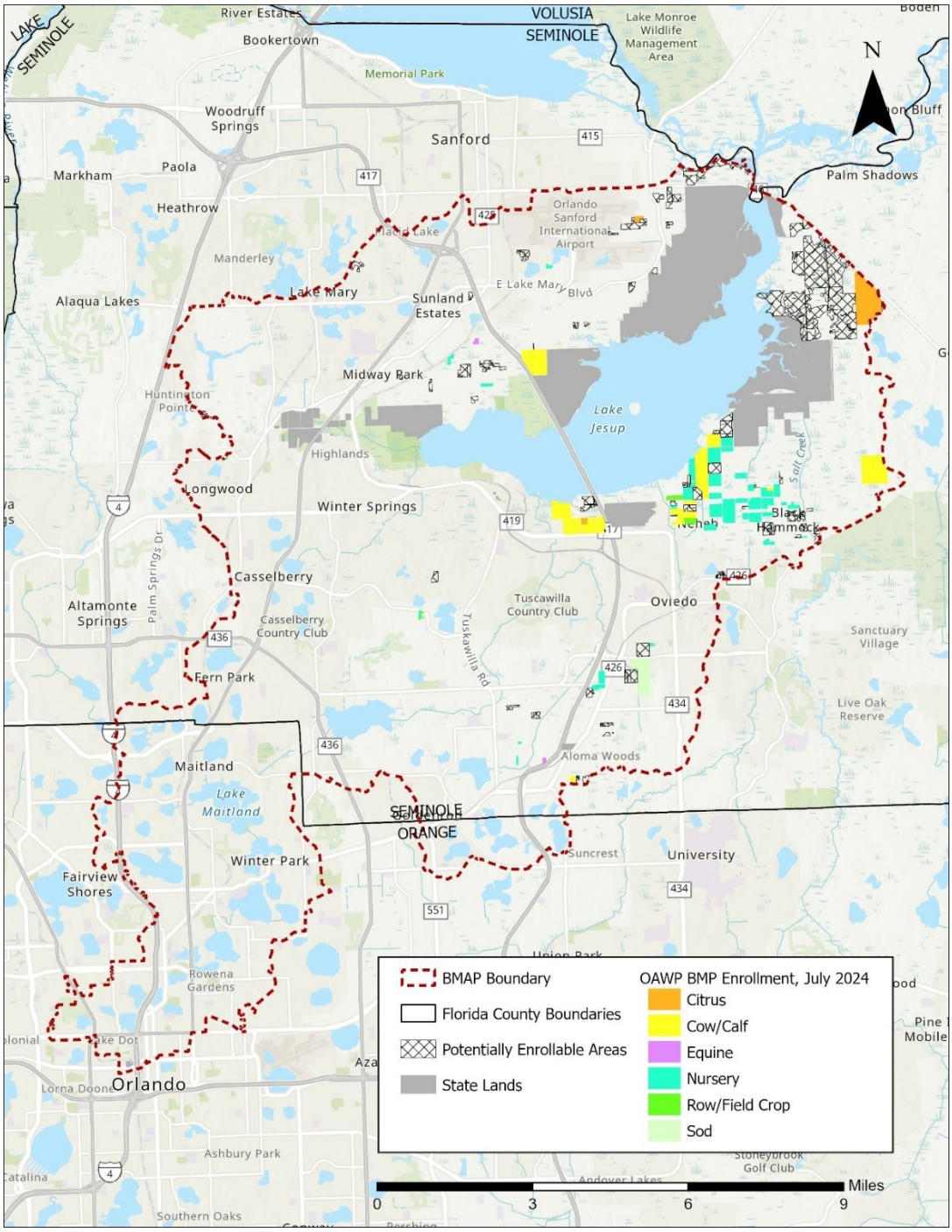

Figure F-2. Agricultural enrollment in the Lake Jesup BMAP.

Unenrolled Agricultural Lands

Oftentimes, there are lands initially identified as agriculture which, upon closer evaluation, raise questions as to whether there is agricultural activity and whether it is enrollable within the

purview of OAWP. FDACS characterizes lands classified as agriculture in the FSAID ALG, but not currently enrolled in the FDACS BMP Program using property appraiser data such as parcel owner information, agricultural tax valuation for exemption purposes, other parcel land use details to determine whether the remaining lands are potentially enrollable. More information about the "Unenrolled agricultural lands" characterization analyses is available in ***FDACS Annual Status of Implementation of BMPs Report***.

The assessment of unenrolled agricultural lands at a more granular scale provides an indication of which areas are more likely (or unlikely) to have enrollable agricultural activities occurring on them. It also provides an estimate of the number of parcels and the associated agricultural acres deemed to be enrollable. The number of parcels is a useful proxy for the level of resource dedication needed to enroll the associated agricultural acres and where best to focus finite resources and staffing needs. It is often the case that much of the potentially enrollable acreage is encompassed within many smaller parcels which may require additional resources to enroll and require further evaluation, such as those that have agricultural activity intended solely for personal use ancillary to a residence, those that do not have an agricultural land use per the property appraiser, as well as parcels where there is no current activity to enroll.

Table F-3 shows the breakdown of agricultural lands within the Lake Jesup BMAP based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

Table F-3. Agricultural lands in the Lake Jesup BMAP

* Enrollment information current as of June 30, 2024.

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled*
BMAP wide	7,764	3,775	3,989	2,067

Potentially Enrollable Lands

There are 1,922 acres of potentially enrollable lands within the Lake Jesup BMAP based on the assessment of unenrolled agricultural lands performed by FDACS. **Table F-4** shows the potentially enrollable acreages by crop type. **Figure F-3** shows the count of potentially enrollable parcels based on size classifications used by FDACS.

Table F-4. Potentially enrollable acres by crop type

Crop Type	Acres
Citrus	79
Fallow	182
Grazing Land	1,442
Livestock	85
Nursery	54

Crop Type	Acres
Sod	79
Total	**1,922**

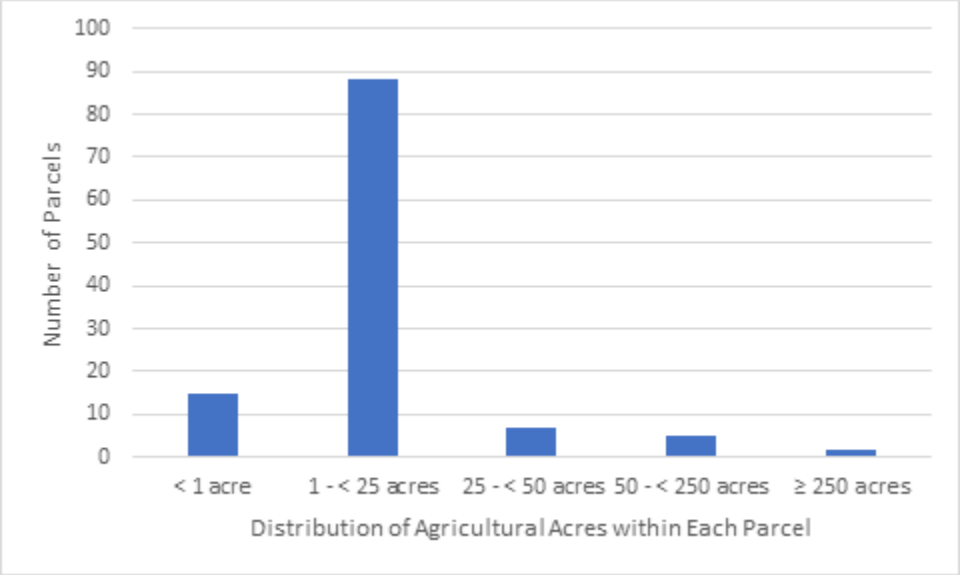

Figure F-3. Count of potentially enrollable parcels by size class

FDACS Cost Share

Enrollment in and proper implementation of BMPs makes a producer eligible for cost share for certain BMPs, other practices, and projects. The availability of cost share funds depends on annual appropriations by the Florida Legislature, and therefore, the amount available can vary each year. Cost share applications may be submitted once a producer has enrolled in the BMP Program and has been assigned an NOI number. Cost share practices are categorized as nutrient management, irrigation management, or water resource protection. BMPs, other practices, and projects eligible for cost share funding may include precision agriculture technologies, variable rate irrigation methods, water control structures, and tailwater recovery systems. OAWP seeks to leverage its cost share funding with other cost share programs offered by FDACS and other state and federal agencies. The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) offers funding through its Environmental Quality Incentives Program, and certain WMDs have agricultural cost share programs. Applicants are encouraged to use OAWP cost share in conjunction with other available conservation programs although funding cannot be duplicative.

Future Efforts

Outreach

To address resource concerns, FDACS continues enhancing coordination with producers, agencies, and stakeholders to increase enrollment in the BMP program. OAWP is sending correspondence to agricultural landowners within BMAPs that are not currently enrolled in the BMP program to increase enrollment rates and verify land uses where additional focus may be required to achieve resource protection. This effort is utilizing a phased approach and targeting priority land uses and then evaluating the amount of agricultural acreage for the remaining unenrolled lands, while ensuring that all entities identified as agriculture will be notified. Additionally, OAWP continues to coordinate with industry groups and outreach partners to educate and inform agricultural producers about the BMP program.

Legacy Loads

Legacy loading can present an additional challenge to measuring progress in many areas of Florida with adopted BMAPs. Based on research, initial verification by DEP, and long-term trends in water quality in the BMAP area, it is expected that current efforts, such as BMP implementation, will continue to provide improvements in overall water quality despite the impacts from legacy loads.

While the implementation of BMPs will improve the water quality in the basin, it is not reasonable to assume that BMP implementation alone can overcome the issues of legacy loads, conversion to more urban environments, and the effects of intense weather events. BMP implementation is one of several complex and integrated components in managing the water resources of a watershed.

Collaboration between DEP, FDACS, the WMDs, and other state agencies, as well as local governments, federal partners, and agricultural producers, is critical in identifying projects and programs, as well as locating funding opportunities to achieve allocations provided for under this BMAP. To improve water quality while retaining the benefits that agricultural production provides to local communities, wildlife enhancement, and the preservation of natural areas requires a commitment from all stakeholders to implementing protective measures in a way that maintains the viability of agricultural operations.