

***DRAFT***

***Orange Creek  
Basin Management Action Plan***

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

with participation from the  
**Orange Creek Basin Stakeholders**

**March 2025**

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## Acknowledgements

This 2025 Orange Creek 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 Orange Creek stakeholders.

### Florida Department of Environmental Protection

Alexis A. Lambert, Secretary

**Table ES-1. Orange Creek stakeholders**

Type of Organization/Entity	Name
<b>Responsible Entities</b>	Agriculture Alachua County City of Gainesville City of Hawthorne City of Waldo Gainesville Regional Utilities Marion County Putnam County Town of McIntosh Town of Micanopy Town of Reddick Wastewater Treatment Facilities
<b>Responsible Agencies</b>	County Health Departments Florida Department of Agriculture and Consumer Services Florida Department of Environmental Protection Florida Department of Transportation, Districts 2 & 5 Florida Fish and Wildlife Conservation Commission St. Johns River Water Management District University of Florida
<b>Other Interested Stakeholders</b>	Applied Technology and Management - Geosyntec DB Environmental Environmental Consulting and Technology Florida Forestry Association Jones Edmunds Pegasus Engineering Rayonier Inc. Residents Sierra Club Suwannee-St. Johns Group Sierra Club Weyerhaeuser Company Wood

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

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## **List of Acronyms and Abbreviations**

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ACE	Agricultural Cooperative Regional Elements
ACEPD	Alachua County Environmental Protection Division
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
BWG	Basin Working Group
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
DEP	Florida Department of Environmental Protection
DMR	Discharge Monthly Report
DO	Dissolved Oxygen
DWTS	Distributed Wastewater Treatment System
EFDC	Environmental Fluid Dynamics Code (model)
EMC	Event Mean Concentration
ENR	Enhanced Nutrient Reducing
EPA	Environmental Protection Agency
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FDACS	Florida Department of Agriculture and Consumer Services
FDOH	Florida Department of Health
FDOT	Florida Department of Transportation
FFS	Florida Forest Service
FLWMI	Florida Water Management Inventory
FNAI	Florida Natural Areas Inventory
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
L.O.F.	Laws of Florida
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 (FDACS)
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**

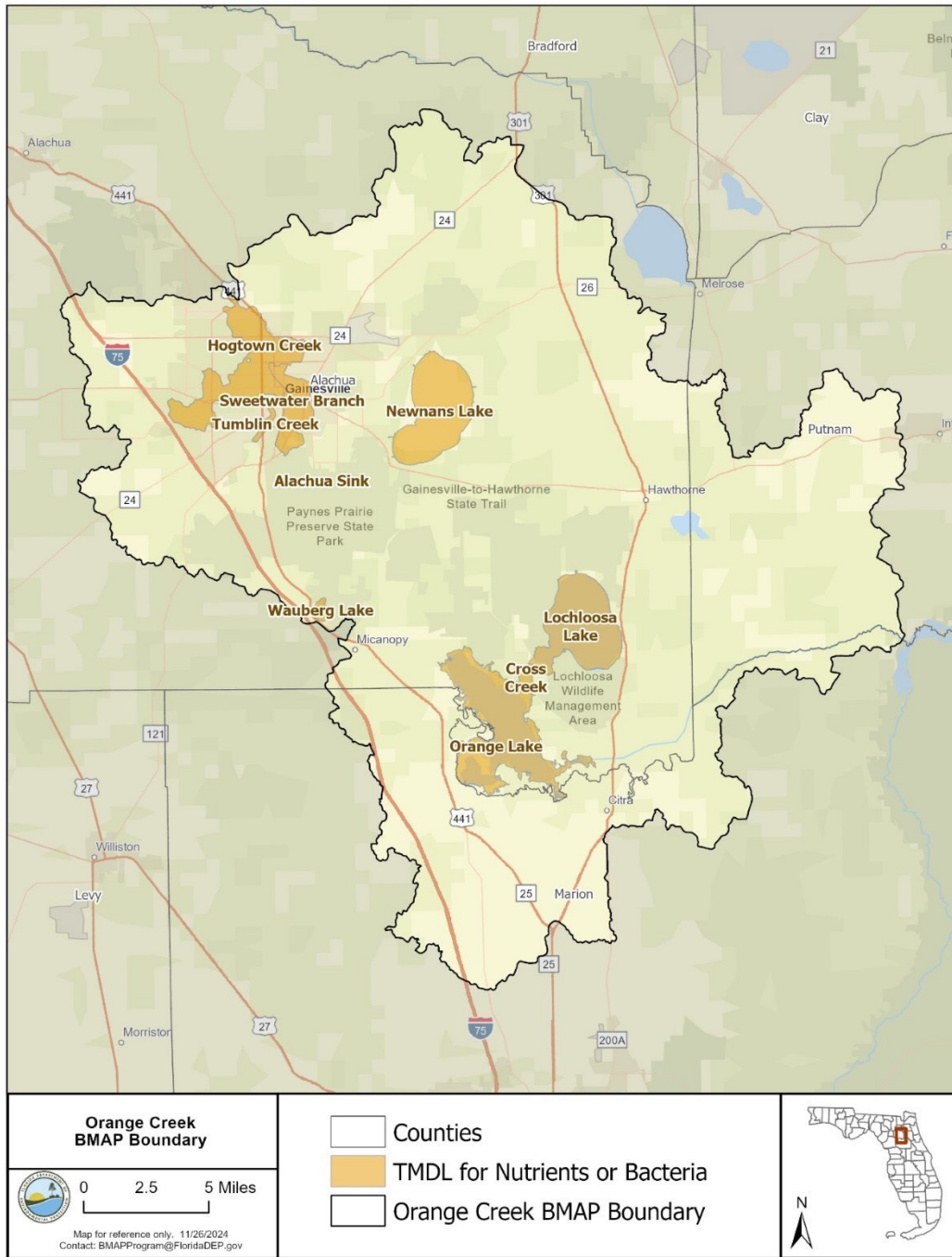
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### **Background**

The Orange Creek BMAP (**Figure ES-1**) was developed by the Orange Creek Basin Working Group (BWG) over a multiyear period and was initially adopted in 2008 to implement the adopted total maximum daily loads (TMDLs) for total nitrogen (TN) and total phosphorus (TP) in Newnans Lake, Orange Lake, Lake Wauberg, and Alachua Sink as well as fecal coliform bacteria TMDLs in Hogtown Creek, Sweetwater Branch, and Tumblin Creek. The Phase 2 Orange Creek BMAP was adopted in 2014 and identified waterbodies in the basin that would not meet their TMDLs. In 2019, an amendment was adopted that presented allocations or assignment of loading reductions for Orange Lake and Newnans Lake, assigned credits for agricultural activities that reduce pollutant loading, and updated project and nutrient budget status for Lake Wauberg and Alachua Sink. The amendment also introduced and allocated reductions for the Lochloosa Lake and Cross Creek TP and TN TMDLs adopted in 2017. This 2025 Orange Creek 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 2008, 2014, and 2019 BMAP documents.

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. The management actions and adaptive management approach described in the BMAP will also address fecal coliform bacteria sources to meet the applicable TMDLs.

Currently, most surface waters in Florida, including those of the Orange Creek BMAP, 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 2003, DEP adopted six TMDLs for the impaired waterbodies in the Orange Creek Basin. In 2006, DEP adopted the Alachua Sink TMDL. In 2017, DEP adopted the Lochloosa Lake TMDL. A TMDL is the maximum amount of a specific pollutant that a waterbody can assimilate while maintaining its designated uses. The Orange Creek TP and TN TMDLs identified the TP and/or TN loads that the lakes can receive and still maintain designated uses for Class III waters.



**Figure ES-1. Orange Creek BMAP boundary and location of impaired waterbodies**

A BMAP is a framework for water quality restoration that contains a comprehensive set of solutions to achieve the pollutant reductions established by 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 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.

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 Orange Creek BMAP was first adopted in May 2008, followed by Phase 2 in 2014 and the Orange Creek BMAP Amendment was adopted July 2019.

## **Required Reductions and Options to Achieve Reductions**

DEP developed the Orange Lake and Newnans Lake TMDL models based on 1995 land use. The Lochloosa Lake TMDLs used Hydrological Simulation Program - FORTRAN (HSPF) hydrologic modeling completed by St. Johns River Water Management District (SJRWMD) (Clapp and Smith 2015) to estimate watershed loadings based on 2009 land use information. Loading as determined by the TMDLs were used for allocations, but the distribution of loading categories was based on 2009 land use patterns and the jurisdictional boundaries at the time.

This 2025 BMAP update does not update the modeling information presented in the previous Orange Creek documents; the existing load estimates and allocations of load reductions to the responsible stakeholders will remain in effect. These estimates and allocations remain in effect while a multi-year effort is underway to model the entire St. Johns River Basin and to 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, Environmental Fluid Dynamics Code (EFDC) and Water Quality Analysis Simulation Program (WASP).

In 2028, DEP anticipates the completion of a model revision to the Orange Creek 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 Orange Creek BMAP. After model completion, DEP

will reevaluate and, if necessary, adopt another iteration of the Orange Creek BMAP which may include revised pollutant loading information and updates to required reductions for the responsible stakeholders.

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

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### **1.1 Orange Creek 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.

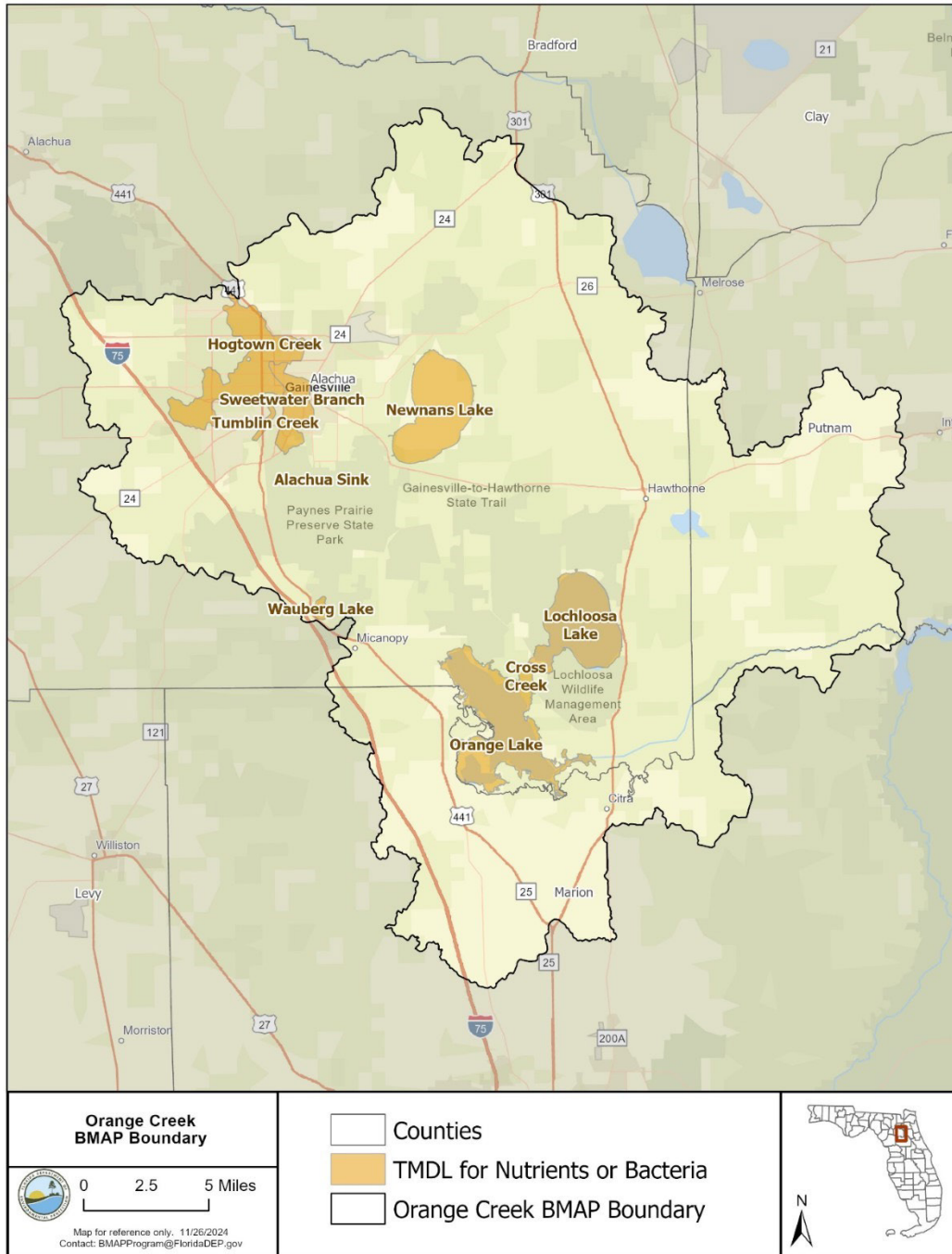
The Orange Creek BMAP, initially adopted in 2008, was developed by the Orange Creek Basin BWG over a multi-year period. It addresses waterbodies in the Orange Creek Basin (**Figure 1**) with water quality impairments. The BMAP focuses on reducing nutrient discharges to Newnans Lake (Gao and Gilbert, 2003), Orange Lake (Gao and Gilbert, 2003), Lake Wauberg (Wu et al., 2003) and Alachua Sink (Gao and Gilbert, 2006) and fecal coliform bacteria discharges to streams, Hogtown Creek (Shelly and Magley, 2003), Sweetwater Branch (Burger and Magley, 2003) and Tumblin Creek (Shelly and Magley, 2003), verified as impaired under the FWRA(Chapter 403.067, F.S.) and the Impaired Surface Waters Rule (Rule 62-303, Florida Administrative Code [F.A.C.]), and for which TMDLs were established. TMDLs, which DEP adopts by rule, establish the maximum amount of specific pollutants that a waterbody can assimilate while maintaining water quality standards, including designated uses. All surface waters in the Orange Creek Basin are designated as Class III waters in accordance with Rule 62-302, F.A.C., defined as having suitable water quality for recreational use and for the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

The Phase 2 Orange Creek BMAP was adopted in 2014 and identified waterbodies in the basin that would not meet their TMDLs. In 2019, an amendment was adopted which presented allocations or assignment of loading reductions for Orange Lake and Newnans Lake, assigned credits for agricultural activities that reduce pollutant loading, and updated project and nutrient budget status for Lake Wauberg and Alachua Sink. The amendment also introduced and allocated reductions for the Lochloosa Lake and Cross Creek 2017 TMDL (Magley, 2017) for TP and TN.

This 2025 Orange Creek BMAP incorporates new legislative requirements that are now in effect. This document is to be used as a supplement to the 2008 and 2014 BMAPs as well as the 2019 BMAP Amendment. In 2028, DEP anticipates the completion of a model revision to the Orange

Creek 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 Orange Creek BMAP. After model completion, DEP will reevaluate and, if necessary, adopt another iteration of the Orange Creek





**Figure 1. Orange Creek BMAP boundary and location of impaired waterbodies**

BMAP which may include updated pollutant loading information and updates to required reductions for the responsible stakeholders. The BMAP provides for phased implementation under subparagraph 403.067(7)(a)1., 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.

## 1.2 Water Quality Standards and 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 Orange Creek, 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**

<sup>1</sup> Class I, I-Treated, and II waters additionally include all Class III uses.

Classification	Description
Class I <sup>1</sup>	Potable water supplies
Class I-Treated <sup>1</sup>	Treated potable water supplies
Class II <sup>1</sup>	Shellfish propagation or harvesting
Class III	<b>Fish consumption; recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife</b>
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 ( <i>no current Class V designations</i> )

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."

## 1.3 Orange Creek TMDLs

The TMDLs for Lake Wauberg, Orange Lake, and Newnans Lake were adopted in 2003 based on loading estimates derived from 1995 land use, and the Alachua Sink TMDL was adopted in 2006. The Lochloosa Lake TMDL was adopted in 2017 with nutrient loading derived from 2009 land use data and included the watershed attenuation of loadings.

For Orange Lake, there is a TP TMDL and for Alachua Sink there is a TN TMDL to reduce loading into the Floridan aquifer. TMDLs were developed for both TN and TP for Newnans Lake, Lake Wauberg, and Lochloosa Lake.

The Orange Creek Basin has unique geological characteristics, with the phosphate-rich clays and sediments of the Hawthorn Group present in tributary watersheds and in contact with the water column of Newnans Lake and Lake Wauberg. The presence of these phosphate-rich clays requires stakeholders to manage the exposure of and consider ways to reduce their movement from the watershed into the lakes. Where lakes overlay and have direct contact with the Hawthorn Group sediments, phosphorus control and remediation become more complex.

The TMDLs calculated for Newnans Lake and Lochloosa Lake identified substantial internal loading of nutrients to those lakes as a source of their water quality impairment. However, internal loading will not be immediately addressed until management actions are in place to reduce loading from the watershed.

Given the non-uniform distribution and erratic behavior of fecal coliform bacteria in the environment, the detailed quantification of load reductions, as would be calculated for nutrient loadings from the watershed, is not currently possible. The goal of fecal coliform TMDLs is to achieve counts of fecal coliform bacteria that do not exceed criteria specified in Chapter 62-302, F.A.C. for frequency and magnitude of bacteria counts. An indicator of progress made in obtaining this goal is a reduction in the frequency of exceedances and reduction in the number of counts. See Chapter 4 of the 2014 Orange Creek BMAP for more information on the assessment and management of the fecal coliform bacteria TMDLs.

**Table 2** lists the Orange Creek nutrient TMDLs in units of pounds per year (lbs/yr). The purpose of the nutrient 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 3** lists the Orange Creek fecal coliform bacteria TMDLs and their required percent reduction. For fecal coliform bacteria, the most probable number (MPN) or membrane filter (MF) counts per 100 milliliters (ml) of fecal coliform bacteria shall not exceed a monthly average of 200, nor exceed 400 in 10 percent of the samples, nor exceed 800 on any one day. The TMDLs are adopted in rule, into subsection 62-304.505(1), F.A.C.

**Table 2. Nutrient TMDLs for Orange Creek**

Waterbody	Waterbody Identification (WBID) Number	Parameter	TMDL (lbs/yr)	Target Concentration (mg/L)
Newnans Lake	2705B	TP	10,924	0.062
Newnans Lake	2819A	TN	85,470	0.97
Lochloosa Lake	2738A	TP	9,932	0.0552
Lochloosa Lake	2738A	TN	172,318	1.152
Cross Creek	2754	TP	3,530	NA
Cross Creek	2754	TN	71,680	NA
Orange Lake	2749A	TP	15,262	0.031
Lake Wauberg	2741	TP	374	0.056

Waterbody	Waterbody Identification (WBID) Number	Parameter	TMDL (lbs/yr)	Target Concentration (mg/L)
Lake Wauberg	2741	TN	2,062	1.01
Alachua Sink	2720A	TN	256,322	NA

**Table 3. Fecal coliform bacteria TMDLs for Orange Creek**

Waterbody	WBID Number	Fecal Coliform Concentration (% reduction)
Tumblin Creek	2718A	74%
Sweetwater Branch	2711	70%
Hogtown Creek	2698	51%

## 1.4 Stakeholder Involvement

Local stakeholders are a significant part of the Orange Creek 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 were aware of the legislative changes that apply to the BMAP. A public meeting was held on March 11, 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 were formally noticed in the Florida Administrative Register, and at least one meeting was noticed in local newspapers.

## **Section 2. St. Johns River Basin Model Update**

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This 2025 BMAP update excludes updated modeling information. Loading estimates and allocations of load reductions to the responsible stakeholders presented in the 2019 Orange Creek BMAP Amendment will remain in effect. For more information on the methodologies please refer to the previously adopted BMAP documents.

At the time of the 2025 Orange Creek BMAP update, a multi-year effort was 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 Orange Creek 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 1.3**, the Orange Creek TMDLs are adopted in rule, with allowable TP and/or TN loads. The purpose of the allowable loadings is to achieve the in-lake concentrations. 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 Orange Creek BMAP Amendment.

### 3.1 Calculating Load Reductions

For this update, load reductions have not been re-evaluated. Refer to Chapter 3 of the 2019 Orange Creek BMAP Amendment for the methodologies used to calculate and apportion the load reductions for the Orange Creek BMAP lakes.

### 3.2 Allocated Reductions

The total reduction assigned to each jurisdiction is the sum of reductions for developed land uses and groundwater seepage/septic systems. Both Newnans Lake and Lochloosa Lake have large contributions of loading from internal loading that are not accounted for in the assignment of reductions to local jurisdictions.

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 4**, **Table 5**, and **Table 6** summarize the allocated total reductions assigned to each jurisdiction for TN and TP, respectively.

**Table 4. Required reductions for 2030 milestone by entity (100% Milestone) for Newnans Lake**

Entity	2030 TN Required Reduction 100% Milestone (lbs/yr)	2030 TP Required Reduction 100% Milestone (lbs/yr)
Alachua County	5,603	663
Gainesville	4,207	477
FDOT, District 2	878	93
Waldo	239	27
Agriculture	2,989	437

**Table 5. Required reductions for 2030 milestone by entity (100% Milestone) for Orange Lake**

Entity	2030 TP Required Reduction 100% Milestone (lbs/yr)
Alachua County	98
FDOT, District 2	15
FDOT, District 5	99
Marion County	439
McIntosh	71
Micanopy	31
Reddick	12
Agriculture	3,431

**Table 6. Required reductions for 2030 milestone by entity (100% Milestone) for Lochloosa Lake**

Entity	2030 TN Required Reduction 100% Milestone (lbs/yr)	2030 TP Required Reduction 100% Milestone (lbs/yr)
Alachua County	4,055	411
FDOT, District 2	3,674	321
Hawthorne	1,902	156
Agriculture	16,265	1,339

Entities in Lake Wauberg and Alachua Sink did not receive entity-specific load reduction allocations for the reasons listed in Chapter 1 of the 2019 Orange Creek BMAP Amendment. **Table 7** summarizes the total reductions assigned to each sub-watershed for TP and TN, respectively, for the Lake Wauberg and Alachua Sink allocations. Local governments within these sub-watersheds are expected to work collaboratively to achieve these required reductions.

**Table 7. Required reductions for 2030 milestone (100% Milestone) for Lake Wauberg and Alachua Sink**

Waterbody	2030 TN Required Reduction 100% Milestone (lbs/yr)	2030 TP Required Reduction 100% Milestone (lbs/yr)
Lake Wauberg	2,002	374
Alachua Sink	206,135	-

### 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 4, Table 5, and Table 6** summarize the required reduction milestones for TN and TP for each entity in Newnans Lake, Lochloosa Lake, and Orange Lake. **Table 7** summarizes the total reductions assigned to Alachua Sink and Lake Wauberg for TN and TP, respectively. The timeline in the 2019 Orange Creek BMAP Amendment had 2028 as the next milestone, 20 years from the adoption of the original BMAP. However, to allow for adjustments for new legislative requirements and in anticipation of the new St. Johns River Basin model, the next milestone is being extended to 2030 (5 years after the 2025 BMAP update is adopted). Consistent with statutes, 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 8, Table 9, and Table 10** summarize the current reductions made towards the 2030 milestone for TN and TP by entity in Newnans Lake, Lochloosa Lake, and Orange Lake. **Table 11** summarizes the current reductions made towards the 2030 milestone in Alachua Sink and Lake Wauberg.

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 is unable to submit a sufficient list of eligible management strategies to meet their next 5-year milestone reductions, specific project identification efforts are required to be submitted by January 14, 2026. Any such project identification efforts must define the purpose of and a timeline to identify sufficient projects to meet the upcoming milestone. The project description and estimated completion date for any such project identification effort must be provided and reflect the urgency of defining, funding, and implementing projects to meet the upcoming and future BMAP milestones. 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**. Only those entities that provide sufficient project identification efforts will be deemed as possessing a defined compliance schedule. Those entities without an adequate project list nor a defined compliance schedule to meet their upcoming 5-year milestone may be subject to enforcement actions.

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

### **3.2.2 In-Lake Reductions**

Substantial internal loading of nutrients was identified as a source of their water quality impairment for several of the Orange Creek BMAP lakes. However, internal loading will not be immediately addressed until management actions are in place to reduce loading from the watershed.

### 3.2.3 Project Progress

**Table 8**, **Table 9**, and **Table 10** summarize the total required reductions and the estimated reductions achieved for completed and ongoing projects for each entity. **Table 11** summarizes the total required reductions and the estimated reductions achieved in the Alachua Sink and Lake Wauberg sub-watersheds. **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 8. Newnans Lake TN and TP load reductions**

Entity	TN Full Required Reduction (lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	% of TN Reductions Achieved	TP Full Required Reduction (lbs/yr)	TP Completed and Ongoing Project Credits (lbs/yr)	% of TP Reductions Achieved
Alachua County	5,603	415	7%	663	96	14%
Gainesville	4,207	3,216	77%	477	5,887	100%
FDOT, District 2	878	3,456	100%	93	529	100%
Waldo	239	10	4%	27	1	4%
Agriculture	2,989	121	4%	438	11	3%

**Table 9. Orange Lake TP load reductions**

Entity	TP Full Required Reduction (lbs/yr)	TP Completed and Ongoing Project Credits (lbs/yr)	% of TP Reductions Achieved
Alachua County	98	4	4%
FDOT, District 2	15	55	100%
FDOT District 5	99	2,935	100%
Marion County	439	32	7%
McIntosh	71	1	1%
Micanopy	31	2	6%
Reddick	12	1	8%
Agriculture	3,431	257	7%

**Table 10. Lochloosa Lake TN and TP load reductions**

Entity	TN Full Required Reduction (lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	% of TN Reductions Achieved	TP Full Required Reduction (lbs/yr)	TP Completed and Ongoing Project Credits (lbs/yr)	% of TP Reductions Achieved
Alachua County	4,055	335	8%	411	46	11%
FDOT, District 2	3,674	4,962	100%	321	822	100%
Hawthorne	1,902	105	6%	156	12	8%
Agriculture	16,265	3327	20%	1,339	923	69%

**Table 11. Lake Wauberg and Alachua Sink TN and TP load reductions**

Entity	TN Full Required Reduction (lbs/yr)	TN Completed and Ongoing Project Credits (lbs/yr)	% of TN Reductions Achieved	TP Full Required Reduction (lbs/yr)	TP Completed and Ongoing Project Credits (lbs/yr)	% of TP Reductions Achieved
Lake Wauberg	2002	167	8%	374	34	9%
Alachua Sink	206,135	76,561	37%	-	-	-

## **Section 4. Management Actions**

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Management actions refer to the suite of structural and nonstructural activities that the Orange Creek BMAP entities will be conducting to achieve their required TN and TP 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. 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.

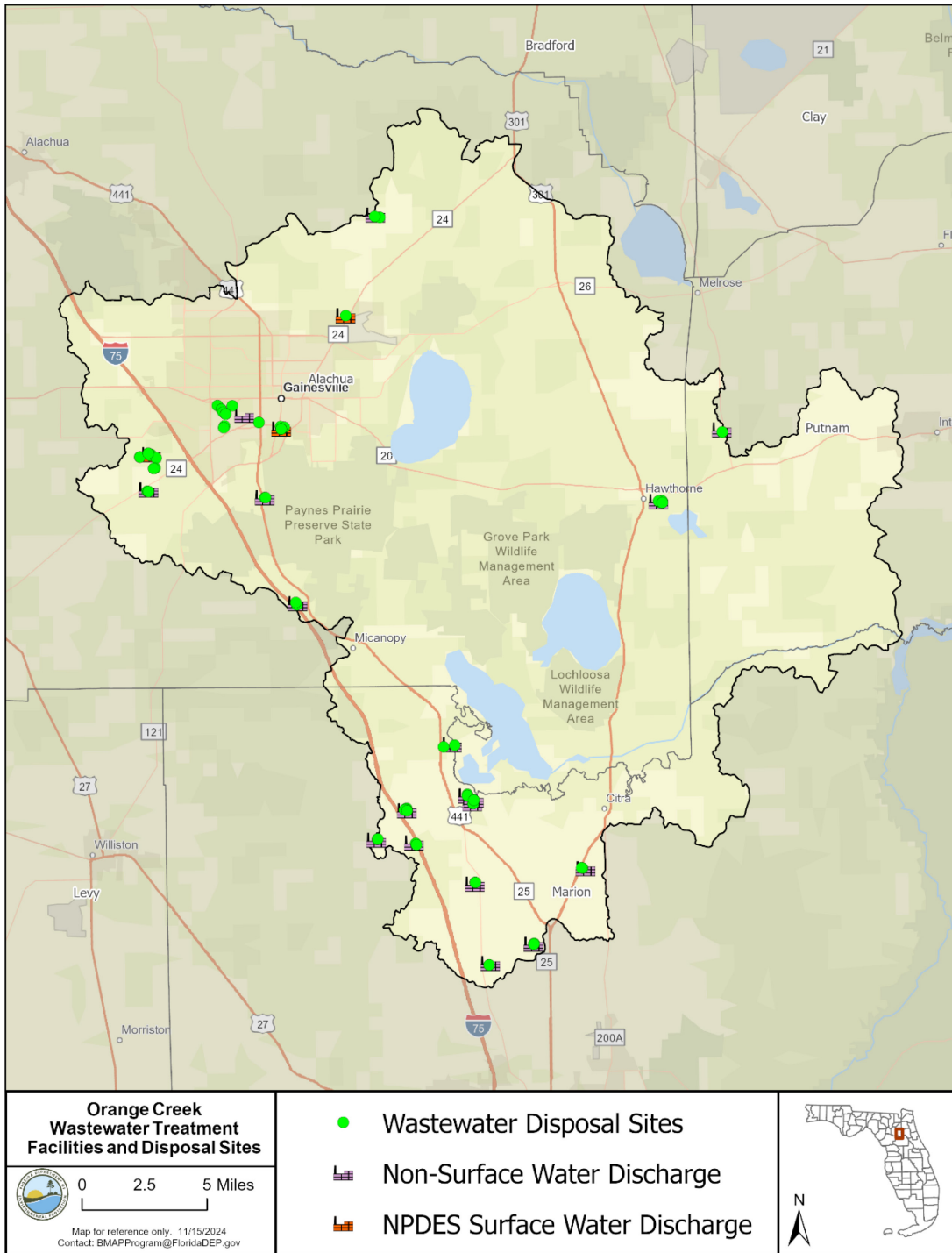
#### **4.1.2 Wastewater Treatment**

##### **4.1.2.1 Facility Improvements and Effluent Limits**

WWTFs located in the Orange Creek BMAP are shown in **Figure 2**. 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 **Table 12** 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 2. Wastewater treatment facilities and disposal sites in the Orange Creek BMAP**

**Table 12. Nitrogen effluent limits for wastewater facilities**

mgd: Million gallons per day.

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	3	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	1	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 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. 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 the DEP 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 Orange Creek 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.

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 Wauberg and Alachua Sink models included urban structural and agricultural BMPs completed as of the 2014 Orange Creek BMAP Progress Report. Therefore, urban structural projects completed since January 1, 2014, and planned in the future were eligible for BMAP credit in those areas. The loading estimates for Newnans Lake and Orange Lake excluded urban and agricultural BMP but were adjusted from 1995 to 2009 land use estimates. 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 not included in the loading estimates. 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.

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 to DEP an NMP 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 and water 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 online (see **Appendix A** for link). 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 detected for agricultural nonpoint sources 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 the reevaluation determines that the best management practice or other measure requires modification, DEP, a water management district, or FDACS, as appropriate, shall revise the rule to require implementation of the modified practice within a reasonable time period.

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 Orange Creek 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 48,920 acres. To estimate the agricultural acres enrolled in the BMP program, FDACS Office of Agricultural Water Policy (OAWP) overlaid 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 14** summarizes agricultural lands within the Orange Creek BMAP based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

**Table 14. Agricultural lands in the Orange Creek Basin by crediting location**

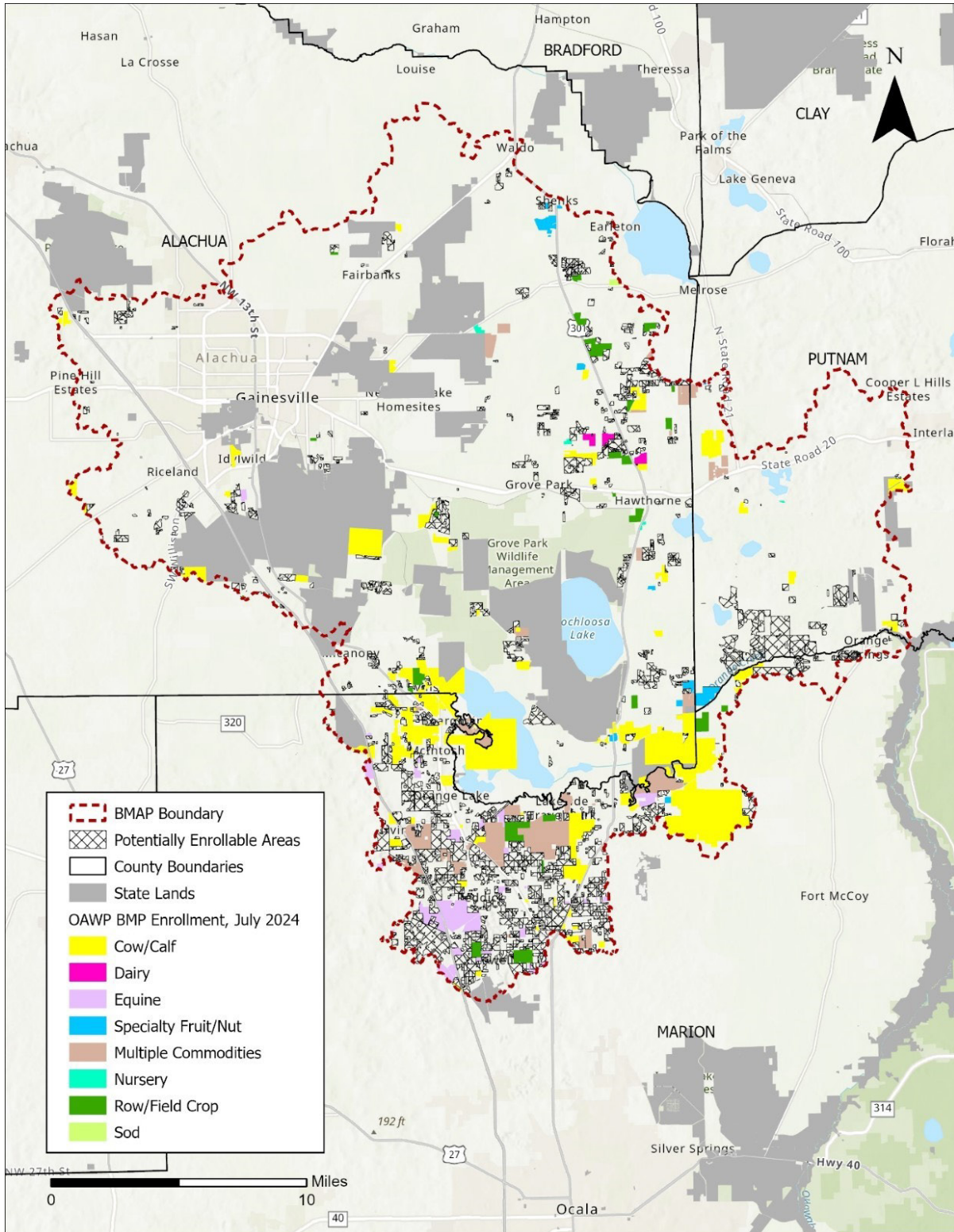
\* Enrollment information current as of June 30, 2024.

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled*
Hogtown Creek	937	518	419	97
Lake Wauberg	409	313	96	11
Lochloosa Lake	5,890	1,772	4,118	1,383
Newnans Lake	4,078	2,566	1,512	723
Orange Creek	21,087	6,469	14,618	8,235
Orange Lake	30,197	4,572	25,625	10,296
Paynes Prairie	4,074	1,541	2,533	1,415

FDACS will seek further enrollment of producers in the BMAP area. As of June 30, 2024, in the Orange Creek Basin there are 22,159 agricultural acres enrolled in the BMP program. **Table 15** and **Figure 3** summarize the acres enrolled in the BMP Program by commodity. Currently, no producers are conducting water quality monitoring in lieu of implementing BMPs.

**Table 15. Agricultural lands enrolled in the Orange Creek BMAP  
by BMP Program commodity**

<b>Commodity</b>	<b>Agricultural Acres Enrolled</b>
<b>Cow/Calf</b>	12,186
<b>Dairy</b>	223
<b>Equine</b>	2,251
<b>Fruit/Nut</b>	732
<b>Multiple Commodities</b>	4,910
<b>Nursery</b>	72
<b>Row/Field Crop</b>	1,718
<b>Sod</b>	67
<b>Total</b>	<b>22,159 (45%)</b>



**Figure 3. Agricultural BMP enrollment in the Orange Creek 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, F.S., requires FDACS, DEP, and agricultural producers to work together to establish 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 TMDL(s). 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% of the TN and 3% of the TP in the Orange Creek BMAP, respectively. 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 Orange Creek 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 an Orange Creek BMAP update. The department will then re-evaluate the need for ACE projects.

Most agricultural lands are engaged in row crop production. **Table 16** shows the dominant crop types within the Orange Creek BMAP.

**Table 16. Dominant crop types in the Orange Creek BMAP**

Crop Type	Acres
Row Crops	25,893
Grazing Land	25,374
Livestock	8,360

Targeting future funding toward precision agriculture, manure management, 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 Orange Creek 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 17** identifies the adopted BMPs and BMP manuals relevant to this BMAP.

**Table 17. 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

Some of the Orange Creek TMDLs estimated direct atmospheric deposition to the lake surfaces based on the average surface area of the lake, annual precipitation, and atmospheric TN and TP concentrations. For details on methodologies, refer to the individual TMDL documents.

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 Florida Water Management Inventory (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, Florida Department of Health (FDOH) 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 event mean concentrations (EMCs) and runoff coefficients (ROCs) for low density residential, with a generalized rainfall for Central Florida from the 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 18** and **Table 19** show 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 18. 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
Alachua County	11,638	6,650	9,703	19,228
Gainesville	2,942	1,625	1,745	3,445

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
Hawthorne	418	239	290	574
Micanopy	53	30	82	163
Waldo	58	33	40	79
Marion County	7,398	4,209	10,400	20,715
McIntosh	61	35	94	187
Reddick	109	62	168	334
Putnam County	281	195	592	1,129
<b>Basin Totals</b>	<b>22,959</b>	<b>13,079</b>	<b>23,113</b>	<b>45,851</b>

**Table 19. Estimated phosphorous load from future growth in the BMAP area**

Entity	2040 Additional Population	2040 Additional TP Loading (lbs/yr) Scenario 1	2040 Additional TP Loading (lbs/yr) Scenario 2	2040 Additional TP Loading (lbs/yr) Scenario 3
Alachua County	11638	2,104	2,884	5,464
Gainesville	2942	518	559	1,418
Hawthorne	418	76	90	200
Micanopy	53	10	22	23
Waldo	58	11	12	28
Marion County	7398	1,331	2,839	3,195
McIntosh	61	11	25	26
Reddick	109	20	45	46
Putnam County	281	63	173	222
<b>Basin Totals</b>	<b>22,959</b>	<b>4,143</b>	<b>6,650</b>	<b>10,622</b>

Scenario 1 resulted in an additional basin load of 13,079 lbs/yr TN and 4,143 lbs/yr TP. Scenario 3 resulted in an additional basin load of 45,851 lbs/yr TN and 10,622 lbs/yr TP.

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 sewerage 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 Orange Creek 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

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### 5.1 Monitoring Objectives

The Orange Creek BWG developed a strategy for monitoring water quality and measuring pollutant loads that builds on existing programs being conducted by the Department, SJRWMD, Alachua County, and LakeWatch. The Orange Creek BMAP monitoring plan is described in Chapter 10 of the 2014 BMAP. The overall purpose of this monitoring strategy is to support the implementation of the BMAP. Both the primary and secondary objectives apply to waterbodies included as part of the BMAP.

#### *Primary Objectives*

1. Identify and track water quality trends in BMAP waterbodies to determine if TMDL targets are being achieved.
2. Where feasible, measure the effectiveness of specific BMPs in reducing external loadings of target pollutants.

#### *Secondary Objectives*

3. Measure reductions in watershed loadings of TMDL target pollutants.
4. Refine understanding of the type and relative magnitude of pollutant loading sources.

To achieve the objectives above, the monitoring strategy focuses on two types of indicators to track water quality trends: core and supplemental. Core indicators are the minimum parameters that will be tracked, and these relate directly to the parameters causing impairment in lakes and creeks. As BMAP implementation moves forward, core indicators are expected to reflect changes in water quality.

- 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).
- Alkalinity.
- Fecal coliform.

Supplemental indicators support the interpretation of water quality data by providing a characterization of a waterbody.

- Specific conductance.
- Dissolved oxygen (DO).
- pH.
- Temperature.
- Total suspended solids (TSS).
- Color.
- Turbidity.
- Total organic carbon.

The monitoring network outlined in this plan includes at least one station in each of the lakes and primary tributary inflows and outflows (**Figure 4**). A number of stations are also located on the urban tributaries for the purpose of tracking changes in fecal coliform bacteria. SJRWMD and Alachua County Environmental Protection Division (ACEPD) sample at these sites regularly as part of their routine monitoring programs. Individual sites/parameters may be periodically added or removed, depending on environmental conditions, resources, data review, and other pertinent factors.

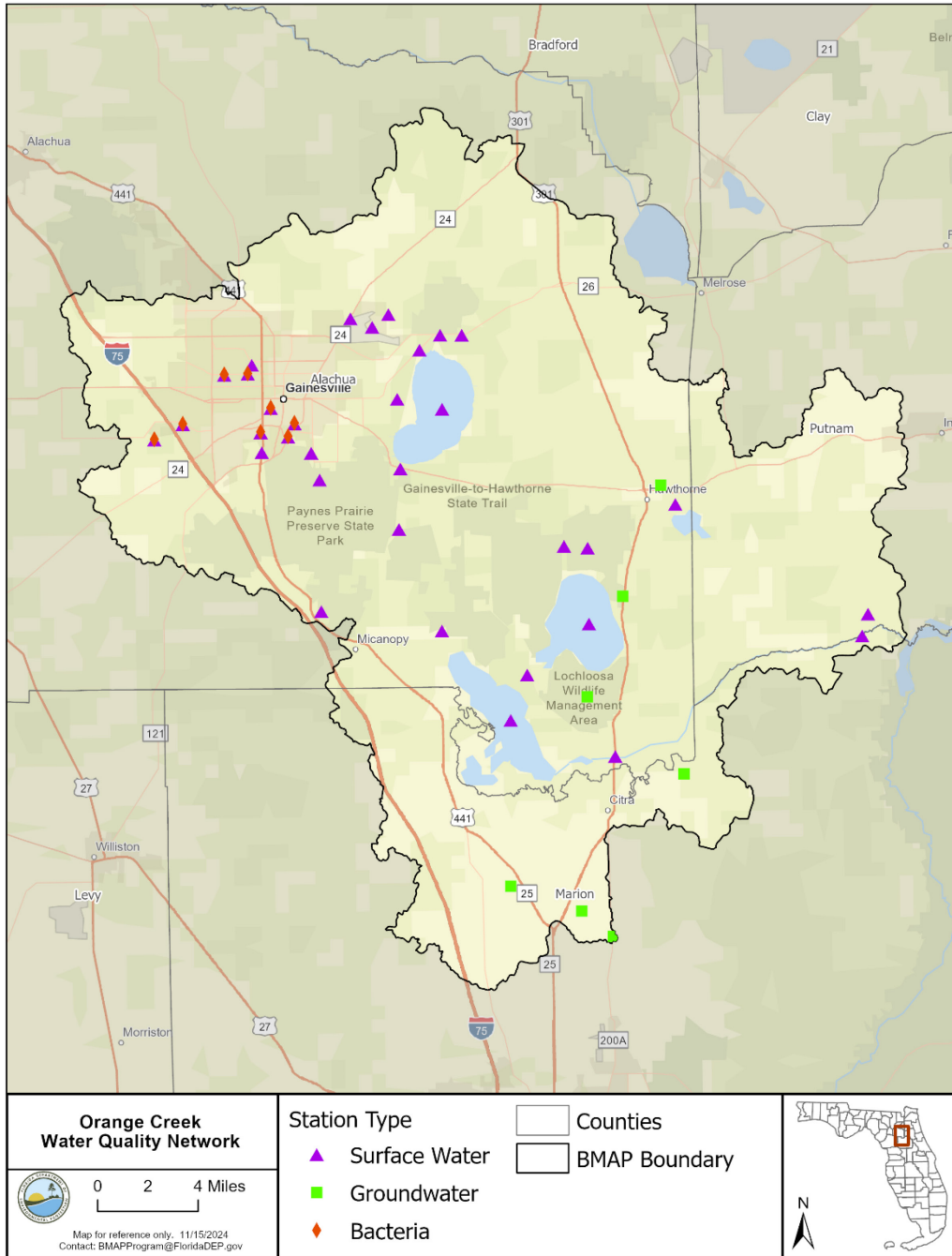
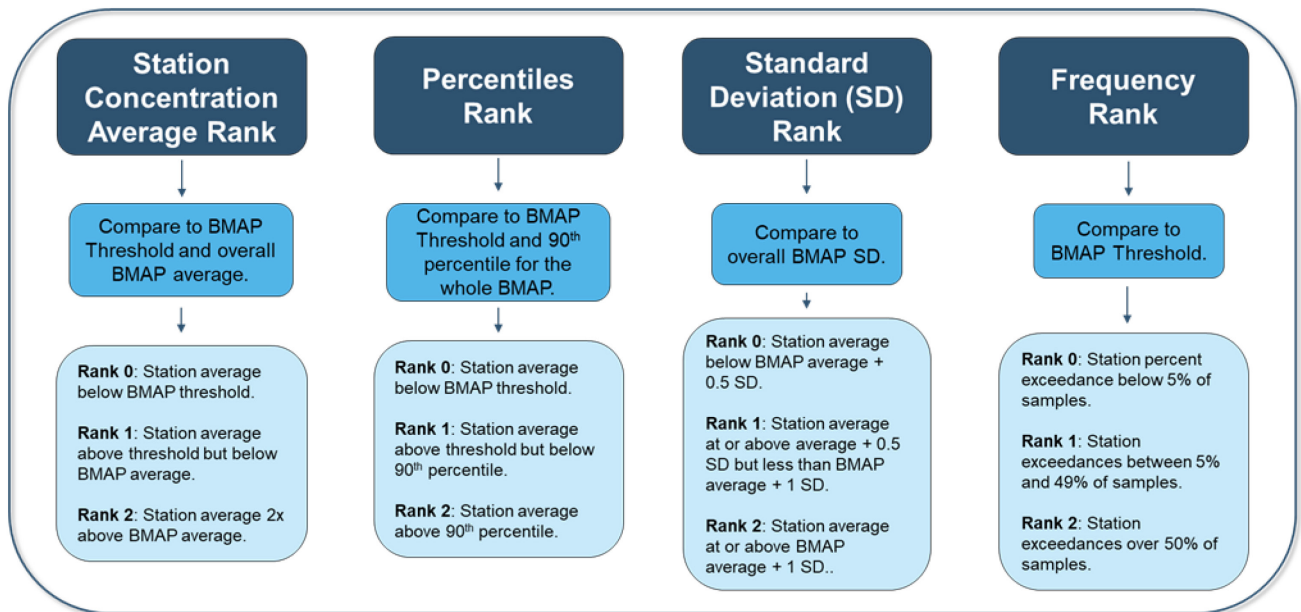


Figure 4. Orange Creek water quality monitoring network

## 5.2 Hotspot Analysis

To better prioritize and focus resources to achieve restoration most efficiently in the Orange Creek BMAP, DEP developed the hotspot 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 are only be used to assist with allocating and 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 **Figure 5**.



**Figure 5. 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 6** and **Figure 7** 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 three samples per year and minimum of three years of data.

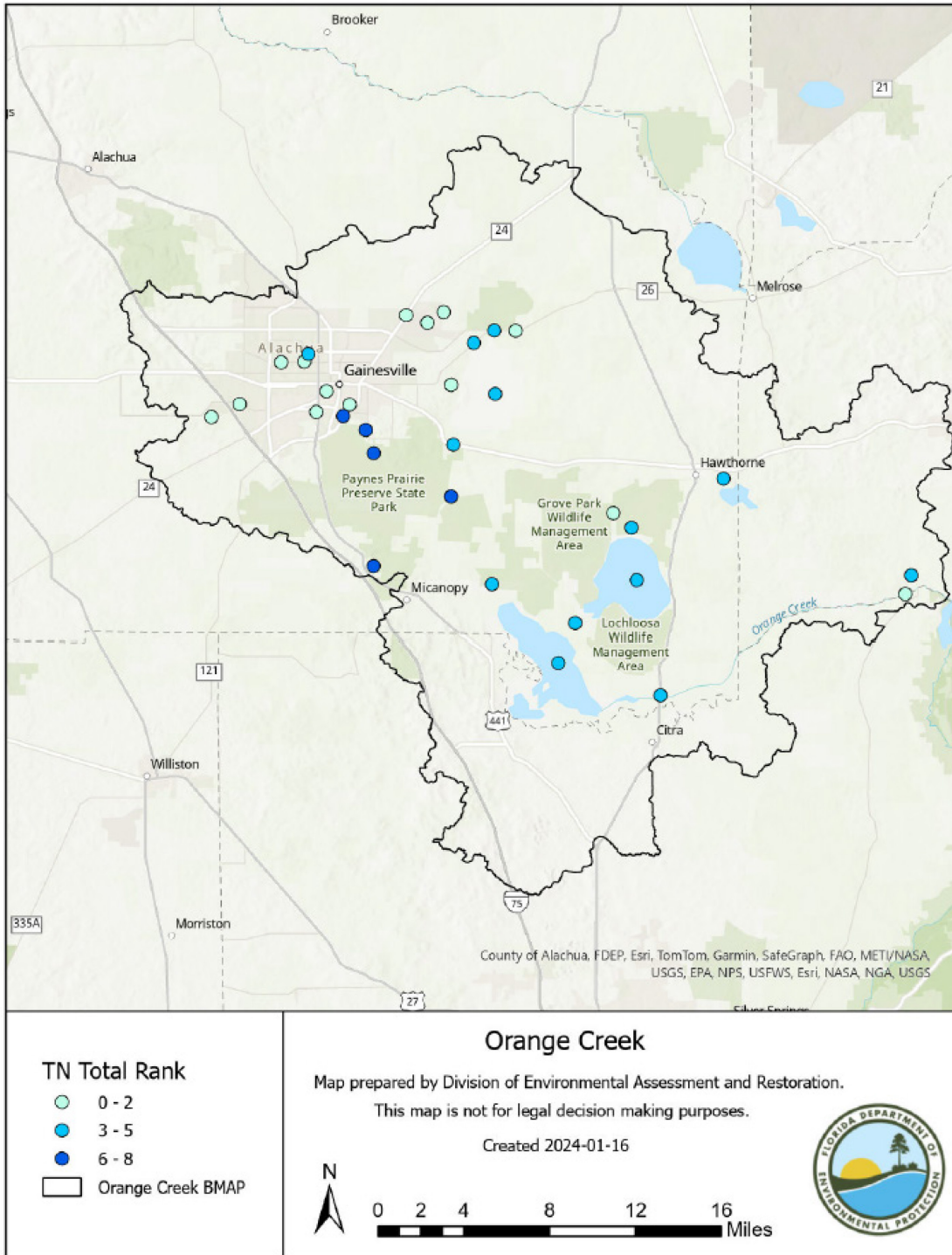
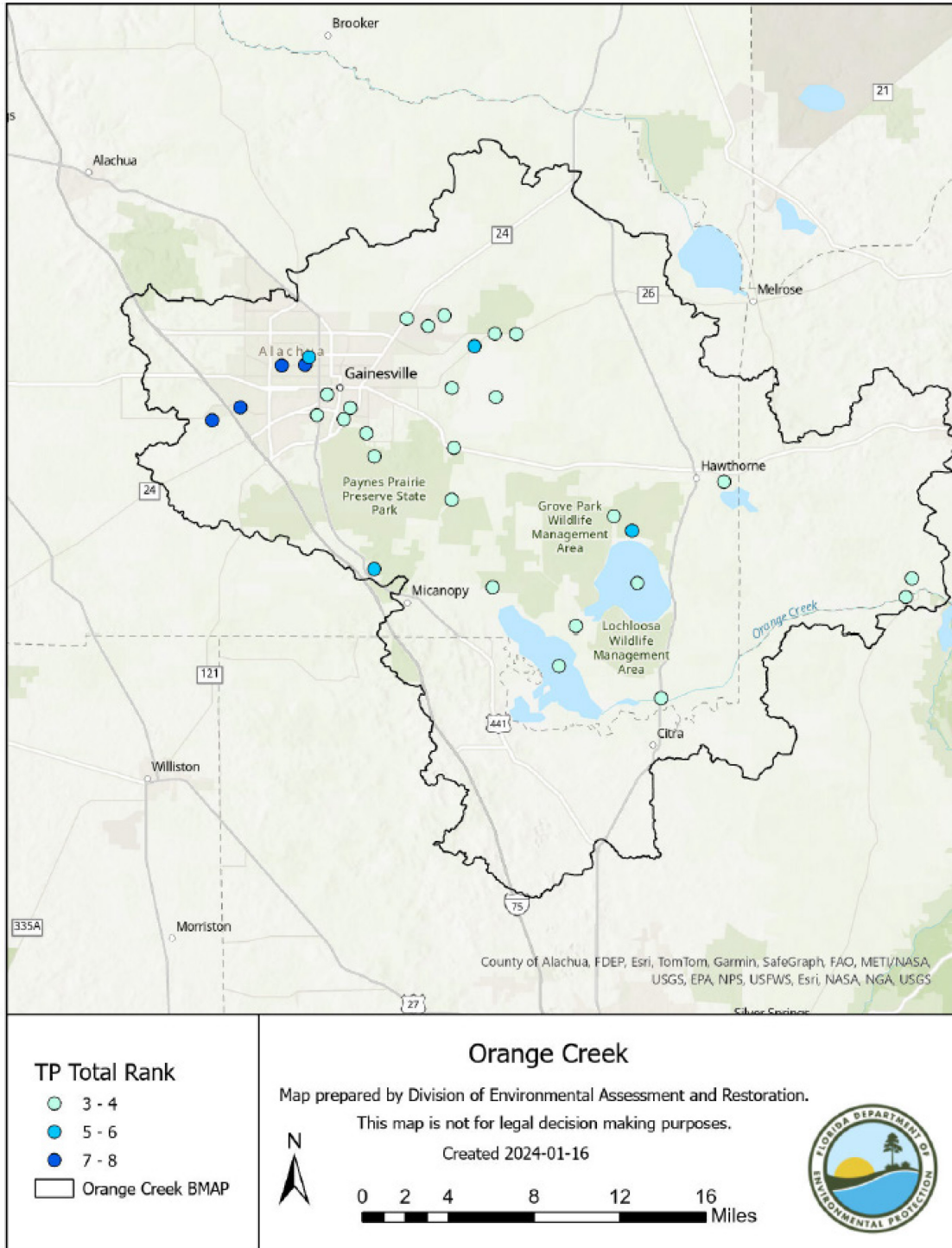


Figure 6. TN hot spot results



**Figure 7. TP hot spot results**

## **Section 6. Commitment to Plan Implementation**

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### **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 Orange Creek 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 Orange Creek 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.

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## Appendices

### Appendix A. Important Links

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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](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>
- NELAC NELAP: <https://fldeplac.dep.state.fl.us/aams/index.asp>
- 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>
- SJRWMD 2002 Middle St. Johns River Surface Water Improvement and Management (SWIM) Plan:  
[https://www.sjrwmd.com/static/plans/2002\\_MSJRB\\_SWIM\\_Plan.pdf](https://www.sjrwmd.com/static/plans/2002_MSJRB_SWIM_Plan.pdf)
- UF–IFAS Research: <http://research.ifas.ufl.edu/>

## **Appendix B. Projects to Reduce Nutrient Sources**

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**Table B-1. Stakeholder projects**

ProjID	Lead Entity	Project Number	Project Name	Project Description	Project Type	Project Status	Estimated Completion Date	Estimated Nitrogen Load Reduction (lbs/yr)	Estimated Phosphorous Load Reduction (lbs/yr)	Crediting Location	Cost Estimate	Funding Source	Funding Amount
5139	Alachua County	ALACHUA02-AS	Education Outreach Credit for Alachua Sink and Alachua Lake	Public education to promote stormwater nutrient reduction to protect groundwater and surface water resources, stressing importance of preventing nonpoint source pollution.	Education Efforts	Ongoing	NA	1,800	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; SJRWMD	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00; SJRWMD - \$0.00
392	Alachua County	ALACHUA02-LOCH	Water Quality Protection Public Education and Outreach	Public education to promote stormwater nutrient reduction to protect groundwater and surface water resources, stressing the importance of preventing non-point source pollution.	Education Efforts	Ongoing	NA	335	46	Lochloosa Lake Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; SJRWMD	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00; SJRWMD - \$0.00
428	Alachua County	ALACHUA02-NEW	Water Quality Protection Public Education and Outreach	Public education to promote stormwater nutrient reduction to protect groundwater and surface water resources, stressing the importance of preventing non-point source pollution.	Education Efforts	Ongoing	NA	299	33	Newnans Lake Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; SJRWMD	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00; SJRWMD - \$0.00
430	Alachua County	ALACHUA02-ORANGE	Water Quality Protection Public Education and Outreach	Public education to promote stormwater nutrient reduction to protect groundwater and surface water resources, stressing the	Education Efforts	Ongoing	NA	0	4	Orange Lake Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; SJRWMD	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 -

				importance of preventing non-point source pollution.									\$0.00; SJRWMD - \$0.00
516	Alachua County	ALACHUA03	Water Quality Protection BMP Training	Offer DEP Florida Stormwater, Erosion, and Sedimentation Control Inspector Training. Reduces impacts from uncontrolled erosion and sedimentation on the construction sites.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
532	Alachua County	ALACHUA04	Pet Waste Outreach	Alachua County. Implement social marketing campaign to motivate citizens to scoop, bag, and trash dog wastes at home and in the community. Reduces bacteria and nutrient sources in all watersheds.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$40,655	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
518	Alachua County	ALACHUA05	Stormwater Basin Monitoring	Monitor water quality in various stormwater basins to understand if they are sinks or sources of nutrients and bacteria. Provide data for determining how stormwater basins affect water quality.	Monitoring/Data Collection	Completed	2015	0	0	Orange Creek Basin	\$6,000	Alachua County	Alachua County - \$0.00
504	Alachua County	ALACHUA06	Landscaping Debris Social Marketing	Implement social marketing campaign designed to get citizens to keep landscaping debris out of the roads and stormwater collection	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$50,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT

				systems. Reduces bacteria and nutrient sources in all watersheds.									District 2 - \$0.00
426	Alachua County	ALACHUA07	Water Conservation and LID	Conduct targeted public outreach to encourage water conservation and rain harvesting. Includes rain barrel sales and LID promotion.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
425	Alachua County	ALACHUA08	Water Quality Protection and Public Education and Outreach	Public education to promote stormwater nutrient reduction to protect groundwater and surface water resources and prevent non-point source pollution.	Education Efforts	Completed	2017	0	0	Orange Creek Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
424	Alachua County	ALACHUA09	Landscaping Behavior Change Social Marketing	Implement social marketing campaign designed to get citizens to make landscaping behavior changes that reduce nutrients in stormwater. Reduces nutrients sources in all watersheds.	Education Efforts	Completed	2019	0	0	Orange Creek Basin	\$600,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; SJRWMD	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00; SJRWMD - \$0.00
423	Alachua County	ALACHUA10	Neighborhood Stormwater Fertilizer Study	Monitor and assess stormwater water quality in selected neighborhoods and evaluate impacts to water quality in the Gainesville urban creeks.	Study	Completed	2015	0	0	Orange Creek Basin	\$24,600	City of Gainesville; FDOT District 2; Gainesville Clean Water Partnership; Alachua County	City of Gainesville - \$0.00; FDOT District 2 - \$0.00; Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00
422	Alachua County	ALACHUA11	Stormwater Pond Outfall Study and Phosphorus	Monitor and assess water quality in various stormwater basins and evaluate	Study	Completed	2015	0	0	Orange Creek Basin	\$30,800	Gainesville Clean Water Partnership; Alachua County; City of	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00;

			Sediment Evaluation	stormwater basin and stream sediments to understand if they are sinks or sources of phosphorus.								Gainesville; FDOT District 2	City of Gainesville - \$0.00; FDOT District 2 - \$0.00
421	Alachua County	ALACHUA12	Quantifying Nutrient Improvement in Street Sweepings	Monitor and assess street sweepings to quantify nutrient reductions and subsequent potential water quality improvements.	Study	Completed	2016	0	0	Orange Creek Basin	\$38,940	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
420	Alachua County	ALACHUA13	Surface Water Nutrient Loading Assessment	Evaluate nutrient loading and determine the status of the urban streams and their receiving waters as it relates to nutrient impairment.	Study	Completed	2018	0	0	Orange Creek Basin	\$48,800	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
419	Alachua County	ALACHUA14	In-Stream Biological Monitoring in 2012-13	Monitor to establish in-stream biological ecosystem health. Conduct stream condition index and Hester-Dendy sampling and reporting for Gainesville urban area streams.	Monitoring/Data Collection	Completed	2014	0	0	Orange Creek Basin	\$55,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
459	Alachua County	ALACHUA17	Aquifer Model	Mobile model used for outreach to children and adults designed and created to teach the public about the connection between how what we do on the land surface and how we use water affects our	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$6,000	Alachua County; Fish and Wildlife Foundation Florida Springs Protection License Plate Grant	Alachua County - \$0.00; Fish and Wildlife Foundation Florida Springs Protection License Plate Grant - \$0.00

				springs, rivers, and aquifer.									
461	Alachua County	ALACHUA18	Orange Creek Basin Project Development	Assessed short- and long term benefits/costs of removing loose organic sediments from portions of Newnans Lake to restore hard-bottom aquatic habitats and reduce internal nutrient recycling, while protecting archeological resources.	Study	Completed	2015	0	0	Newnans Lake Basin	\$7,600	Alachua County	Alachua County - \$0.00
432	Alachua County	ALACHUA19	Fertilizer Social Marketing Campaign	Implement social marketing campaign designed to reduce fertilizer use and to estimate resultant load reduction. Reduces nutrient sources in all watersheds.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$435,000	DEP 319	DEP 319 - \$135,000.00
472	Alachua County	ALACHUA20	Inspiring Behavior Change through Experiencing the Santa Fe River and Springs	Implement education by coordinating 5 to 6 interactive paddling trips on Santa Fe River with 120 stakeholders to explore actions that affect health of springs and groundwater. Reduces nutrient sources in all watersheds.	Education Efforts	Completed	2019	0	0	Orange Creek Basin	\$12,600	Alachua County; Fish and Wildlife Foundation Florida Springs Protection License Plate Grant	Alachua County - \$0.00; Fish and Wildlife Foundation Florida Springs Protection License Plate Grant - \$0.00
471	Alachua County	ALACHUA21	Interactive Stormwater/Wastewater Model	Interactive tabletop model for teaching children and adults about difference between storm sewers and sanitary sewers.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$6,500	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT



				Reduces nutrient sources and bacteria sources in all watersheds.									District 2 - \$0.00
469	Alachua County	ALACHUA22	Stream Bioassessment Study Project	The Stream Bioassessment Study project includes Stream Condition Index (SCI) in-stream biological assessments and Hester-Dendy sampling and analysis to provide ambient monitoring for TMDL and impaired watersheds.	Study	Completed	2019	0	0	Orange Creek Basin	\$85,970	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
5424	Alachua County	ALACHUA23	Countywide Stormwater Treatment Code	Adopt a stormwater treatment code for new development. Code requires 70/80% TN/TP reductions in stormwater discharges. 95% for OFWs and 10% below predevelopment for impaired waters. LID techniques are required in sensitive karst area.	Regulations, Ordinances, and Guidelines	Completed	2019	0	0	Orange Creek Basin	\$0	Alachua County Stormwater Assessment	Alachua County Stormwater Assessment - \$0.00
5426	Alachua County	ALACHUA24	Countywide Florida Friendly Landscaping Homeowner Association Code	Adopt a FFL HOA Code that prohibits HOAs from prohibiting FFL. The Code also prohibits neighborhood Codes, Covenants, and Regulations adopted after 2016 from requiring irrigation.	Regulations, Ordinances, and Guidelines	Completed	2019	0	0	Orange Creek Basin	\$0	Alachua County General Fund	Alachua County General Fund - \$0.00

5427	Alachua County	ALACHUA25	Aquifer Awareness Campaign	Billboards and social media to teach the public about the connection between our water use, the aquifer, and the health of our springs.	Enhanced Public Education	Ongoing	NA	0	0	Orange Creek Basin	\$20,000	Alachua County; Gainesville Clean Water Partnership; SJRWMD; Fish & Wildlife Foundation of Florida Springs Protection License Plate Grant	Alachua County - \$0.00; Gainesville Clean Water Partnership - \$0.00; SJRWMD - \$0.00; Fish & Wildlife Foundation of Florida Springs Protection License Plate Grant - \$10,000.00
5900	Alachua County	ALACHUA26	Springs Protection Videos	Five to six 30-second videos on various aspects of springs protection for social media and paid media outlets.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$17,000	Alachua County; Wildlife Foundation of Florida Springs Protection License Plate Grant	Alachua County - \$0.00; Wildlife Foundation of Florida Springs Protection License Plate Grant - \$12,000.00
5901	Alachua County	ALACHUA27	Turf Swap	Rebates to property owners that convert irrigated turf to FFL or implement water saving irrigation retrofits.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$1,000,000	SRWMD; SJRWMD; DEP	SRWMD - \$150,000; SJRWMD - \$300,000; DEP - \$0
6292	Alachua County	ALACHUA28	Main Street Detention Pond Upflow Filter	This project will retrofit a County owned retention basin serving Main Street in Gainesville with a nutrient reducing upflow filter. The filter is manufactured by EcoSense and uses the NutriGone media.	Retention/Detention on BMP Retrofit with Nutrient Reducing Media	Underway	2025	54	5	Hogtown Creek Basin	\$529,000	Alachua County; FDOT	Alachua County - \$443,000.00; FDOT - \$86,000.00
6815	Alachua County	ALACHUA29	Austin Cary Flatwoods - Inmon	This is a fee simple land conservation acquisition. No increase in surface runoff of pollutants due to land use change.	Land Acquisition	Planned	2024	0	0	Newnans Lake Basin	\$0	Wild Spaces Public Places II Surtax; Florida Forever	Wild Spaces Public Places II Surtax - \$0.00; Florida Forever - \$0.00

				continued aquifer recharge and ecosystem/habitat preservation.									
6682	Alachua County	ALACHUA30	Lochloosa Lake Improvement Initiative - Phase 2	This project builds on the nutrient source study performed as Phase 1 of the Lochloosa Lake Improvement Initiative. The goal of this phase is to identify specific stormwater or other nutrient load reduction projects.	Study	Underway	2024	0	0	Lochloosa Lake Basin	\$151,709	Alachua County Stormwater Assessment	Alachua County Stormwater Assessment - \$151,709.00
468	Alachua County	ALCODE01	Alachua County Water Quality Code Implementation	Alachua County Water Quality Code Implementation includes public education, outreach, and enforcement.	Regulations, Ordinances, and Guidelines	Ongoing	NA	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$17,400	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
520	Alachua County	ALCODE02	Fertilizer and Landscape Irrigation Codes	Adopt and enforce Fertilizer Management and Landscape Irrigation Ordinances. Reduce volume of runoff from over irrigation and reduce nutrient loading from the use of fertilizers.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$0	Alachua County General Fund	Alachua County General Fund - \$0.00
521	Alachua County	AS04	Expanded Nutrient Monitoring Alachua Sink	Expanded nutrient monitoring of Alachua Sink. To determine current water quality and water level conditions in Alachua Sink.	Monitoring/Data Collection	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$5,600	Alachua County	Alachua County - \$0.00

522	Alachua County	AS07	Bishop and Henderson	Land acquisition adjacent to Paynes Prairie. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2006	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$225,700	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
467	Alachua County	AS08	Crevasse	Paynes Prairie. Land acquisition - Crevasse (Prairie Creek by Paynes Prairie. Alachua Conservation Trust purchased the parcel and Alachua County Forever has made an offer to purchase a portion of it from ACT.	Land Acquisition	Completed	2010	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$415,316	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
505	Alachua County	AS17	Prairie Creek Conservation Cemetery	Paynes Prairie. Conservation Easement acquisition - Crevasse (Prairie Creek by Paynes Prairie. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2010	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$324,022	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
506	Alachua County	AS20	Teuton	Paynes Prairie. Alachua County. Land acquisition - Teuton parcel 2.02 acres. To be managed as part of Paynes Prairie Preserve State Park.	Land Acquisition	Completed	2014	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$11,424	Wild Spaces Public Place Surtax	Wild Spaces Public Place Surtax - \$0.00

4518	Alachua County	AS21	Paynes Prairie - Serenola	Fee Simple Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2018	0	0	Orange Lake Basin	\$3,222,966	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$0.00
7597	Alachua County	AS22	Alachua County Headquarter Library LID Retrofit	Installation of rain garden and vegetative filter strip for water quality treatment of stormwater prior to entering Sweetwater Creek.	LID- Rain Gardens	Underway	2026	2	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$180,000	Alachua County Stormwater Assessment	Alachua County Stormwater Assessment - \$180,000.00
523	Alachua County	BACTERIA01	Bacterial Source Tracking	Bacterial source tracking by antibiotic resistance analysis (ARA) and discriminate ribotype analysis to determine sources of fecal indicator bacteria.	Monitoring/Data Collection	Completed	2003	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$24,600	Alachua County	Alachua County - \$0.00
524	Alachua County	BACTERIA02	Fecal Coliform Source Assessment	Fecal coliform source assessment using expanded microbiological sampling and selected microbial source tracking techniques.	Monitoring/Data Collection	Completed	2007	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$45,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
507	Alachua County	BACTERIA03	Coliform Wet and Dry Season Assessment	Assessment of wet and dry season fecal coliform concentrations in Gainesville urban creeks.	Study	Completed	2007	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$15,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00

525	Alachua County	BACTERIA04	Expanded Fecal Coliform Bacteria Monitoring	Expanded base flow fecal coliform monitoring to better identify stream segments in the Gainesville urban area with high bacterial counts.	Monitoring/Data Collection	Ongoing	NA	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$0	Alachua County	Alachua County - \$0.00
451	Alachua County	BACTERIA06	Optical Brighteners	Optical brightener and fecal coliform sampling analyses throughout Gainesville urban creek watersheds for illicit discharge detection.	Study	Completed	2006	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$9,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
567	Alachua County	BACTERIA16	Evaluation of Fecal Coliform Bacteria "Hot Spots" in Gainesville Urban Creeks	Further investigation of locations in the Gainesville urban creeks with continued high fecal coliform bacteria counts.	Monitoring/Data Collection	Completed	2008	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$0	Not provided	Not provided - \$0.00
508	Alachua County	BACTERIA17	Outfall Reconnaissance Inventory (ORI)	Gainesville urban area. Reconnaissance of all outfalls and visual observations and sampling of suspect outfalls and stormwater pipes discharging to urban creeks with high fecal coliform concentrations. Identify and eliminate sources.	Study	Completed	2010	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$1,100	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
509	Alachua County	BACTERIA18	Private Wastewater Collection System Pilot Study	Gainesville Urban Area. Conducted a pilot study of private wastewater collection systems. Pilot tests were	Study	Completed	2008	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$0	Alachua County General Fund	Alachua County General Fund - \$0.00

				conducted and a report was written. ACEPD may pursue a private collection system monitoring program in the future.									
450	Alachua County	BACTERIA19	Hydrodynamic Separator and Fecal Coliform Study	Gainesville Urban Area. The goal of this study is to assess the potential of hydrodynamic separator storm sewer BMP devices to harbor and release high levels of bacteria into Gainesville creeks.	Study	Completed	2015	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$12,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
510	Alachua County	BACTERIA20	Urban Creek Fecal Coliform "Hot Spots" Monitoring	Assess fecal indicator bacteria to assess microbial (fecal coliform) "Hot Spots" for source investigation.	Monitoring/Data Collection	Completed	2017	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
511	Alachua County	HAT01	Expanded Coliform and Iron Monitoring	Targeted fecal indicator bacteria monitoring in the Hatchet Creek watershed to better define spatial distribution of fecal indicator bacteria.	Monitoring/Data Collection	Completed	2006	0	0	Newnans Lake Basin	\$5,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
488	Alachua County	HOG15	Evaluation of Residential Septic Tanks Systems Adjacent to Hogtown and Possum Creeks, Tumblin Creek, and Sweetwater Branch	Alachua County. Includes identifying parcels with septic systems, conducting soil borings to check water table, and fecal coliform analyses. Staffed with full-time	Study	Completed	2005	0	0	Hogtown Creek Basin	\$20,000	FDOH	FDOH - \$0.00

				temporary OPS position (one year).									
449	Alachua County	HOG24	Inlet Protection Pilot Project, Hogtown Creek	Assessment of stormwater drop inlet geotextile filtering device function at Gainesville Public Works Compound (impervious acreage 9.99 acres) to quantify sediments, particle sizes, and pollutants (Springstead Creek).	Study	Completed	2007	0	0	Hogtown Creek Basin	\$2,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
448	Alachua County	HOG26	Forest Park Vegetative Enhancement	Forest Park stormwater pond vegetative enhancement to demonstrate importance of vegetated buffers in preventing nonpoint source pollution and improving water quality.	Vegetated Buffers	Completed	2007	0	0	Hogtown Creek Basin	\$7,500	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2; NOAA Coastal Impact Assistance Program (CIAP) Grant	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00; NOAA Coastal Impact Assistance Program (CIAP) Grant - \$0.00
444	Alachua County	LOCH06	Phifer Flatwoods Land Acquisition #1 Lochloosa Creek	Alachua County. Land acquisition-Phifer Flatwoods Little Lochloosa Creek Watershed.	Land Acquisition	Completed	2006	0	0	Lochloosa Lake Basin	\$2,882,239	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
477	Alachua County	LOCH09	NE 179th Street Erosion Control	Intersection of NE 179th Street and SR 26. Description: Construction of a sediment trap in the roadside swale of NE 179th Street to trap sediment from NE 179th Street that discharged into the swales on SR 26 and eventually	Baffle Boxes-First Generation	Completed	2010	0	0	Lochloosa Lake Basin	\$0	Not provided	Not provided - \$0.00



				into Lochloosa Creek.									
443	Alachua County	LOCH13	Phifer Flatwoods Land Acquisition #2 Lochloosa Creek; Little Lochloosa Creek	Alachua County. Land acquisition-Phifer Flatwoods Additions within Little Lochloosa Creek Watershed.	Land Acquisition	Completed	2009	0	0	Lochloosa Lake Basin	\$1,170,864	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
4527	Alachua County	LOCH18	Cypress Point Creamery Land Acquisition	Conservation Easement Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2014	0	0	Lochloosa Lake Basin	\$461,000	Wild Spaces Public Places Surtax; FRPP Cost-Share	Wild Spaces Public Places Surtax - \$0.00; FRPP Cost-Share - \$0.00
4528	Alachua County	LOCH19	Higginbotham Ranch Acquisition	Conservation Easement Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2014	0	0	Lochloosa Lake Basin	\$765,000	Wild Spaces Public Places Surtax; FRPP Cost-Share	Wild Spaces Public Places Surtax - \$0.00; FRPP Cost-Share - \$0.00
4529	Alachua County	LOCH20	Lochloosa Slough - Fox Pen	Fee Simple Conservation Land Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2019	0	0	Orange Lake Basin	\$1,321,177	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$0.00
5425	Alachua County	LOCH21	Lochloosa Lake Improvement Initiative - Phase 1	Assessment of the Lochloosa Lake watershed to determine external surface runoff and septic sources of nutrients to the lake and identify sites for nutrient	Study	Completed	2021	0	0	Lochloosa Lake Basin	\$160,287	Alachua County	Alachua County - \$160,287.00

				reduction projects.									
5430	Alachua County	LOCH22	Lochloosa Slough	Fee Simple Conservation Land Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation. Lochloosa Slough.	Land Acquisition	Completed	2019	0	0	Lochloosa Lake Basin	\$4,821,882	Wild Spaces Public Places Sales Tax	Wild Spaces Public Places Sales Tax - \$4,821,882.00
5434	Alachua County	LOCH23	Brown	Fee Simple Conservation Land Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation. Lochloosa Creek Basin.	Land Acquisition	Completed	2023	0	0	Lochloosa Lake Basin	\$2,259,300	Wild Spaces Public Place II Surtax	Wild Spaces Public Place II Surtax - \$0.00
5435	Alachua County	LOCH24	Fox Pen - Lochloosa Slough Connector	Fee Simple Conservation Land Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation. Lake Jeffords Outlet, Blue Pond Outlet, Lochloosa Slough, Orange Creek Basin.	Land Acquisition	Completed	2021	0	0	Orange Creek Basin	\$10,588,781	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$10,588,781.00
5904	Alachua County	LOCH26	Colasante	Fee Simple Land Conservation Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and	Land Acquisition	Completed	2023	0	0	Lochloosa Lake Basin	\$1,815,441	Wild Spaces Public Place II Surtax	Wild Spaces Public Place II Surtax - \$1,815,440.63

				ecosystem/habitat preservation. Includes Lochloosa Slough.									
7072	Alachua County	LOCH29	Rimes Acquisition	Fee Simple acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Underway	2024	0	0	Lochloosa Lake Basin	\$0	Wild Spaces Public Places II Surtax; SJRWMD	Wild Spaces Public Places II Surtax - \$0.00; SJRWMD - \$290,669.40
7073	Alachua County	LOCH30	Jackson Heirs Acquisition	Fee Simple acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Underway	2024	0	0	Lochloosa Lake Basin	\$0	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$0.00
447	Alachua County	NEW06	Newnans Lake Addition	Newnans Lake. Land acquisition-Newnans Lake addition.	Land Acquisition	Completed	2005	0	0	Newnans Lake Basin	\$3,732,126	Alachua County Forever Bond Proceeds; SJRWMD; FFLP Cost-Share	Alachua County Forever Bond Proceeds - \$1,617,000.00; SJRWMD - \$0.00; FFLP Cost-Share - \$0.00
442	Alachua County	NEW07	Wainberg Land Acquisition	Newnans Lake. Land acquisition-Wainberg (west side Newnans Lake). Part of Newnans Lake Cypress Preserve owned and managed by Alachua County.	Land Acquisition	Completed	2007	0	0	Newnans Lake Basin	\$175,000	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
528	Alachua County	NEW20	Cox & Moore	Alachua County. Land acquisition. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and	Land Acquisition	Completed	2013	0	0	Newnans Lake Basin	\$1,400,723	Wild Spaces and Public Places Sales Tax; Alachua County Forever Bond Proceeds	Wild Spaces and Public Places Sales Tax - \$0.00; Alachua County Forever Bond Proceeds - \$0.00

				ecosystem/habitat preservation.									
529	Alachua County	NEW21	Kincaid and Tabone	Alachua County. Conservation easement acquisition-Kincaid and Tabone.	Land Acquisition	Completed	2012	0	0	Newnans Lake Basin	\$170,000	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
530	Alachua County	NEW22	Smith	Alachua County. Conservation Easement acquisition-Smith. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2012	0	0	Newnans Lake Basin	\$63,750	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
531	Alachua County	NEW23	Wainberg Addition Number 2	Alachua County. Land acquisition-Wainberg Addition. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation. Part of Newnans Lake Cypress Preserve.	Land Acquisition	Completed	2013	0	0	Newnans Lake Basin	\$14,363	Alachua County Forever Bond Proceeds	Alachua County Forever Bond Proceeds - \$0.00
478	Alachua County	NEW32	Little Hatchet Creek	Field survey and sampling of stream bank soils along Little Hatchet Creek near the Gainesville Regional Airport to evaluate soil/sediment phosphorus.	Monitoring/Data Collection	Completed	2015	0	0	Newnans Lake Basin	\$5,235	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
486	Alachua County	NEW34	Floyd Acquisition	Newnans Lake. Alachua County. Land acquisition-Floyd parcel 1.41	Land Acquisition	Completed	2015	0	0	Newnans Lake Basin	\$50,501	Wild Spaces Public Place Surtax	Wild Spaces Public Place Surtax - \$0.00

				acres. To be managed as part of Newnans Lake Cypress Preserve.									
479	Alachua County	NEW36	Reduce phosphorus load to Newnans Lake from Little Hatchet Creek	Identify and prioritize cost effective restoration strategies to improve water quality in the headwaters of Newnans Lake. Perform pre-design studies focused phosphorus reduction in Little Hatchet Creek.	Study	Completed	2018	0	0	Newnans Lake Basin	\$130,000	DEP	DEP - \$0.00
487	Alachua County	NEW39	Newnans Lake Shoreline Sediments Nutrient Sampling	Newnans Lake. Conduct shoreline sampling of sediments to evaluate nutrient hotspots and chemical make up of surface sediments in an effort to better understand the sediment surface interactions along the Newnans Lake shoreline.	Monitoring/Data Collection	Completed	2020	0	0	Newnans Lake Basin	\$5,544	Not provided	Not provided - \$0.00
441	Alachua County	NEW40	Newnans Lake Improvement Initiative Phase I	Identify and prioritize cost effective restoration strategies to improve water quality in the headwaters of Newnans Lake. Perform pre-design studies focused phosphorus reduction in Little Hatchet Creek and Gum Root Swamp.	Study	Completed	2017	0	0	Newnans Lake Basin	\$456,000	DEP	DEP - \$0.00

470	Alachua County	NEW42	Newnans Lake Improvement Initiative (NLII) Phase II	The NLII Phase II project includes construction of a permeable reactive weir for Little Hatchet Creek and assessment of Hatchet Creek to locate potential areas for instream nutrient reduction treatment and construct 1 to 2 treatment weir structures.	Control Structure	Completed	2020	0	68	Orange Creek Basin	\$315,000	SJRWMD; DEP LF	SJRWMD - \$0.00; DEP LF - \$0.00
5428	Alachua County	NEW43	Raydient	Alachua County. Land acquisition. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation. Hatchet Creek, Little Hatchet Creek Basin.	Land Acquisition	Completed	2019	0	0	Newnans Lake Basin	\$727,310	Wild Spaces Public Places Sales Tax	Wild Spaces Public Places Sales Tax - \$727,310.00
5432	Alachua County	NEW44	Parcel - E	Fee Simple Conservation Land Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation. Bee Tree Creek, Saluda Swamp Drain, Hatchet Creek Basin.	Land Acquisition	Completed	2020	0	0	Newnans Lake Basin	\$3,371,104	Wild Spaces Public Places Sales Tax	Wild Spaces Public Places Sales Tax - \$3,371,104.00
5902	Alachua County	NEW46	Newnans Lake Treatment Wetland Feasibility Study	Project to assess the feasibility of a treatment wetland to address internal recycling of nutrients in Newnans Lake. Project will also investigate	Study	Completed	2020	0	0	Newnans Lake Basin	\$67,475	Alachua County	Alachua County - \$67,475.00

				treatment options such as rehydration of Gum Root Swamp and modification of the weir on Prairie Creek.									
7595	Alachua County	NEW48	Newnans Lake System Hydrologic Restoration Project	Hydrologic restoration of Hatchet Creek, it's floodplain and surrounding seepage wetlands, resulting in hydrologic and habitat improvements, flood resiliency, and pollutant load reductions.	Hydrologic Restoration	Planned	2027	0	0	Newnans Lake Basin	\$0	DEP	DEP - \$1,100,000.00
490	Alachua County	OCB02	Little Orange Creek Land Acquisition	Alachua County. Land acquisition-Little Orange Creek. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2012	0	0	Orange Creek Basin	\$1,775,000	Alachua County Fee Simple; Wild Spaces and Public Places Sales Tax; North American Wetland Act Grant; Alachua Conservation Trust	Alachua County Fee Simple - \$0.00; Wild Spaces and Public Places Sales Tax - \$0.00; North American Wetland Act Grant - \$0.00; Alachua Conservation Trust - \$0.00
7068	Alachua County	OCB08	Sherouse Acquisition	Fee Simple acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Underway	2024	0	0	Orange Creek Basin	\$0	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$0.00
473	Alachua County	OR02	Longleaf Flatwoods Preserve Land Acquisition	Alachua County. Land acquisition-Longleaf Flatwoods Preserve.	Land Acquisition	Completed	2003	0	0	Orange Lake Basin	\$2,191,500	Alachua County Forever Bond Proceeds; SJRWMD	Alachua County Forever Bond Proceeds - \$0.00; SJRWMD - \$0.00

393	Alachua County	OR08	Freddy Wood Land Tract Acquisition	Orange Lake. Land acquisition-Freddy Wood Tract. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2008	0	0	Orange Lake Basin	\$1,136,000	FRLPP Cost Share; Alachua County Forever Bond Proceeds	FRLPP Cost Share - \$0.00; Alachua County Forever Bond Proceeds - \$0.00
440	Alachua County	OR09	Rayonier Land Tract (River Styx Wetland)	River Styx. Land acquisition-Rayonier Tract River Styx. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2008	0	0	Orange Lake Basin	\$4,603,600	Alachua County Forever Bond Proceeds; SJRWMD Cost Share	Alachua County Forever Bond Proceeds - \$0.00; SJRWMD Cost Share - \$0.00
438	Alachua County	OR23	Barr Hammock, Levy Prairie, Ledwith Lake Land Acquisitions	Between Wacahoota Road, I-75, SR 121 and Marion County Line/ Land acquisition - Barr Hammock Levy Prairie Ledwith Lake.	Land Acquisition	Completed	2019	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	Private Cost-Share; Alachua County Forever Bond Proceeds; Wild Spaces Public Places Sales Tax; FTC; North American Wetlands Conservation Act; FRPP	Private Cost-Share - \$0.00; Alachua County Forever Bond Proceeds - \$0.00; Wild Spaces Public Places Sales Tax - \$4,026,614.00; FTC - \$0.00; North American Wetlands Conservation Act - \$0.00; FRPP - \$0.00
5429	Alachua County	OR35	Smith & Smith	Alachua County. Land donation from owner. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2019	0	0	Orange Lake Basin	\$0	Donation	Donation - \$0.00



				Orange Lake Drain Basin.									
5436	Alachua County	OR36	Stephens	Alachua County. Land donation from owner. No increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation. Orange Lake Drain Basin.	Land Acquisition	Completed	2020	0	0	Orange Lake Basin	\$0	Donation	Donation - \$0.00
5431	Alachua County	OR37	Franklin Crates	Fee Simple Land Conservation Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation. Drains into Tuscawilla Prairie.	Land Acquisition	Completed	2019	0	0	Orange Lake Basin	\$313,797	Wild Spaces Public Places Sales Tax	Wild Spaces Public Places Sales Tax - \$313,797.00
5437	Alachua County	OR38	Carr - Phase 1	Fee Simple Land Conservation Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2022	0	0	Orange Lake Basin	\$761,340	Wild Spaces Public Place II Surtax	Wild Spaces Public Place II Surtax - \$761,340.00
5903	Alachua County	OR41	White Pond	Fee Simple Land Conservation Acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2020	0	0	Orange Lake Basin	\$104,976	Wild Spaces Public Places Sales Tax	Wild Spaces Public Places Sales Tax - \$104,976.00

5905	Alachua County	OR42	General Land Acquisition	Fee Simple & Conservation Easement acquisition. No increase in surface runoff of pollutants due to land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Underway	2026	0	0	Orange Lake Basin	\$0	Wild Spaces Public Places II Surtax	Wild Spaces Public Places II Surtax - \$0.00
526	Alachua County	SWT18	Expanded Nutrient Monitoring Sweetwater Branch	Expanded nutrient monitoring of Sweetwater Branch to determine water quality and water level conditions in Sweetwater Branch on Paynes Prairie and Alachua Sink.	Monitoring/Data Collection	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$5,600	Alachua County	Alachua County - \$0.00
513	Alachua County	SWT22	Springhill Pond Vegetative Enhancement	Stormwater pond vegetative enhancement to demonstrate importance of vegetated buffers in preventing nonpoint source pollution and improving water quality.	Vegetated Buffers	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$7,500	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
514	Alachua County	SWT29	Inlet Protection Pilot Project, Sweetwater Branch	Assessment of stormwater drop inlet geotextile filtering devices at Florida Pest Control (impervious acreage 3.96 acres) to quantify sediments, particle sizes and pollutants.	Study	Completed	2007	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$2,000	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
481	Alachua County	SWT30	In-stream Bioassessments in the Hogtown Creek, Sweetwater Branch, Tumblin Creek, Little Hatchet	In-stream bioassessments of urban creeks for comparison with historical BioRecon data to	Monitoring/Data Collection	Completed	2010	0	0	Orange Creek Basin	\$68,375	FDOT District 2; Alachua County	FDOT District 2 - \$47,675.00; Alachua County - \$20,700.00

			Creek, Hatchet Creek, and Lake Forest Creek Watersheds	determine the current status of in-stream biological health.									
527	Alachua County	SWT31	Sweetwater Preserve	Paynes Prairie. Land acquisition- Sweetwater Preserve (north rim of Paynes Prairie) Benefits are no increase in surface runoff of pollutants because of land use change, continued aquifer recharge and ecosystem/habitat preservation.	Land Acquisition	Completed	2006	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$7,703,978	Alachua County Forever Bond Proceeds; FCT Cost Share	Alachua County Forever Bond Proceeds - \$0.00; FCT Cost Share - \$0.00
4542	Alachua County	SWT37	Sweetwater Preserve Trailhead Retrofit	Orange Creek Basin. This project will retrofit the existing parking area for the Sweetwater Preserve Trailhead with Low Impact Design (LID) stormwater best management practices (BMPs).	LID- Rain Gardens	Completed	2022	8	1	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$555,430	Alachua County; DEP	Alachua County - \$368,930.00; DEP - \$186,500.00
515	Alachua County	TUM18	Tumblin Basin Vegetative Enhancement	Public education workshop conducted to provide information to citizens about stormwater pond vegetative enhancement.	Education Efforts	Completed	2005	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$7,500	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
482	Alachua County	URBAN08-HOG	Alachua County Roads Street Sweeping	Urban Area Hogtown Creek Basin. Sweeping of Alachua County-maintained roads within urbanized area. Benchmark frequency for sweeping of	Street Sweeping	Ongoing	NA	70	38	Hogtown Creek Basin	\$0	Alachua County	Alachua County - \$0.00

				roads with curb and gutter is recurring 90-day cycle. Test calculations are attached. Based on the test calculations the									
483	Alachua County	URBAN08-NEW	Alachua County Roads Street Sweeping	Urban Area Newnans Lake Basin. Sweeping of Alachua County-maintained roads within urbanized area. Benchmark frequency for sweeping of roads with curb and gutter is recurring 90-day cycle. Test calculations are attached. Based on the test calculations, the	Street Sweeping	Ongoing	NA	116	63	Newnans Lake Basin	\$0	Alachua County	Alachua County - \$0.00
484	Alachua County	URBAN08-SWT	Alachua County Roads Street Sweeping	Urban Area Sweetwater Branch Basin. Sweeping of Alachua County-maintained roads within urbanized area. Benchmark frequency for sweeping of roads with curb and gutter is recurring 90-day cycle. Test calculations are attached. Based on the test calculations	Street Sweeping	Ongoing	NA	46	25	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	Alachua County	Alachua County - \$0.00
517	Alachua County	WAU01	Evaluation of Septic Systems Surrounding Lake Wauberg	Lake Wauberg Watershed. Includes identifying parcels with septic systems, conducting soil borings to check water table, and	Study	Completed	2005	0	0	Lake Wauberg Basin	\$15,000	FDOH	FDOH - \$0.00

				sampling for nutrients.									
573	City of Gainesville	ALACHUA15	Waterway Clean-up and Shore Restoration Programs	Volunteer based waterway clean-up and shore restoration projects in the Gainesville Urban Area. Includes removal of trash from local waterways as well as removal of invasive vegetation.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
503	City of Gainesville	ALACHUA16	Florida Friendly Landscaping Education Programs	Commercial and residential landscape education program.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0.00; Alachua County - \$0.00; City of Gainesville - \$0.00; FDOT District 2 - \$0.00
4520	City of Gainesville	GV01-AS	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	433	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0; Alachua County - \$0; City of Gainesville - \$0; FDOT District 2 - \$637,002
4521	City of Gainesville	GV01-NEW	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	294	33	Newnans Lake Basin	\$0	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0; Alachua County - \$0; City of Gainesville - \$0; FDOT District 2 - \$637,002
6299	City of Gainesville	GV02	Sweetwater Duck Pond Sediment Trap Maintenance	Upper Sweetwater Branch watershed. Maintenance of sediment trap at Duck Pond. Removal of	BMP Cleanout	Ongoing	NA	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville	City of Gainesville - \$8,000.00

				nutrients and sediment.									
7538	City of Gainesville	GV03-NEW	Brittany Estates Package Plant Decommission	Convert existing package plant facility to a lift station to connect to the existing central sewer system. Changed lead entity (was GRU) in 2020.	Decommission/Abandonment	Planned	2028	104	5	Newnans Lake Basin	\$850,000	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
7544	City of Gainesville	GV04	Gainesville Urban Area Street Sweeping Optimization and Assessment Tool for Pollutant Load Reduction	Gainesville Urban Area MS4 street sweeping study to determine local load reductions. This project may increase pollutant load reductions associated with street sweeping activities in Orange Creek and Santa Fe Basins.	Study	Underway	2026	0	0	Basinwide	\$120,000	Alachua County Stormwater Assessment; City of Gainesville Stormwater Management Utility	City of Gainesville Stormwater Management Utility - \$63,000.00; Alachua County Stormwater Assessment - \$42,000.00
574	City of Gainesville	HOG17	Fluvial Geomorphologic Assessment and Preliminary Restoration Plan	Northwest Gainesville. Study to determine source of excessive sedimentation in Hogtown Creek and is first step to develop preliminary plan to stabilize creek system.	Study	Completed	2003	0	0	Hogtown Creek Basin	\$107,200	206 USACE Program; SJRWMD Cost-Share Grant; City of Gainesville Stormwater Management Utility	206 USACE Program - \$0.00; SJRWMD Cost-Share Grant - \$0.00; City of Gainesville Stormwater Management Utility - \$0.00
575	City of Gainesville	HOG19	Sediment Removal	NW 8th Ave. Removal of excessive sediment at bridge. Benefits by reducing sediment being deposited in Loblolly floodplain.	Muck Removal/Restoration Dredging	Completed	2005	0	0	Hogtown Creek Basin	\$280,000	City of Gainesville Stormwater Management Utility Fee; FEMA	City of Gainesville Stormwater Management Utility Fee - \$0.00; FEMA - \$0.00
579	City of Gainesville	HOG29	Hydrodynamic Separator Number 4	Hydrodynamic Separator HOG29. Stormceptor unit installation and	Hydrodynamic Separators	Completed	2018	7	3	Hogtown Creek Basin	\$11,410	City of Gainesville Stormwater	City of Gainesville Stormwater Management

				operation in the 2-34 block of SW 23rd Terrace in Gainesville.								Management Utility Fee	Utility Fee - \$0.00
388	City of Gainesville	HOG30	Hydrodynamic Separator Number 6	Hydrodynamic Separator HOG30. Installation and operation of Vortex Unit #3000 in the 1300 block of NW 29th Road.	Hydrodynamic Separators	Completed	2018	6	2	Hogtown Creek Basin	\$29,211	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
588	City of Gainesville	HOG31	Hydrodynamic Separator Number 7	Hydrodynamic Separator HOG31. Installation and operation of Vortex Unit #11000 in the 1300 block of NW 29th Road.	Hydrodynamic Separators	Completed	2018	66	24	Hogtown Creek Basin	\$62,728	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
489	City of Gainesville	MSPERMIT01	City of Gainesville Water Pollution Prevention Program NPDES MS4 Permit	Urbanized area of Gainesville and Alachua County. City of Gainesville Water Pollution Prevention Program NPDES MS4 Permit.	Education Efforts	Ongoing	NA	0	0	Orange Creek Basin	\$2,940,174	City of Gainesville; Gainesville Clean Water Partnership	City of Gainesville - \$1,608,599.00; Gainesville Clean Water Partnership - \$0.00
475	City of Gainesville	NEW16	Duval Neighborhood Stormwater Park Land Acquisition	Duval Basin land acquisition.	Land Acquisition	Completed	Prior to 2008	0	0	Newnans Lake Basin	\$238,291	FCT; CDBG	FCT - \$140,412.00; CDBG - \$97,879.00
491	City of Gainesville	NEW19	Duval Stormwater Park	Duval Stormwater Park is located on NE 21st St. in Gainesville "Front Porch Community".	Regional Stormwater Treatment	Completed	2011	653	95	Newnans Lake Basin	\$891,609	City of Gainesville; FDOT; DEP; CDBG; FCT	City of Gainesville - \$0; FDOT - \$0; DEP - \$0; CDBG - \$0; FCT - \$1,130,000
454	City of Gainesville	NEW30	Lake Forest Creek Watershed Master Study	Lake Forest Creek watershed. Conduct a watershed master plan to determine projects to benefit the watershed	Study	Completed	2021	0	0	Newnans Lake Basin	\$300,000	City of Gainesville	City of Gainesville - \$300,000.00

				along with Newnans Lake.									
589	City of Gainesville	NEW35	Brittany Estates Lift Station Study	Feasibility study of project to convert existing package plant facility to a lift station to connect to the existing central sewer system. Changed lead entity (was GRU) in 2020. Includes I&I study.	Study	Underway	2025	0	0	Newnans Lake Basin	\$113,000	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$113,000.00
455	City of Gainesville	NEW41	Pleasant Acres Storm Sewer	Provides compensating treatment for redevelopment site. Benefits: Reduce sediment load and nutrient loads. Improve water quality.	Regional Stormwater Treatment	Completed	2016	0	0	Newnans Lake Basin	\$70,176	City of Gainesville Storm Water Management Utility Fee	City of Gainesville Storm Water Management Utility Fee - \$0.00
5442	City of Gainesville	NEW45	Little Hatchet Creek Retaining Wall and Stream Stabilization Design	Design and permitting of a retaining wall and stream bank stabilization near the runway of Gainesville Regional Airport.	Study	Completed	2021	0	0	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$102,058.25
5910	City of Gainesville	NEW45a	Little Hatchet Creek Retaining Wall and Stream Stabilization Construction	Construction of a retaining wall and stream bank stabilization near the runway of Gainesville Regional Airport.	Control Structure	Completed	2022	0	4,723	Newnans Lake Basin	\$1,181,400	FDOT; City of Gainesville Stormwater Management Utility Fee	FDOT - \$0.00; City of Gainesville Stormwater Management Utility Fee - \$0.00
456	City of Gainesville	SWT02	Depot Avenue Stormwater Park	Depot Avenue. 32-acre brownfield restoration site includes 11-acre wet detention pond developed within park. Reduce sediment load and nutrient loads.	Wet Detention Pond	Completed	2007	661	256	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$7,162,000	SJRWMD; Florida Legislature; FDOT District 2; City of Gainesville	SJRWMD - \$0; Florida Legislature - \$0; FDOT District 2 - \$0; City of Gainesville - \$5,027,500



587	City of Gainesville	SWT03	Duck Pond Restoration	NE 10th Avenue to NE 5th Avenue. Creek restoration project removed concrete channel and add sinuosity and wetland plants to 2,500-foot channel. Duck species replaced and existing pond deepened with addition of littoral zone. Two CDS units added.	Hydrodynamic Separators	Completed	2005	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$1,040,000	DEP 319; City of Gainesville	DEP 319 - \$0.00; City of Gainesville - \$60,000.00
586	City of Gainesville	SWT04	Spring Hill Stormwater Park	Springhill Community. 3.6-acre stormwater park designed to treat runoff from residential areas. Water quality improvement from wet detention.	Wet Detention Pond	Completed	2003	66	22	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$170,000	City of Gainesville	City of Gainesville - \$232,940.00
585	City of Gainesville	SWT24	Sweetwater Branch Watershed Management Plan Update and Land Acquisition	Sweetwater Branch Watershed. Study to identify and prioritize new water quality treatment projects and develop stream stabilization plan.	Study	Completed	2006	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$530,000	City of Gainesville Stormwater Management Utility Fee; EPA Grant	City of Gainesville Stormwater Management Utility Fee - \$0.00; EPA Grant - \$0.00
584	City of Gainesville	SWT33	NW 2nd Street Land Acquisition	Upper Sweetwater Branch Watershed. Land acquisition for future stormwater treatment. Future site of water quality improvement project.	Land Acquisition	Completed	2006	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$58,470	EPA	EPA - \$0.00
583	City of Gainesville	SWT34	NW 14th Avenue Land Acquisition	Upper Sweetwater Branch Watershed. Land acquisition for	Land Acquisition	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$57,600	EPA	EPA - \$0.00

				future stormwater treatment. Future site of water quality improvement project.									
457	City of Gainesville	SWT35	SE 19th Street, Rosewood Trash Trap Land Acquisition	Upper Sweetwater Branch Watershed. Land acquisition for future stormwater treatment. Future site of water quality improvement project.	Land Acquisition	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$4,135	EPA	EPA - \$0.00
458	City of Gainesville	SWT36	Southeast (SE) 9th Street, Rosewood Trash Trap	Upper Sweetwater Branch watershed. Stormwater Treatment facility. Water quality improvement project.	Catch Basin Inserts/Inlet Filter Cleanout	Completed	2009	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$249,042	DEP; City of Gainesville	DEP - \$124,521.00; City of Gainesville - \$124,521.00
4543	City of Gainesville	SWT38	Southeast (SE) 9th Street, Rosewood Trash Trap Maintenance	Upper Sweetwater Branch watershed. Stormwater Treatment facility maintenance. Water quality improvement project.	BMP Cleanout	Ongoing	NA	27	12	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville	City of Gainesville - \$500.00
4544	City of Gainesville	SWT39	Sweetwater Wetlands Sediment and Trash Trap Maintenance	Sweetwater Branch Watershed. Maintenance of sediment trap at Sweetwater Wetlands Park. Removal of nutrients and sediment before discharge into Sweetwater Wetlands Park.	BMP Cleanout	Ongoing	NA	11,384	3,893	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville	City of Gainesville - \$365,700.00

387	City of Gainesville	TUM01	SW 5th Avenue Basin	SW 5th Avenue. 4.8-acre site contains 2.5-acre wet detention pond for water quality improvement. Site is located next to 3.5-acre Tumblin Creek Park. Benefits are reduced sediment load and nutrient loads.	Wet Detention Pond	Completed	2003	157	20	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$1,147,818	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
492	City of Gainesville	TUM02	SW 11th Avenue Storm Sewer	1200 block SW 11th Avenue. Improvement to storm sewer system. Stabilize creek outfall. Reduces sediment load.	Stormwater System Upgrade	Completed	2004	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$88,000	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
386	City of Gainesville	TUM03	Tumblin Creek Watershed Management Plan Update	Tumblin Creek Watershed. Study to identify and prioritize new water quality treatment projects and low-impact development options. Pollutant loading model developed and pollutant load reduction projects have been identified and ranked.	Study	Completed	2007	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$246,426	City of Gainesville; College Park and University Heights Neighborhood Boards CRA	City of Gainesville - \$0.00; College Park and University Heights Neighborhood Boards CRA - \$660,000.00
542	City of Gainesville	TUM23	Tumblin Creek Sediment and Trash Trap	Tumblin Creek watershed. Stormwater sediment and trash trap. Water quality improvement project by removal of debris, sediment and potential pollutants.	Catch Basin Inserts/Inlet Filter Cleanout	Ongoing	NA	0	0	Basinwide	\$1,440,785	FDOT; City of Gainesville	FDOT - \$190,785.00; City of Gainesville - \$1,250,000.00

494	City of Gainesville	TUM24	City of Gainesville Rain and Weather Gauges	Gainesville Urban Area. Installation of three weather stations to monitor rain, temperature and other weather data at various points across Gainesville.	Monitoring/Data Collection	Ongoing	NA	0	0	Orange Creek Basin	\$225,000	City of Gainesville; Alachua County	City of Gainesville - \$135,000.00; Alachua County - \$90,000.00
519	City of Gainesville	TUM25	Tumblin Creek SW 9th Street Pipe Upgrade	Tumblin Creek watershed. Stormwater pipe upgrade. Replacement of existing older pipes to better convey stormwater to the headwaters of Tumblin Creek.	Stormwater System Upgrade	Completed	2017	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$920,000	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
496	City of Gainesville	TUM26	Tumblin Creek West 6th Street Pipe Upgrade	Tumblin Creek Watershed. Stormwater pipe upgrade. Replacement of existing older pipes to better convey stormwater to existing infrastructure leading to Tumblin Creek.	Stormwater System Upgrade	Completed	2018	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$300,000	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
4545	City of Gainesville	TUM33	Tumblin Creek Sediment and Trash Trap Maintenance	Tumblin Creek watershed stormwater sediment and trash trap maintenance.	BMP Cleanout	Ongoing	NA	2,078	2,018	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville	City of Gainesville - \$164,765.00
385	City of Gainesville	URBAN01-HOG	Street Sweeping	Street sweeping urban Gainesville Hogtown Creek Basin.	Street Sweeping	Ongoing	NA	3,044	1,849	Hogtown Creek Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
384	City of Gainesville	URBAN01-NEW	Street Sweeping	Street sweeping urban Gainesville Newnans Lake Basin.	Street Sweeping	Ongoing	NA	2,008	933	Newnans Lake Basin	\$0	City of Gainesville Stormwater	City of Gainesville Stormwater Management

												Management Utility Fee	Utility Fee - \$0.00
372	City of Gainesville	URBAN01-SWT	Street Sweeping	Street sweeping urban Gainesville Sweetwater Branch Basin.	Street Sweeping	Ongoing	NA	2,562	1,282	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
5439	City of Gainesville	URBAN01-TUM	Street Sweeping	Street sweeping urban Gainesville Tumblin Creek Basin.	Street Sweeping	Ongoing	NA	2,400	1,015	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
476	City of Gainesville	URBAN02	Hydrodynamic Separator Number 1	Hydrodynamic separator Sweetwater URBAN02. Installation and operation of baffle box ion SE 1st Avenue in downtown Gainesville for sediment collection.	Baffle Boxes- Second Generation	Completed	Prior to 2008	14	5	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$26,260	City of Gainesville Stormwater Management Utility Fee; EPA Grant; SJRWMD	City of Gainesville Stormwater Management Utility Fee - \$0.00; EPA Grant - \$0.00; SJRWMD - \$0.00
381	City of Gainesville	URBAN03	Hydrodynamic Separator Number 2	Hydrodynamic separator Sweetwater URBAN03. Installation and operation of Vortech Unit in 400-500 block of SE 2nd Place in downtown Gainesville.	Hydrodynamic Separators	Completed	Prior to 2008	10	4	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$25,200	City of Gainesville Stormwater Management Utility Fee; SJRWMD; EPA Grant	City of Gainesville Stormwater Management Utility Fee - \$0.00; EPA Grant - \$0.00; SJRWMD - \$0.00
540	City of Gainesville	URBAN07	Assessment Tool for MS4 Pollutant Load Reduction	UF study to determine load reductions for MS4 operations. Load reductions will be determined for baffle boxes and street sweeping.	Study	Completed	2007	0	0	Orange Creek Basin	\$13,000	FSA	FSA - \$0.00
582	City of Gainesville	URBAN09	Hydrodynamic Separator Number 3	Hydrodynamic separator Sweetwater URBAN09. Installation and	Hydrodynamic Separators	Completed	2018	12	4	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$11,410	City of Gainesville Stormwater Management Utility Fee;	City of Gainesville Stormwater Management Utility Fee -

				operation of Stormceptor unit in the 1300 block of SE 1st Street in downtown Gainesville.								EPA Grant; SJRWMD	\$0.00; EPA Grant - \$0.00; SJRWMD - \$0.00
562	City of Gainesville	URBAN10	Hydrodynamic Separator Number 5	Hydrodynamic separator Sweetwater URBAN10. CDS Units installed in the 700 block of NE West Blvd. and 100 block of NE East Blvd (Duck Pond area) in downtown Gainesville.	Hydrodynamic Separators	Completed	2018	24	9	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$145,180	City of Gainesville Stormwater Management Utility Fee; EPA Grant; SJRWMD	City of Gainesville Stormwater Management Utility Fee - \$0.00; EPA Grant - \$0.00; SJRWMD - \$0.00
563	City of Gainesville	URBAN13	Gainesville Urban Area Storm Sewer Geodatabase	Gainesville urban area storm sewer geodatabase.	Study	Completed	2019	0	0	Orange Creek Basin	\$542,500	Gainesville Clean Water Partnership; Alachua County; City of Gainesville; FDOT District 2	Gainesville Clean Water Partnership - \$0; City of Gainesville - \$374,325; Alachua County - \$168,175; FDOT District 2 - \$0
564	City of Gainesville	URBAN14-HOG	Ditch Maintenance	Ditch maintenance, urban Gainesville area Hogtown Creek Basin.	BMP Cleanout	Ongoing	NA	664	262	Hogtown Creek Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
577	City of Gainesville	URBAN14-NEW	Ditch Maintenance	Ditch maintenance, urban Gainesville area Newnans Lake Basin.	BMP Cleanout	Ongoing	NA	186	77	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
566	City of Gainesville	URBAN14-SWT	Ditch Maintenance	Ditch maintenance, urban Gainesville area Sweetwater Branch Basin.	BMP Cleanout	Ongoing	NA	282	109	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
561	City of Gainesville	URBAN15-HOG	Storm Drain Cleaning	Storm drain cleaning, urban Gainesville area	BMP Cleanout	Ongoing	NA	58	26	Hogtown Creek Basin	\$0	City of Gainesville Stormwater	City of Gainesville Stormwater Management

				Hogtown Creek Basin.								Management Utility Fee	Utility Fee - \$0.00
568	City of Gainesville	URBAN15-NEW	Storm Drain Cleaning	Storm drain cleaning, urban Gainesville area Newnans Lake Basin.	BMP Cleanout	Ongoing	NA	16	7	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
569	City of Gainesville	URBAN15-SWT	Storm Drain Cleaning	Storm drain cleaning, urban Gainesville area Sweetwater Branch Basin.	BMP Cleanout	Ongoing	NA	13	7	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
570	City of Gainesville	URBAN16-HOG	Stormwater Pond Maintenance	Stormwater pond maintenance, urban Gainesville area Hogtown Creek Basin.	BMP Cleanout	Ongoing	NA	57	21	Hogtown Creek Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
571	City of Gainesville	URBAN16-NEW	Stormwater Pond Maintenance	Stormwater pond maintenance, urban Gainesville area Newnans Lake Basin.	BMP Cleanout	Ongoing	NA	17	6	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
572	City of Gainesville	URBAN16-SWT	Stormwater Pond Maintenance	Stormwater pond maintenance, urban Gainesville area Sweetwater Branch Basin.	BMP Cleanout	Ongoing	NA	26	10	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
4546	City of Gainesville	URBAN17	Assessment Tool for MS4 Pollutant Load Reduction Update	Update of UF study to determine load reductions for MS4 operations. Load reductions determined for BMPs and street sweeping.	Study	Completed	2018	0	0	Orange Creek Basin	\$0	COG General Fund; COG SMU; In-kind staff hours	COG General Fund - \$0.00; COG SMU - \$0.00; In-kind staff hours - \$0.00
5908	City of Gainesville	URBAN18	Hydrodynamic Separator Number 8	Hydrodynamic separator. Newnans. Installation and operation of Suntree unit in the 700 block of	Hydrodynamic Separators	Completed	2011	37	12	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00

				NE 24th St in Gainesville.									
5909	City of Gainesville	URBAN19	Hydrodynamic Separator Number 9	Hydrodynamic separator. Newnans. Installation and operation of 4 tree box treatment units in the 800 Blk NE 19th Ter. in Gainesville.	Hydrodynamic Separators	Completed	2012	5	1	Newnans Lake Basin	\$0	City of Gainesville Stormwater Management Utility Fee	City of Gainesville Stormwater Management Utility Fee - \$0.00
4522	City of Hawthorne	HAWTHORNE01-LOCH	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	105	12	Lochloosa Lake Basin	\$0	Not provided	Not provided - \$0.00
5907	City of Hawthorne	HAWTHORNE02-OCB	WWTF AWT Upgrade & Expansion	Design is complete, and this project is shovel ready. The project involves expanding and upgrading the existing WWTF's aged and deteriorating components to meet AWT standards in order to accommodate City growth and remove excess nutrients from the BMAP.	WWTF Upgrade	Planned	2026	1,230	123	Orange Creek Basin	\$33,674,400	SJRWMD Cost-Share Grant; DEP; DEP Springs AWS	SJRWMD Cost-Share Grant - \$1,000,000.00; DEP - \$32,674,400.00; DEP Springs AWS - \$0.00
4547	City of Waldo	WALDO01-NEW	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	10	1	Newnans Lake Basin	\$0	Not provided	Not provided - \$0.00
578	DEP	LOCH07	Ground Water - Surface Water Interaction Study Lochloosa Lake Area, Alachua and Marion Counties, Florida	Study of ground water pathways for nutrients to enter Lochloosa and Orange Lakes. Field investigation determined levels of TP and TN in different aquifers land use	Study	Completed	2007	0	0	Lochloosa Lake Basin	\$64,000	Federal Funds	Federal Funds - \$0.00



				categories. Radon studies estimated ground water seepage into Lochloosa Lake.									
581	DEP	NEW08	Ground Water-Surface Water Interaction Study, Newnans Lake	Newnans Lake watershed. Study examined ground water pathways through which nutrients enter Newnans Lake. Improve understanding of groundwater's role in contributing nutrients to Newnans Lake.	Study	Completed	2008	0	0	Newnans Lake Basin	\$7,500	Not provided	Not provided - \$0.00
380	DEP	NEW18	Depth to Top of Hawthorn Formation Investigation	Boreholes drilled at 24 sites in watershed to measure depth from land surface to the top of the Hawthorn formation. Depth determined by both observation and gamma ray logging. Samples of phosphatic rock were analyzed for phosphate content.	Study	Completed	2010	0	0	Newnans Lake Basin	\$5,000	Federal Funds	Federal Funds - \$0.00
364	DEP	OCB01	Community Based Social Marketing Workshop	Orange Creek Basin. Three-day workshop composed of 1-day Introductory Workshop and 2-day Advanced Workshop to teach principles of social marketing and how to foster sustainable behavior.	Education Efforts	Completed	2007	0	0	Orange Creek Basin	\$25,000	EPA 319; Local Support	EPA 319 - \$0.00; Local Support - \$0.00

379	FDACS	NUTRIENT06	BMP Manual Development - Cow/Calf	Marion County primarily; Alachua County. Development and rule adoption of Cow/Calf BMP manual.	Agricultural BMPs	Completed	2009	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
378	FDACS	NUTRIENT07	BMP Manual Development - Nurseries	Marion County primarily; Alachua County. Development and rule adoption of Container Nursery BMP manual. However, number of container nursery operations in this basin is minimal.	Agricultural BMPs	Completed	2014	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
377	FDACS	NUTRIENT08	BMP Manual Development - Sod	Marion County primarily; Alachua County. Development and rule adoption of Sod BMP manual. However, number of sod operations in this basin is minimal.	Agricultural BMPs	Completed	2008	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
4839	FDACS	NUTRIENT10	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 DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	0	257	Orange Lake Basin	\$0	FDACS	FDACS - \$0.00

6385	FDACS	NUTRIENT11	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 DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	3	0	Lake Wauberg Basin	\$0	FDACS	FDACS - \$0.00
6386	FDACS	NUTRIENT12	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 DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	520	41	Lochloosa Lake Basin	\$0	FDACS	FDACS - \$0.00
6387	FDACS	NUTRIENT13	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 DEP spreadsheet loading tool which will be	Agricultural BMPs	Ongoing	NA	121	11	Newnans Lake Basin	\$0	FDACS	FDACS - \$0.00

				revised following the SJRWMD 2028 model update.									
6388	FDACS	NUTRIENT14	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 DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	432	49	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	FDACS	FDACS - \$0.00
6389	FDACS	NUTRIENT15	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 DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.	Agricultural BMPs	Ongoing	NA	0	0	Orange Creek Basin	\$0	FDACS	FDACS - \$0.00
6390	FDACS	NUTRIENT16	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	Agricultural BMPs	Ongoing	NA	0	0	Hogtown Creek Basin	\$0	FDACS	FDACS - \$0.00

				on FDACS December 2022 Enrollment and DEP spreadsheet loading tool which will be revised following the SJRWMD 2028 model update.									
376	FDACS	OR05	BMP Manual Development - Vegetable and Agronomic Crop	Marion County primarily; Alachua County. Development and rule adoption of Row Crop BMP manual. However, row crop acreage in this basin is minimal.	Agricultural BMPs	Completed	2015	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
375	FDACS	OR06	BMP Manual Development - Equine	Marion County primarily; Alachua County. Development and rule adoption of Equine BMP manual.	Agricultural BMPs	Completed	2012	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
371	FDACS	OR07	BMP Manual Development - Specialty Fruit and Nut	Marion County primarily; Alachua County. Development and rule adoption of Specialty Fruit and Nut BMP manual.	Agricultural BMPs	Completed	2011	0	0	Orange Creek Basin	\$0	NA	NA - \$0.00
535	FDOT District 2	FDOT02-LOCH	Education Outreach	Lochloosa Lake state roads and rights-of-way. Education outreach.	Education Efforts	Ongoing	NA	202	20	Lochloosa Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
536	FDOT District 2	FDOT02-NEW	Education Outreach	Newnans Lake state roads and rights-of-ways. Education outreach.	Education Efforts	Ongoing	NA	42	4	Newnans Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
537	FDOT District 2	FDOT02-ORANGE	Education Outreach	Orange Lake state roads and rights-of-way.	Education Efforts	Ongoing	NA	0	1	Orange Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00

				Education outreach.									
538	FDOT District 2	HOG18	Sediment Removal	NW 34th St. and University Ave. Removal of excessive sediment at bridges. Construction of 4 sediment sump compartments per management plan. Reduces sediment being deposited in Sugarfoot Prairie.	Muck Removal/Restoration Dredging	Completed	2005	0	0	Hogtown Creek Basin	\$2,374,166	Florida Legislature	Florida Legislature - \$0.00
539	FDOT District 2	HOG20	39th Ave Basin Rehabilitation	NW 39th Ave from I-75 to airport. Dry retention pond modified to function as wet detention pond. Design modification needed to address high water table. Reduces sediment load and nutrient loads.	Wet Detention Pond	Completed	2004	514	140	Hogtown Creek Basin	\$1,432,976	Florida Legislature	Florida Legislature - \$0.00
547	FDOT District 2	HOG21	Widening of SR 26A	Urban Gainesville Area. Widening of SR 26A with new stormwater runoff treatment. Pollutant removal by treatment of stormwater runoff from SR 26A. Addition of dry detention pond for treatment of stormwater runoff.	Dry Detention Pond	Completed	2006	63	28	Hogtown Creek Basin	\$3,982,382	Florida Legislature	Florida Legislature - \$0.00
541	FDOT District 2	LOCH04	Widening of SR 20 from 2 Lane to 4 Lane	Eastern urban area of Gainesville and Alachua County. Widening of SR 20 from 2 lane to 4 lane road with treatment. Three	Wet Detention Pond	Completed	2006	1,450	136	Lochloosa Lake Basin	\$10,763,788	Florida Legislature	Florida Legislature - \$0.00

				wet detention ponds installed to treat stormwater runoff along with more than 100 ditch blocks to capture runoff.									
565	FDOT District 2	LOCH12	FDOT Fertilizer Cessation-Lochloosa	State maintained roadways and rights-of-way. Routine fertilizer use was stopped to reduce nutrient loading in stormwater runoff from state-maintained roadways. Eliminates historical practice of fertilizing 15-foot strip adjacent to paved surface.	Fertilizer Cessation	Completed	2008	3,310	666	Lochloosa Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
545	FDOT District 2	NEW04	Widening of SR 20 from 2 Lane to 4 Lane	Eastern urban area of Gainesville and Alachua County. Widening of SR 20 from 2-lane to 4-lane road with treatment. Three wet detention ponds installed to treat stormwater runoff along with more than 100 ditch blocks to capture runoff.	Grass swales with swale blocks or raised culverts	Completed	2006	2,005	198	Newnans Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
493	FDOT District 2	NEW38	FDOT Fertilizer Cessation-Newnans	State maintain-ed roadways and rights-of-way. Routine fertilizer use was stopped to reduce nutrient loading in stormwater runoff from state-maintained roadways. Eliminates historical practice of fertilizing 15-	Fertilizer Cessation	Completed	2008	1,285	248	Newnans Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00

				foot strip adjacent to paved surface.									
534	FDOT District 2	OR22	FDOT Fertilizer Cessation-Orange	State maintain-ed roadways and rights-of-way. Routine fertilizer use was stopped to reduce nutrient loading in stormwater runoff from state-maintained roadways. Eliminates historical practice of fertilizing 15foot strip adjacent to paved surface.	Fertilizer Cessation	Completed	2008	257	54	Orange Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
543	FDOT District 2	URBAN04-HOG	State Roads Street Sweeping	Urban Area Hogtown Creek Basin. Street sweeping of state roads in urbanized areas that have curb and gutter. Includes US 441, SR 26, SR 20, SR 24, SR 128, SR 222, and SR 121.	Street Sweeping	Ongoing	NA	222	142	Hogtown Creek Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
544	FDOT District 2	URBAN04-NEW	State Roads Street Sweeping	Urban Area Newnans Lake Basin. Street sweeping of state roads in urbanized areas that have curb and gutter. Includes US 441, SR 26, SR 20, SR 24, SR 128, SR 222, and SR 121.	Street Sweeping	Ongoing	NA	124	79	Newnans Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
560	FDOT District 2	URBAN04-SWT	State Roads Street Sweeping	Urban Area Paynes Prairie Basin. Street sweeping of state roads in urbanized areas that have curb and gutter. Includes US 441, SR 26, SR 20, SR	Street Sweeping	Ongoing	NA	76	48	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	Florida Legislature	Florida Legislature - \$0.00



				24, SR 128, SR 222, and SR 121.									
546	FDOT District 2	URBAN11	FDOT Storm Sewer Geodatabase - Alachua County	Alachua County. Maintain a comprehensive geodatabase for FDOT-related storm sewer system data in Alachua County. Coordinate with COG and AC Public Works for data compatibility.	Monitoring/Data Collection	Ongoing	NA	0	0	Orange Creek Basin	\$272,375	Florida Legislature	Florida Legislature - \$0.00
533	FDOT District 2	WAU02	FDOT Fertilizer Cessation-Wauberg	State maintained roadways and rights-of-way. Routine fertilizer use was stopped to reduce nutrient loading in stormwater runoff from state-maintained roadways. Eliminates historical practice of fertilizing 15-foot strip adjacent to paved surface.	Fertilizer Cessation	Completed	2008	164	34	Lake Wauberg Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
4519	FDOT District 5	FDOT05-ORANGE	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	0	1	Orange Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
548	FDOT District 5	OR26	Fertilizer Cessation	District 5 maintained roads within the Orange Creek Basin BMAP limits (SR 200, SR 25).	Fertilizer Cessation	Completed	2008	2,707	2,707	Orange Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00
549	FDOT District 5	OR27	Swales	District 5 maintained roads within the Orange Creek Basin BMAP limits (I-75, SR 200, SR 25). Swale Systems which capture runoff	Grass swales without swale blocks or raised culverts	Completed	2016	1,691	227	Orange Lake Basin	\$0	Florida Legislature	Florida Legislature - \$0.00

				and enhance infiltration.									
429	FFS	NUTRIENT03	Silviculture BMP Implementation and Compliance	Silviculture BMPs are applied to industrial, public, and private forestlands. Developed in the 1970s as the minimum standards for protecting water quality on ongoing forestry activities. Projects include surveys, training, and technical assistance.	Agricultural BMPs	Ongoing	NA	0	0	Basinwide	\$0	Not provided	Not provided - \$0.00
550	FWC	AS19	Paynes Prairie Exotic Plant Control	Paynes Prairie. Control of exotic plants including Triadica sebifera, Melia azedarach, and Colocasia esculenta on 250 acres. Enhance success of native plants.	Exotic Vegetation Removal	Completed	2013	0	0	Basinwide	\$15,285	FWC	FWC - \$15,285.00
551	FWC	LOCH08	Lochloosa Lake Annual Aquatic Plant Maintenance Program	Lochloosa Lake. Annual maintenance program for control of non-native species hydrilla, water hyacinth, wild taro, and water lettuce. Protects native plant communities and reduces organic muck buildup from growth of exotic species.	Exotic Vegetation Removal	Ongoing	NA	0	0	Lochloosa Lake Basin	\$0	IPM Cooperative Aquatic Plant Management Program; FWC	IPM Cooperative Aquatic Plant Management Program - \$0.00; FWC - \$0.00
552	FWC	LOCH10	Littoral Zone Planting 2009	Lochloosa Lake littoral zone planting of 5,000 Paspalidium geminatum and 5,000 Schoenoplectus	SAV Planting	Completed	2009	0	0	Lochloosa Lake Basin	\$3,750	FWC	FWC - \$3,750.00

				californicus. Enhance aquatic habitat, stabilize bottom, and reduce resuspension of sediment.									
553	FWC	LOCH11	Cross Creek Exotic Plant Control	Cross Creek. Removal of exotic trees including Triadica sebifera. Improves aquatic habitat.	Exotic Vegetation Removal	Completed	2011	0	0	Orange Lake Basin	\$6,082	FWC	FWC - \$6,082.00
554	FWC	NEW11	Newnans Lake Planting-Fiscal Year (FY) 2005-06	Newnans Lake east shore, south of Windsor ramp. Transplant 90,000 maidencane, knotgrass and giant bulrush plants (30,000 of each species) in areas where littoral habitat is sparse.	SAV Planting	Completed	2006	0	0	Newnans Lake Basin	\$19,500	FWC	FWC - \$19,500.00
399	FWC	NEW12	Newnans Lake Planting-FY 2006-07	Newnans Lake east shore, south of Windsor ramp. Transplant 20,000 maidencane, 20,000 knotgrass, and 10,000 giant bulrush plants in areas where littoral habitat is sparse.	SAV Planting	Completed	2007	0	0	Newnans Lake Basin	\$11,000	FWC	FWC - \$11,000.00
555	FWC	NEW13	Newnans Lake Herbicide	Newnans Lake east shore, near Windsor ramp. Herbicide control of tussocks (pennywort, Scirpus cubensis, cupscale). The FWC removed dense mats of herbaceous tussock in order to promote establishment of	Wetland Restoration	Completed	2006	0	0	Newnans Lake Basin	\$1,000	FWC	FWC - \$1,000.00

				beneficial SAV and rooted emergent species.									
394	FWC	NEW14	Newnans Lake Planting-FY 2007-08	Newnans Lake east shore. Transplant 20,000 maidencane, 30,000 knotgrass, and 20,000 giant bulrush plants in areas where littoral habitat is sparse. Promotes establishment of beneficial vegetation in areas where habitat is sparse.	SAV Planting	Completed	2008	0	0	Newnans Lake Basin	\$21,000	FWC	FWC - \$21,000.00
395	FWC	NEW15	Newnans Lake Annual Aquatic Plant Maintenance Program	Newnans Lake, Alachua County. Annual herbicide maintenance program for control of non-native species hydrilla, water hyacinth, and water lettuce. Protects native plant communities and reduces organic muck buildup from growth of exotic species.	Exotic Vegetation Removal	Ongoing	NA	0	0	Newnans Lake Basin	\$0	IPM Cooperative Aquatic Plant Management Program; FWC	IPM Cooperative Aquatic Plant Management Program - \$0.00; FWC - \$0.00
437	FWC	NEW24	Littoral Zone Planting 2008	Newnans Lake. Planting of 5,000 Paspalidium geminatum and 3,000 Schoenoplectus californicus.	Shoreline Stabilization	Completed	2008	0	0	Newnans Lake Basin	\$3,000	FWC	FWC - \$3,000.00
436	FWC	NEW25	Littoral Zone Planting 2009	Newnans Lake. Planting of 7,500 Paspalidium geminatum.	Shoreline Stabilization	Completed	2009	0	0	Newnans Lake Basin	\$2,250	FWC	FWC - \$2,250.00
435	FWC	NEW26	Littoral Zone Planting and Management 2011	Newnans Lake planting of 5,000 Paspalidium geminatum and management with	Shoreline Stabilization	Completed	2011	0	0	Newnans Lake Basin	\$1,900	FWC	FWC - \$1,900.00

				herbicide of planting sites for pickerel weed and cupscale tussocks in habitat enhancement areas.									
434	FWC	NEW27	Littoral Zone Planting 2012	Newnans Lake planting of 6,000 Paspalidium geminatum.	Shoreline Stabilization	Completed	2012	0	0	Newnans Lake Basin	\$2,280	FWC	FWC - \$2,280.00
396	FWC	OR11	Orange Lake Mechanical Scraping	Selected areas of Orange Lake. Mechanical scraping of muck from selected areas of Orange Lake. Muck disposed of upland or deposited on in-lake island. Restores fish spawning substrate.	Muck Removal/Restoration Dredging	Completed	2002	0	0	Orange Lake Basin	\$648,403	FWC	FWC - \$648,403.00
433	FWC	OR12	Orange Lake Frog's-bit Control	Northern sections of Orange Lake. Herbicide control of floating mats of frog's-bit in northern sections of Orange Lake. Restores deep marsh habitat.	Exotic Vegetation Removal	Completed	2005	0	0	Orange Lake Basin	\$31,500	FWC	FWC - \$31,500.00
397	FWC	OR13	Orange Lake Tussock Control	Northern sections of Orange Lake. Mechanical shredding of tussocks in north portion of Orange Lake. Mechanically shred acres of tussocks. Restores deep marsh habitat.	Wetland Restoration	Completed	2005	0	0	Orange Lake Basin	\$146,057	FWC	FWC - \$146,057.00
418	FWC	OR14	Orange Lake Tussock Harvesting	Essen Run, southeast section of Orange Lake. Mechanical harvesting of tussocks. Harvest	Aquatic Vegetation Harvesting	Completed	2005	0	0	Orange Lake Basin	\$346,500	FWC	FWC - \$346,500.00

				36 acres of tussocks from Orange Lake with upland disposal. Restores deep marsh habitat. Estimated 177,428 lbs TN and 3,836 lbs TP removal.									
431	FWC	OR15	Orange Lake Floating Tussock Control	Orange Lake. Control of floating tussocks by shredding. Provides for restoration of deep marsh habitat, protection of established emergent vegetation, and navigation. Improves fish and wildlife habitat and public recreation and navigation.	Wetland Restoration	Completed	2005	0	0	Orange Lake Basin	\$2,252,000	DEP Cooperative Aquatic Plant Management Program	DEP Cooperative Aquatic Plant Management Program - \$0.00
445	FWC	OR16	Orange Lake Annual Aquatic Plant Maintenance Program	Orange Lake. Annual maintenance program for control of non-native species hydrilla, water hyacinth, wild taro, and water lettuce. Protects native plant communities and reduces organic muck buildup from growth of exotic species.	Exotic Vegetation Removal	Ongoing	NA	0	0	Orange Lake Basin	\$0	IPM Cooperative Aquatic Plant Management Program; FWC	IPM Cooperative Aquatic Plant Management Program - \$0.00; FWC - \$0.00
556	FWC	OR17	Cypress Strand Planting	Orange Lake-Essen Run. A total of 1,500 bald cypress, 300 red maple and 200 Carolina ash were planted at two sites totaling 3.5 acres. Stabilizes	Wetland Restoration	Completed	2009	0	0	Orange Lake Basin	\$7,109	FWC; ACEPD; Marion County	FWC - \$7,109.00; ACEPD - \$0.00; Marion County - \$0.00

				shoreline and provides forested wetland fish and wildlife habitat.									
557	FWC	OR18	Planting of Wetland Trees	Planting of 175 trees comprising Taxodium distichum, Nyssa sylvatica, and Fraxinus caroliniana in littoral zone of Orange Lake. Stabilizes shoreline and provides forested wetland fish and wildlife habitat. Provides vegetated buffer to adjacent upland.	Wetland Restoration	Completed	2012	0	0	Orange Lake Basin	\$1,225	FWC	FWC - \$1,225.00
558	FWC	OR19	Exotic Tree Control	Removal of exotic trees from littoral zone of Orange Lake including Triadica sebifera and Melia azedarach. Stabilizes shoreline and provides forested wetland fish and wildlife habitat. Also provides vegetated buffer to adjacent upland.	Exotic Vegetation Removal	Completed	2011	0	0	Orange Lake Basin	\$6,082	FWC	FWC - \$6,082.00
383	FWC	OR20	Orange Lake- Essen Run Deep Marsh Restoration	Orange Lake- Essen Run. Removal of floating vegetation and organic sediment (tussocks) to improve DO and restore deep marsh/SAV habitats. Removal of nutrients from aquatic plants and organic sediment. Estimated	Aquatic Vegetation Harvesting	Completed	2014	0	0	Orange Lake Basin	\$490,523	FWC	FWC - \$490,523.00

				310,500 lb TN and 6,713 lb TP removal.									
398	FWC	OR21	Orange Lake-Rookery Island Enhancement	Orange Lake. Mechanical shredding tussocks from perimeter of colonial wading bird colonies to improve suitability of nesting habitat, improve dissolved oxygen within the water column and allow sunlight to penetrate for SAV.	Wetland Restoration	Completed	2015	0	0	Orange Lake Basin	\$205,000	FWC	FWC - \$205,000.00
559	FWC	OR24	Orange Lake / Cypress Island Shallow/Deep Marsh Restoration	The landowner adjacent to this site received a cost-share grant from the U.S. Fish and Wildlife Service Partners for Wildlife program to control woody shrub encroachment into herbaceous marsh zone during and extended drawdown.	Wetland Restoration	Completed	2016	0	0	Orange Lake Basin	\$120,000	FWC	FWC - \$120,000.00
495	FWC	OR25	Establishing Corridors between Shallow and Deep Marsh for Fish and Wildlife and Public Access	Orange Lake. Reduce floating vegetation and dense shrub canopies to improve connectivity among ecotones from open water to near shore wetlands; improves dissolved oxygen concentrations.	Wetland Restoration	Completed	2016	0	0	Orange Lake Basin	\$108,000	FWC	FWC - \$108,000.00



427	FWC	OR28	Orange Lake Habitat Enhancement Site Maintenance	Orange Lake. Control dense plant growth and tussocks at sites where previous habitat enhancement work has been done. Maintain beneficial rooted emergent and Submersed Aquatic Vegetation with good connectivity between limnetic and littoral habitats.	Wetland Restoration	Completed	2022	0	0	Orange Lake Basin	\$0	FWC	FWC - \$75,000.00
390	FWC	OR29	Orange Lake Woody Shrub Management and Shallow Marsh Reclamation	Orange Lake. Restore shallow herbaceous marsh habitat by controlling encroachment of woody shrubs and tree covered tussocks from near-shore areas until these habitat types are within the ranges prescribed by FWC Orange Lake Habitat Management Plan.	Wetland Restoration	Underway	2030	0	0	Orange Lake Basin	\$300,000	FWC	FWC - \$300,000.00
391	FWC	OR30	Orange Creek Basin Littoral Vegetation Mapping	Orange Creek Basin Lakes. Aerial photography and GIS analysis of wetland and aquatic vegetation coverage. Data used to assess habitat condition and determine management needs as prescribed by FWC Habitat Guidelines. Ongoing-recurs every 3 years.	Study	Completed	2020	0	0	Orange Lake Basin	\$57,634	FWC	FWC - \$57,634.00

5438	FWC	OR39	Orange Lake-Heagy Burry Deep Marsh Restoration	Removal of floating vegetation and organic sediment (tussocks) to improve DO and restore deep marsh/SAV habitats. Removal of nutrients associated with aquatic plants and organic sediment. Estimated 399,173 lbs TN and 8,669 lbs TP removed.	Aquatic Vegetation Harvesting	Completed	2019	0	0	Orange Lake Basin	\$517,845	FWC	FWC - \$517,845.00
402	GRU	AS03	Main Street Water Reclamation Facility Reuse System	Main Street to Depot Avenue within City of Gainesville. Design & construction of 4,910 foot 24-inch reclaimed water main from Main Street WRF to Depot Avenue. Benefits: Remove nutrient loading from Alachua Sink.	WWTF Diversion to Reuse	Completed	2002	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$587,288	SJRWMD; GRU	SJRWMD - \$100,000.00; GRU - \$487,288.00
576	GRU	AS05	Feasibility Analysis of Sweetwater Branch Sheet flow Restoration Project at Paynes Prairie Preserve State Park, Alachua County, Florida	Sweetwater Branch at Paynes Prairie. Assess technical and economic feasibility of restoring historic sheet flow by diverting flow from Alachua Sink. Determine allowable nutrient concentrations and loading to Paynes Prairie.	Study	Completed	2006	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$25,000	City of Gainesville; GRU; DEP Parks and Recreation	City of Gainesville - \$0; GRU - \$0; DEP Parks and Recreation - \$25,000
462	GRU	AS10	Main Street Water Reclamation Facility Future Water Reuse	Design, permitting, and construction of upgrades for delivering public access to reclaimed water	WWTF Diversion to Reuse	Completed	2007	612	44	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$1,548,000	GRU Ratepayers	GRU Ratepayers - \$90,000.00

				from Main Street WRF.									
400	GRU	AS11	Alachua Sink Intensive Study and Main Street Water Reclamation Facility Water Reuse Feasibility	Alachua Sink/Sweetwater Branch. Intensive water quality study to provide better understanding of the nutrient loading to Alachua Sink and evaluation of the modeling utilized in the TMDL and to determine reuse feasibility.	Monitoring/Data Collection	Completed	2008	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$565,519	GRU	GRU - \$565,519.00
463	GRU	AS13	GRU Reclaimed Water Master Plan	City of Gainesville and Alachua County. Strategic planning effort to evaluate future reclaimed water alternatives that will impact options for meeting TMDL. Expanded reuse will reduce nutrient loading to Alachua Sink.	Study	Completed	2007	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$130,106	GRU	GRU - \$130,106.00
580	GRU	AS15	Paynes Prairie Sheet flow Restoration Conceptual Plan	Paynes Prairie. Develop conceptual plan and estimate of costs for proposed Paynes Prairie Restoration Project. Project to proceed with approval of all regulatory agencies. Provides plan to meet TMDL through cooperative treatment alternatives.	Study	Completed	2007	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$29,500	GRU; City of Gainesville	GRU - \$0.00; City of Gainesville - \$29,500.00

464	GRU	AS16	Paynes Prairie Sheetflow Restoration Evaluation of Main Street Water Reclamation Facility Upgrades	Paynes Prairie. Evaluate Main Street WRF treatment options and off line wetland performance and sizing in conjunction with proposed Paynes Prairie Sheetflow Restoration Project.	WWTF Upgrade	Completed	2007	0	22,671	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$2,002,632	GRU	GRU - \$2,002,632.00
401	GRU	AS18	Paynes Prairie Sheetflow Restoration Project	Paynes Prairie Sheetflow Restoration Project is 125-acre off-line wetland that reduces excess nutrients from Sweetwater Branch and achieves TMDL reduction required for City's (wastewater and stormwater utilities) for Alachua Sink.	Hydrologic Restoration	Completed	2014	52,825	3,359	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$23,300,000	Stormwater Utility and Wastewater Fees; Florida Legislature; SJRWMD; FDOT; DEP 319; FWC; Recreational Trails	Stormwater Utility and Wastewater Fees - \$16,357,745; Florida Legislature - \$500,000; SJRWMD - \$1,355,869; FDOT - \$666,000; DEP 319 - \$2,506,270; FWC - \$500,000; Recreational Trails - \$200,001
465	GRU	BACTERIA05	Microbial Source Tracking (MST) Study	Gainesville urban creeks within GRU wastewater collection system service area (115 square miles). MST study to better understand the relative contributions of various sources of fecal pollution in the creeks.	Monitoring/Data Collection	Completed	2007	0	0	Bacteria Projects - Tumblin Creek/ Sweetwater Branch/ Hogtown Creek Basins	\$419,000	GRU	GRU - \$419,000.00
466	GRU	BACTERIA07	Inflow and Infiltration Project - Phases I, II and III/ Ongoing Work	GRU wastewater collection system service area (115 square miles) including urban creek watersheds. I&I Project.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	Orange Creek Basin	\$4,700,000	GRU	GRU - \$4,700,000.00

417	GRU	BACTERIA08	Slip Lining Projects	GRU wastewater collection system service area (115 square miles) including urban creek watersheds. Trenchless restoration of City of Gainesville's wastewater collection system through slip lining.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	Orange Creek Basin	\$0	GRU	GRU - \$0.00
403	GRU	BACTERIA09	GRU Lift Station Annual Operation and Maintenance	GRU wastewater collection system service area (115 square miles) including urban creek watersheds. Maintenance of City of Gainesville's wastewater collection system to maintain system integrity of lift stations.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	Orange Creek Basin	\$4,300,000	GRU	GRU - \$4,300,000.00
389	GRU	BACTERIA10	GRU Wastewater System Capital Projects	GRU wastewater collection system service area (115 square miles) including urban creek watersheds. Capital improvements to the City of Gainesville wastewater treatment and collection system.	WWTF Upgrade	Completed	Prior to 2008	0	0	Orange Creek Basin	\$227,801,548	GRU	GRU - \$22,084,148.00
405	GRU	BACTERIA11	GRU Wastewater Collection System Annual Rehabilitation and Replacement	GRU wastewater collection system service area (115 square miles) including urban creek watersheds. Rehabilitation and replacement of City of Gainesville's wastewater collection system. Minimizes	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	Orange Creek Basin	\$8,000,000	GRU	GRU - \$8,000,000.00

				possibility of wastewater release.									
6305	GRU	GRU01	MSWRF Capacity & Renewal Upgrade	This project will upgrade and replace several major components at MSWRF. These will include headworks, master lift station, transfer pumping station, new electrical system, and odor control.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Underway	2026	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$50,000,000	DEP; GRU Ratepayers	DEP - \$22,500,000.00; GRU Ratepayers - \$27,500,000.00
7057	GRU	GRU02a	OSTDS Phase Out - 2017-2023	Abandoned 1 OSTDS attributing to the Newnans Lake watershed and connected to GRUs sanitary sewer system, reducing fecal coliform and nutrient loading. See also project number GRU02b.	OSTDS Phase Out	Completed	2023	11	0	Newnans Lake Basin	\$500,000	SJRWMD; GRU; Homeowner Contribution	SJRWMD - \$173,000.00; GRU - \$327,000.00; Homeowner Contribution - \$0.00
7164	GRU	GRU02b	OSTDS Phase Out - 2017-2023	Abandoned 28 OSTDS and connected them to GRUs sanitary sewer system, reducing fecal coliform and nutrient loading.	OSTDS Phase Out	Completed	2023	275	0	Basinwide	\$0	SJRWMD; GRU; Homeowner Contribution	SJRWMD - \$173,000.00; GRU - \$327,000.00; Homeowner Contribution - \$0.00
474	GRU	HOG32	Hogtown Creek Improvements	Abandon one creek side OSTDS (4039 NW 8th Ave) and connect to GRUs sanitary sewer system and reduce fecal coliform and nutrient loading.	OSTDS Phase Out	Completed	2017	12	0	Hogtown Creek Basin	\$20,000	GRU; SJRWMD; Homeowner Contribution	GRU - \$0.00; SJRWMD - \$5,280.00; Homeowner Contribution - \$0.00
460	GRU	NUTRIENT02	Main Street Water Reclamation Facility Annual	City of Gainesville. Alachua County. Maintenance to keep both water	Sanitary Sewer and Wastewater Treatment Facility	Ongoing	NA	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$0	GRU Ratepayers	GRU Ratepayers - \$0.00

			Operation and Maintenance	reclamation facilities in compliance with existing NPDES permit requirements. NPDES permit for domestic wastewater discharge. Maintain compliance with NPDES permit.	(WWTF) Maintenance								
446	GRU	NUTRIENT09	Main Street Water Reclamation Facility Phosphorus Removal Chemical Feed System-Based on Permitted Capacity	City of Gainesville. Alachua County. Maintenance to keep both water reclamation facilities in compliance with existing NPDES permit requirements for domestic wastewater discharge.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Ongoing	NA	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$330,000	GRU Ratepayers	GRU Ratepayers - \$330,000.00
410	GRU	TUM22	Tumblin Creek Pedestal Removal	Tumblin Creek. Removal of abandoned wastewater collection pipe pedestal in Tumblin Creek to reduce bank and bed scour. Benefits: Removal of structure helps to control scouring of bank and bed. Reduces suspended solids in water column.	Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	Completed	2005	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$80,000	GRU Ratepayers	GRU Ratepayers - \$0.00
411	GRU	URBAN12	Sanitary Sewer System Geodatabase	Gainesville & environs (GRU Service Area). Maintain a comprehensive geodatabase for all Gainesville Regional Utilities	Study	Completed	Prior to 2008	0	0	Orange Creek Basin	\$0	GRU Water and Wastewater Engineering O&M Budget	GRU Water and Wastewater Engineering O&M Budget - \$0.00

				sanitary sewer system data.									
412	Marion County	MARION01	Clean Farms Initiative	Marion County Orange Creek Basin. The Clean Farms Initiative was originally passed under Resolution 04-R-384 and has evolved using a Farm Outreach Coordinator to educate farms regarding BMPs. The number of farm visits are tracked yearly.	Agricultural BMPs	Ongoing	NA	0	0	Orange Lake Basin	\$55,000	Marion County Stormwater Assessment; General Revenue; SWFWMD Grant	Marion County Stormwater Assessment - \$0.00; General Revenue - \$0.00; SWFWMD Grant - \$0.00
413	Marion County	MARION02	Marion County Aquifer Vulnerability Assessment (MCAVA)	Marion County Orange Creek Basin. The MCAVA project provides a scientifically defensible water-resource management and protection tool that uses a map to show relative aquifer vulnerability for use in guiding growth.	Study	Completed	2007	0	0	Orange Lake Basin	\$82,850	Marion County Stormwater Assessment	Marion County Stormwater Assessment - \$0.00
414	Marion County	MARION03	Street Sweeping of Marion County Roads	Sweep Marion County-maintained roads in Orange Creek Basin. Swept 8 times/yr, about 0.381 miles in Basin. 2021 load yield is roughly 0.5 tons. 2021 Upper Ocklawaha BMAP pro-rata share costs for street sweeping was approximately \$129.53.	Street Sweeping	Ongoing	NA	2	1	Orange Lake Basin	\$0	Marion County Stormwater Program	Marion County Stormwater Program - \$129.53



415	Marion County	MARION04	Orange Creek Watershed Management Plan	Marion County OC Basin. The Watershed Management Plan (WMP) was initiated and the Floodplain Analysis completed in 2014. The Floodplain Level of Service, Surface Water Resource Assessment and Capital Projects Reports are still to be completed at a future	Study	Completed	2014	0	0	Orange Lake Basin	\$0	Marion County Stormwater Assessment	Marion County Stormwater Assessment - \$782,424.00
416	Marion County	MARION05	Education Outreach	Orange Lake Basin. Education outreach activities within Marion County portion of Orange Lake Basin.	Education Efforts	Ongoing	NA	0	31	Orange Lake Basin	\$0	Marion County	Marion County - \$0.00
404	Orange Creek Basin Partnership	AS12	Paynes Prairie Vegetative Study	Paynes Prairie. Study determined if nutrients from Sweetwater Branch were correlated with herbaceous vegetation growth in Paynes Prairie. Study documented influence of urban surface water on natural systems.	Study	Completed	2002	0	0	Sweetwater Branch/ Paynes Prairie/ Alachua Sink Basin	\$51,479	Not provided	Not provided - \$0.00
Putnam County has not reported any projects at the time of this adoption.													
4523	SJRWMD	LOCH14	Brown's Farm Irrigation Conversion	Lochloosa Lake Basin (subbasin 17). Irrigation conversion.	Agricultural BMPs	Completed	2016	296	75	Lochloosa Lake Basin	\$122,569	Brown's Farm; SJRWMD	Brown's Farm - \$12,257.00; SJRWMD - \$110,312.00
4524	SJRWMD	LOCH15	Brown's Farm Irrigation Conversion	Lochloosa Lake Basin (subbasin 23). Irrigation conversion.	Agricultural BMPs	Completed	2018	96	25	Lochloosa Lake Basin	\$137,000	Brown's Farm; SJRWMD	Brown's Farm - \$34,250.00; SJRWMD - \$102,750.00

4525	SJRWMD	LOCH16	Brown's Farm Sprayer	Lochloosa Lake Basin (subbasins 23 and 17). Sprayer with GPS guidance.	Agricultural BMPs	Completed	2018	208	82	Lochloosa Lake Basin	\$13,450	Brown's Farm; SJRWMD; DEP	Brown's Farm - \$3,362; SJRWMD - \$5,044; DEP - \$5,044
4526	SJRWMD	LOCH17	Lochloosa Farm Soil Moisture Probes and Weather Stations	Lochloosa Lake Basin (subbasins 20 and 21). Soil moisture probes and weather stations.	Agricultural BMPs	Completed	2019	6	3	Lochloosa Lake Basin	\$19,840	Lochloosa Farm; SJRWMD; DEP	Lochloosa Farm - \$4,960; SJRWMD - \$7,440; DEP - \$7,440
5441	SJRWMD	LOCH25	Soil Moisture Sensors and Telemetry, GPS Variable Rate Fertilizer Application	Soil moisture sensors with telemetry and variable rate fertilizer application equipment.	Agricultural BMPs	Completed	2020	348	101	Lochloosa Lake Basin	\$45,100	Brown's Farm; SJRWMD; DEP	Brown's Farm - \$11,275; SJRWMD - \$16,913; DEP - \$16,913
6391	SJRWMD	LOCH27	Irrigation Retrofit and Precision Fertilizer Application - Frog Song Organics	Installation of mini-wobbler irrigation system and purchase of precision granular fertilizer application equipment.	Agricultural BMPs	Completed	2022	1,445	408	Lochloosa Lake Basin	\$42,700	SJRWMD; Frog Song Organics	SJRWMD - \$32,025.00; Frog Song Organics - \$10,675.00
6551	SJRWMD	LOCH28	Irrigation Retrofit with Automation - Browns Farms	Irrigation retrofit on five center pivots with pump automation for row crops. Estimated reductions upon completion are 243 lbs/yr TN and 47 lbs/yr TP.	Agricultural BMPs	Completed	2023	111	47	Lochloosa Lake Basin	\$83,500	DEP; SJRWMD Cost Share; Browns Farm	DEP - \$31,312.50; SJRWMD Cost Share - \$31,312.50; Browns Farm - \$20,875.00
6956	SJRWMD	LOCH31	Precision Fertilizer Equipment - GP Farms LLC	This project involves the purchase and implementation of a liquid fertilizer injection system and dry fertilizer banding equipment on approximately 13 acres of mixed vegetables and fruit trees.	Agricultural BMPs	Completed	2023	297	141	Lochloosa Lake Basin	\$22,626	GP Farms LLC; SJRWMD Cost Share	GP Farms LLC - \$5,656.53; SJRWMD Cost Share - \$16,969.60

369	SJRWMD	NEW01	Development of Pollutant Load Reduction Goals (PLRGs) for Newnans Lake	Newnans Lake watershed. Development of science-based estimates of nutrient (N and/or P) external load reductions needed to restore lakes to state water quality standards.	Study	Completed	2009	0	0	Newnans Lake Basin	\$1,000,000	SJRWMD Ad Valorem; Water Management Lands Trust Fund; Legislative Appropriations; Ecosystems Management Trust Fund; SWIM Fund	SJRWMD Ad Valorem - \$0.00; Water Management Lands Trust Fund - \$0.00; Legislative Appropriations - \$0.00; Ecosystems Management Trust Fund - \$0.00; SWIM Fund - \$0.00
382	SJRWMD	NEW02	Newnans Lake Conservation Area	Alachua County; land around north and east side of Newnans Lake. Purchase of lands near and around Newnans Lake for conservation and public use.	Land Acquisition	Completed	2001	0	0	Newnans Lake Basin	\$5,727,400	Preservation 2000	Preservation 2000 - \$0.00
366	SJRWMD	NEW09	Nutrient Loading Estimation During Storm Event	Newnans Lake and Lochloosa Lake watersheds. This study measured nutrient loading into Newnans Lake and Lochloosa Lake via five tributaries during storms.	Study	Completed	2008	0	0	Newnans Lake Basin	\$198,100	Florida Legislature	Florida Legislature - \$0.00
373	SJRWMD	NEW10	Spatial Nutrient Loading Dynamics in the Newnans Lake Watershed	Newnans Lake watershed. Determine external sources of nutrient contributing to Newnans Lake. Data are collected representing spatial and temporal dynamics of nutrient pollutant loads in surface waters and groundwater in the Newnans Lake watershed.	Study	Completed	2010	0	0	Newnans Lake Basin	\$219,000	Legislative Appropriation; Water Management Lands Trust Fund	Legislative Appropriation - \$0.00; Water Management Lands Trust Fund - \$0.00

365	SJRWMD	NEW31	Harvest of Rough Fish (Gizzard Shad)	Newnans Lake. Harvest of rough fish, largely gizzard shad. Removal of fish helps to export TP load from lake. One year of three year project Completed. 205,188 pounds of fish removed.	Fish Harvesting	Completed	2010	0	0	Newnans Lake Basin	\$0	Not provided	Not provided - \$0.00
7200	SJRWMD	NEW47	Florida Blue Farms Irrigation Retrofit	This project involves an irrigation retrofit on approximately 26 acres of blueberries.	Agricultural BMPs	Underway	2024	30	4	Newnans Lake Basin	\$55,100	SJRWMD Cost Share; Florida Blue Farms	SJRWMD Cost Share - \$41,325.00; Florida Blue Farms - \$13,775.00
4532	SJRWMD	OC01	North Caledonia Tailwater Storage and Recovery, and Variable Rate Fertilizer Equipment	Tailwater storage and recovery, and variable rate fertilizer equipment.	Agricultural BMPs	Completed	2017	3,043	271	Orange Creek Basin	\$388,350	North Caledonia; SJRWMD	North Caledonia - \$97,088.00; SJRWMD - \$291,262.00
4533	SJRWMD	OC02	Island Grove Irrigation System Automation	Irrigation system automation.	Agricultural BMPs	Completed	2018	425	62	Orange Creek Basin	\$0	Island Grove; SJRWMD	Island Grove - \$56,071.00; SJRWMD - \$152,210.00
4534	SJRWMD	OCB03	Colvin Farms Center Pivot Nozzle Retrofit	Center pivot nozzle retrofit.	Agricultural BMPs	Completed	2015	10,901	1,847	Orange Creek Basin	\$102,210	Colvin Farms; SJRWMD	Colvin Farms - \$10,221.00; SJRWMD - \$91,989.00
4535	SJRWMD	OCB04	Colvin Farms Soil Moisture and Climate Sensor Telemetry	Soil moisture and climate sensor telemetry.	Agricultural BMPs	Completed	2015	21,688	3,675	Orange Creek Basin	\$84,312	Colvin Farms; SJRWMD	Colvin Farms - \$8,431.00; SJRWMD - \$75,881.00
4536	SJRWMD	OCB05	Colvin Farm Soil Grid Mapping and Variable Rate Fertilizer Applicator	Soil grid mapping and variable rate fertilizer applicator.	Agricultural BMPs	Completed	2015	10,672	1,808	Orange Creek Basin	\$80,396	Colvin Farms; SJRWMD	Colvin Farms - \$8,296.00; SJRWMD - \$72,100.00
4537	SJRWMD	OCB06	North Caledonia Tailwater Storage and Recovery, Soil Moisture Sensors, and Telemetry	Tailwater storage and recovery, soil moisture sensors, and telemetry.	Agricultural BMPs	Completed	2019	233	169	Orange Creek Basin	\$600,047	North Caledonia; SJRWMD; DEP	North Caledonia - \$150,011; SJRWMD - \$225,018; DEP - \$225,018

6548	SJRWMD	OCB07	Irrigation Retrofit - Island Grove	Retrofit of drip system on blueberries.	Agricultural BMPs	Completed	2023	18	10	Orange Creek Basin	\$149,403	Island Grove; DEP; SJRWMD Cost Share	Island Grove - \$37,350.70; DEP - \$56,026.05; SJRWMD Cost Share - \$56,026.05
7210	SJRWMD	OCB09	Island Grove Irrigation Retrofit 2	This project involves the installation of an irrigation retrofit on approximately 54 acres of blueberries.	Agricultural BMPs	Underway	2024	39	6	Orange Creek Basin	\$74,900	SJRWMD Cost Share; Island Grove LLC	SJRWMD Cost Share - \$56,175.00; Island Grove LLC - \$18,725.00
374	SJRWMD	OR03	Lochloosa Wildlife Conservation Area	Land around Lochloosa Lake and around north side of Orange Lake. Land acquisition for Lochloosa Wildlife Conservation Area. Benefits by no increase in surface runoff of pollutants because of land use change.	Land Acquisition	Completed	2003	0	0	Orange Lake Basin	\$16,058,211	SJRWMD Ad Valorem; Preservation 2000; Alachua County Cost Share	SJRWMD Ad Valorem - \$0.00; Preservation 2000 - \$0.00; Alachua County Cost Share - \$0.00
368	SJRWMD	OR31	Prairie Creek Diversion Structure Replacement	The current water control structure at Camps Canal regulates flow from Prairie Creek to Paynes Prairie and Orange Lake. Replacement of the structure will allow for open and closures as needed.	Control Structure	Completed	2019	0	0	Basinwide	\$700,000	SJRWMD Ad Valorem; Amendment 1 Funding	SJRWMD Ad Valorem - \$0.00; Amendment 1 Funding - \$0.00
4538	SJRWMD	OR32	Mid-State Research Irrigation Conversion	Irrigation conversion.	Agricultural BMPs	Completed	2015	146	45	Orange Lake Basin	\$48,682	Mid-State Research; SJRWMD	Mid-State Research - \$4,869.00; SJRWMD - \$43,813.00
4539	SJRWMD	OR33	Mid-State Research Soil Grid Mapping and Variable Rate Fertilizer Applicator	Soil grid mapping and variable rater fertilizer applicator.	Agricultural BMPs	Completed	2015	2,034	630	Orange Lake Basin	\$44,864	Mid-State Research; SJRWMD	Mid-State Research - \$4,487.00;

													SJRWMD - \$40,377.00
5440	SJRWMD	OR40	Precision Fertilizer Application	Purchase of GPS Variable Rate Fertilizer Application System.	Agricultural BMPs	Completed	2019	5,342	100	Orange Lake Basin	\$19,163	James C LeFils; SJRWMD; DEP	James C LeFils - \$6,387; SJRWMD - \$9,582; DEP - \$9,582
4530	Town of McIntosh	MCINTOSH01-ORANGE	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	0	1	Orange Lake Basin	\$0	Not provided	Not provided - \$0.00
4531	Town of Micanopy	MICANOPY01-ORANGE	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	0	2	Orange Lake Basin	\$0	Not provided	Not provided - \$0.00
4541	Town of Reddick	REDDICK01-ORANGE	Education Outreach	Educational efforts that result in 0.25 % to 6 % credit, depending on extent of efforts.	Education Efforts	Ongoing	NA	0	1	Orange Lake Basin	\$0	Not provided	Not provided - \$0.00

## **Appendix C. Planning for Additional Management Strategies**

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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 is unable to submit a sufficient list of eligible management strategies to meet their next 5-year milestone reductions, specific project identification efforts are required to be submitted by January 14, 2026. Any such project identification efforts must define the purpose of and a timeline to identify sufficient projects to meet the upcoming milestone. The project description and estimated completion date for any such project identification effort must be provided and reflect the urgency of defining, funding, and implementing projects to meet the upcoming and future BMAP milestones. 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. Only those entities that provide sufficient project identification efforts will be deemed as possessing a defined compliance schedule. Those entities without an adequate project list nor a defined compliance schedule to meet their upcoming 5-year milestone may be subject to enforcement actions.

Examples of project identification efforts are 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

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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 in **Table D-1** 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
University of Florida WWTF	FLA011322
Main Street Water Reclamation Facility	FL0027251
Gainesville Kanapaha WWTP Lab	FL0112895



## Appendix E: Golf Course NMPs

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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 Florida Department of Environmental Protection (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
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		
<b>Totals</b>		

**Fertilizer Applications**

**Table E-2. Sample fertilizer application table**

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

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)
	Roughs					
<b>October</b>	Tees					
	Greens					
	Fairways					
	Roughs					
<b>November</b>	Tees					
	Greens					
	Fairways					
	Roughs					
<b>December</b>	Tees					
	Greens					
	Fairways					
	Roughs					
<b>Totals</b>						

**Amount of Reuse/Reclaimed Water Applied**

**Table E-3. Sample reclaimed water and fertilizer use table**

*\*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)
<b>January</b>							
<b>February</b>							
<b>March</b>							
<b>April</b>							
<b>May</b>							
<b>June</b>							
<b>July</b>							
<b>August</b>							
<b>September</b>							
<b>October</b>							
<b>November</b>							
<b>December</b>							
<b>Totals</b>							

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.***
- g. ***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

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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 section 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 the FDEP, water management districts (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 an FDACS representative on site to determine the appropriate practices that are applicable to their operation(s) and to document the BMPs on the Notice of Intent (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 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). bio-solids. 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, Florida Statutes (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.

### *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 Orange Creek BMAP, there are 3 aquaculture facilities 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.

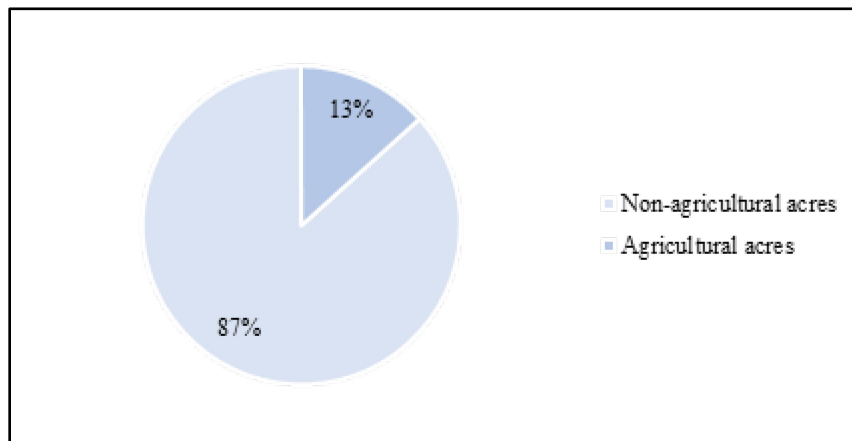
When developing a BMAP, agricultural nonpoint source loading is estimated using a broad methodology based on statewide land use data. Oftentimes, this results in properties being designated as agricultural nonpoint pollution sources and creates an obligation for these properties to enroll in the FDACS 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 Orange Creek 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	316,659
Agricultural acres	48,920



**Figure F-1. Relative agricultural land uses in the Orange Creek 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 Orange Creek BMAP by BMP Program commodity**

Commodity	Agricultural Acres Enrolled
Cow/Calf	12,186
Dairy	223
Equine	2,251
Fruit/Nut	732
Multiple Commodities	4,910
Nursery	72
Row/Field Crop	1,718
Sod	67
<b>Total</b>	<b>22,159 (45%)</b>

**Table F-3. Agricultural acres enrolled by commodity and crediting location in Hogtown Creek, Lake Wauberg, Lochloosa Lake, and Newnans Lake**

Commodity	Hogtown Creek	Lake Wauberg	Lochloosa Lake	Newnans Lake
Cow/Calf	97	11	384	79
Dairy	0	0	110	0
Equine	0	0	0	0
Fruit/Nut	0	0	24	266
LOPP	0	0	181	325
Nursery	0	0	35	30
Row/Field Crop	0	0	582	22
Sod	0	0	67	0
<b>Total</b>	<b>97</b>	<b>11</b>	<b>1,383</b>	<b>723</b>
<b>Percent of Agricultural Lands Enrolled in BMPs</b>	<b>23%</b>	<b>11%</b>	<b>34%</b>	<b>48%</b>

**Table F-4. Agricultural acres enrolled by commodity and crediting location in Orange Creek, Orange Lake, and Paynes Prairie**

Commodity	Orange Creek	Orange Lake	Paynes Prairie
Cow/Calf	6,182	4,087	1,346
Dairy	113	0	0
Equine	167	2,031	53
Fruit/Nut	420	22	0
LOPP	1,108	3,295	0
Nursery	7	0	0
Row/Field Crop	238	861	16
Sod	0	0	0
<b>Total</b>	<b>8,235</b>	<b>10,296</b>	<b>1,415</b>
<b>Percent of Agricultural Lands Enrolled in BMPs</b>	<b>56%</b>	<b>40%</b>	<b>56%</b>

As of July 2024, 45% of the agricultural acres in the Orange Creek BMAP area are enrolled in FDACS' BMP program. **Table F-2** shows the enrolled acreages by commodity. **Table F-3** and **Table F-4** show the acreages enrolled in the BMP Program by commodity and crediting location. **Figure F-2** shows a map of the enrolled acreages. 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

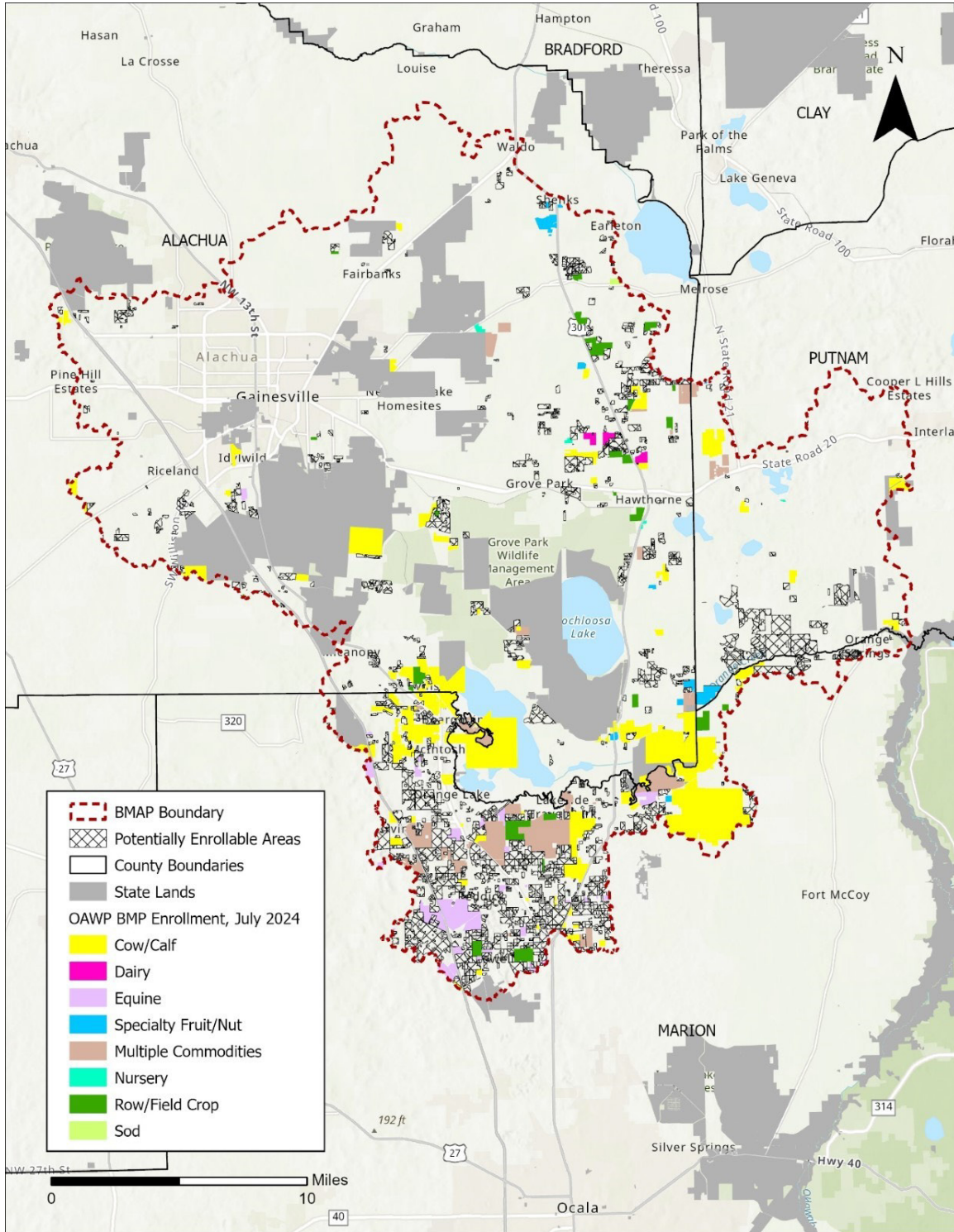


Figure F-2. Agricultural enrollment in the Orange Creek BMAP

*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-5** shows the breakdown of agricultural lands within the Orange Creek BMAP by crediting location based on the FSAID 11 and the results of the FDACS unenrolled agricultural lands characterization.

**Table F-5. Agricultural lands in the Orange Creek BMAP by crediting location**

\* Enrollment information current as of June 30, 2024.

Crediting Location	Agricultural Acres	Unenrolled - Unlikely Enrollable Acres	Agricultural Acres - Adjusted	Agricultural Acres Enrolled*
Hogtown Creek	937	518	419	97
Lake Wauberg	409	313	96	11
Lochloosa Lake	5,890	1,772	4,118	1,383
Newnans Lake	4,078	2,566	1,512	723
Orange Creek	21,087	6,469	14,618	8,235
Orange Lake	30,197	4,572	25,625	10,296
Paynes Prairie	4,074	1,541	2,533	1,415

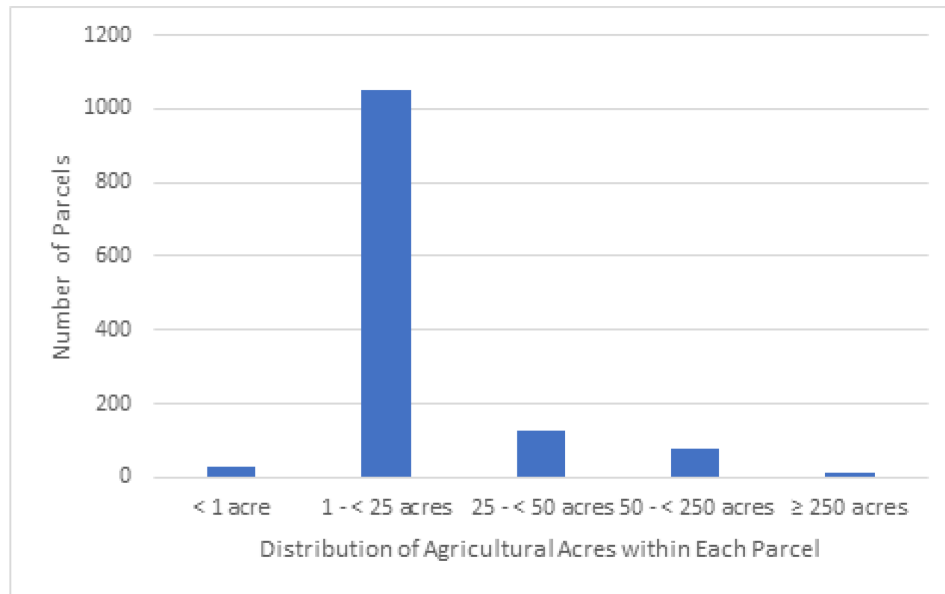


Potentially Enrollable Lands

There are 26,788 acres of potentially enrollable lands within the Orange Creek BMAP based on the assessment of unenrolled agricultural lands performed by FDACS. **Table F-6** 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-6. Potentially enrollable acres by crop type**

Crop Type	Acres
Citrus	2
Cropland and/or Pastureland	4
Crops	2,389
Fallow	1,399
Fruit (Non-citrus)	480
Grazing Land	16,653
Hay	288
Livestock	5,475
Nursery	72
Open Lands	26
<b>Total</b>	<b>26,788</b>



**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.