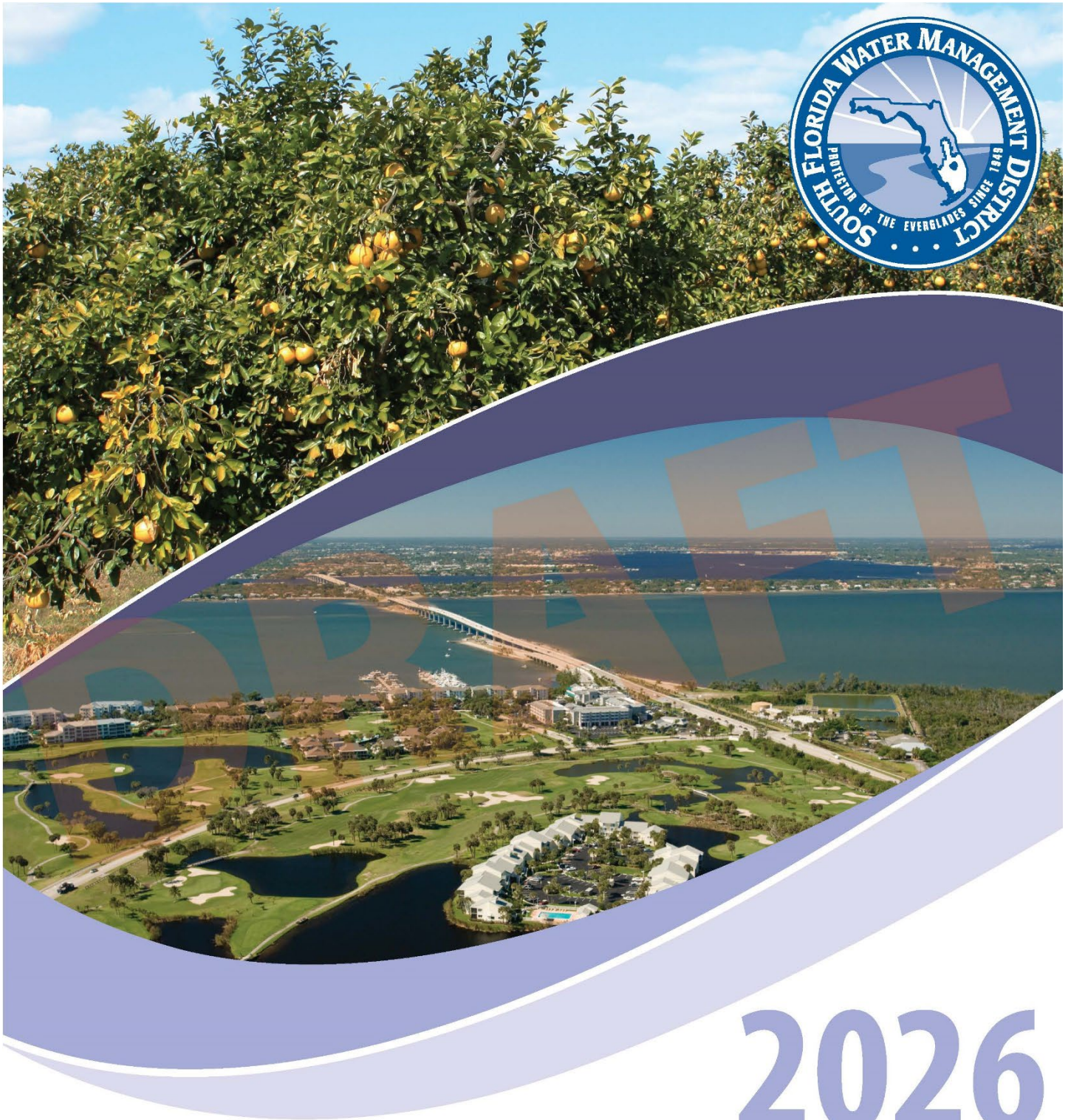




2026

UPPER EAST COAST

WATER SUPPLY PLAN UPDATE

PLANNING DOCUMENT/APPENDICES

Cover Photos

Front Top: Florida Oranges

Front Bottom: Stuart Causeway over the St. Lucie River

Back: C-44 Reservoir and Stormwater Treatment Area

Acknowledgments

The South Florida Water Management District (SFWMD) recognizes and thanks the regional water supply workshop participants for their contributions, comments, advice, information, and assistance throughout the development of this *2026 Upper East Coast Water Supply Plan Update*.

Furthermore, the SFWMD expresses appreciation to all staff who contributed to the development and production of this plan update.

For further information about this document, please contact:

Chad Brcka
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
Telephone: (561) 682-2816
Email: cbrcka@sfwmd.gov

sfwmd.gov

Executive Summary

The South Florida Water Management District's (SFWMD or District) strategic goal for its water supply plans is to identify sufficient water supply sources and projects to meet existing and future reasonable-beneficial uses during 1-in-10-year drought conditions while sustaining water resources and related natural systems. This *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) is the fifth update to the *1998 Upper East Coast Water Supply Plan* (1998 UEC Plan), which previously was updated in 2004, 2011, 2016, and 2021. This plan update is consistent with the water supply planning requirements of Chapter 373, Florida Statutes (F.S.), and presents population and water demand projections through 2050, a review of water supply issues and evaluations, and a list of water source options. It also examines local and regional water supply efforts and describes water resource and water supply development projects completed since the 2021 update.

This 2026 UEC Plan Update was developed in an open, public forum (**Chapter 1**). Meetings and workshops were held with water users, local and tribal governments, and utilities as well as agricultural industry and environmental representatives to solicit input, provide information about planning results, and receive comments on draft sections of the plan update. The SFWMD held three virtual public workshops for this water supply plan update.

The UEC Planning Area covers more than 1,230 square miles, including all of Martin and St. Lucie counties and the northeastern portion of Okeechobee County, and generally reflects the watersheds of the C-23, C-24, C-25, and C-44 canals. Notable surface water systems in the UEC Planning Area, such as Lake Okeechobee, the Indian River Lagoon, the St. Lucie River and Estuary, and portions of the Loxahatchee River, comprise several unique and critical ecosystems. These ecosystems coexist within a mixture of mostly agricultural areas in the western portion of the planning area from Okeechobee to Indiantown and mostly urban areas along the eastern boundary from Fort Pierce to Stuart. There are more than 226 square miles of wetlands in the UEC Planning Area, including Allapattah Flats, Cane Slough, DuPuis Reserve, Jonathan Dickinson State Park, the Savannas, and Pal-Mar. In addition to important natural areas, the UEC Planning Area includes an extensive agricultural industry and several major urban communities, all with unique water supply needs.

Typically, the UEC Planning Area receives abundant rainfall seasonally, with volumes exceeding human and natural system needs during wet periods. Annual precipitation averages 55 inches, with more than two-thirds of rainfall occurring between May and October. Water availability varies annually with periodic drought years. The primary and regional canals and other waterworks in the planning area are managed for water supply and flood control. The regional water management system plays a critical role in capturing wet season stormwater for use during dry times, distributing water between natural systems, and moving excess water to tide to provide flood protection. Fresh groundwater from the surficial aquifer system (SAS) and surface water from the C-23, C-24, C-25, and C-44 canals are currently meeting more than two-thirds of the total water supply demand in the UEC Planning Area.

Sea level rise and other changing hydrologic and climate conditions are issues of concern, especially in coastal regions. South Florida is particularly vulnerable to potential changes in climate and sea level because of its location, regional variability in climate, hydrology, geology, low topography, natural resources, and dense population in coastal areas. To plan and prepare for regional sea level rise and other changing hydrologic and climate conditions, the SFWMD is conducting research and computer modeling to better predict and reduce uncertainties, analyzing vulnerabilities in the current water management system, and developing effective adaptation and resiliency strategies for the future. Coordination with other resource management entities and governments is vital to ensuring a common approach and shared information moving forward.

DEMAND ESTIMATES AND PROJECTIONS

As described in **Chapter 2** and **Appendix A**, the UEC Planning Area is home to more than 500,000 people and supports a large agricultural industry. The permanent population is projected to reach nearly 750,000 people by 2050, a 36% increase from the 2024 base year estimate for this plan update. More than two-thirds of the UEC Planning Area population resides in St. Lucie County. Details about Public Supply (PS) utilities, including the populations within their service areas, are provided in **Appendix B**.

Current and future water demands are significantly influenced by the existing and projected population. Population growth in the region will lead to increases in water demands for PS utilities, Landscape/Recreational (L/R) irrigation, and Commercial/Industrial/Institutional (CII) uses. Irrigated agricultural acres are projected to decline 10% over the planning horizon as agricultural lands transition to residential developments.

Total water demands under average rainfall conditions for all water use categories are projected to increase 5.4%, from a total water use of 299.53 million gallons per day (mgd) in 2024 to 315.65 mgd in 2050 (**Table ES-1**). Projected demands under 1-in-10-year drought conditions are 368.58 mgd (17% higher) than the average rainfall demands in 2050.

Table ES-1. Estimated (2024) and projected (2050) gross water demands under average rainfall conditions in the UEC Planning Area.

Water Use Category	2024 Estimated Use (mgd)	2050 Projected Demand (mgd)	Percent Change	Percent of Projected 2050 Total*
Public Supply	68.83	99.83	45.0%	31.6%
Domestic Self-Supply	6.23	3.59	-42.4%	1.1%
Agriculture	156.77	138.52	-11.6%	43.9%
Commercial/Industrial/Institutional	0.55	0.71	29.1%	0.2%
Landscape/Recreational	46.04	56.58	22.9%	17.9%
Power Generation	21.11	16.42	-22.2%	5.2%
UEC Planning Area Total	299.53	315.65	5.4%	100.0%

mgd = million gallons per day; UEC = Upper East Coast.

*May not equal 100% due to rounding.

The Agriculture (AG) water use category is projected to remain the largest in the UEC Planning Area accounting for nearly 44% of the total 2050 projected demand, even with projected declines in irrigated acreage and demands. PS is the second largest water use category, representing approximately 32% of the total 2050 projected demand. L/R is the third largest water use category, representing approximately 18% of the total 2050 projected demand. Power Generation (PG), Domestic Self-Supply (DSS), and CII) collectively account for approximately 7% of the total 2050 projected demand.

DEMAND MANAGEMENT: WATER CONSERVATION

Water conservation by all water use categories continues to be a priority to help meet future water needs. Conservation programs often are among the lowest-cost solutions to meet future demands and can reduce costs over the long term if properly planned and implemented (**Chapter 3**). Conservation efforts in the UEC Planning Area have effectively lowered the net (finished) water per capita use rate for PS over the past two decades, from 167 gallons per capita per day (gpcd) in 2000 to approximately 113 gpcd per day in 2024. Analyses suggest that users in the UEC Planning area can collectively save an additional 14.69 mgd by 2050 if various urban and agricultural conservation options are implemented.

NATURAL SYSTEMS AND RESOURCE PROTECTION

Significant natural surface water systems in the UEC Planning Area include Lake Okeechobee, the Indian River Lagoon, the St. Lucie River and Estuary, and portions of the Loxahatchee River. Natural systems are protected and addressed through regulatory mechanisms, restoration efforts, and water resource development projects.

In the UEC Planning Area, a minimum flow and minimum water level (MFL) and prevention strategy have been adopted for the St. Lucie Estuary (**Chapter 4, Appendix C**). The MFLs and recovery strategies for Lake Okeechobee and the Northwest Fork of the Loxahatchee River affect portions of the UEC Planning Area but are described in the Lower East Coast water supply plan updates (last updated in 2023–2024). One water reservation has been adopted in the UEC Planning Area for the protection of fish and wildlife in the North Fork of the St. Lucie River that reserves water needed for proposed ecosystem restoration projects. Restricted allocation area rules have been established for the following: C-23, C-24, and C-25 Canal System; North Palm Beach County/Loxahatchee River Watershed Waterbodies; Lake Okeechobee and the Lake Okeechobee Service Area (LOSA); and Floridan Aquifer Wells in Martin and St. Lucie Counties.

There are numerous large ecosystem restoration projects under way in the UEC Planning Area (**Table ES-2, Chapter 7**) that are vital to improving and maintaining the viability of the region's natural systems and water resources, including elements identified in the St. Lucie Estuary MFL prevention strategy. The Comprehensive Everglades Restoration Plan (CERP), a partnership between the United States Army Corps of Engineers (USACE) and the SFWMD, is a critical component of ecosystem restoration and water supply. CERP includes numerous capital projects needed to protect and restore natural systems and increase water availability. An Integrated Delivery Schedule organizes the implementation of capital projects and is updated every year.

Table ES-2. Water resource development projects within the UEC Planning Area by region.

Region	Project	Status
UEC – Martin County	CERP C-44 Reservoir, C-44 STA, and C-23/C-44 Estuary Discharge Diversion	Operational Testing and Monitoring
	CERP Loxahatchee River Watershed Restoration Project	Design
	Restoration Plan for the Northwest Fork of the Loxahatchee River	Design
	CERP Allapattah, Pal-Mar, and South Fork Complex Natural Areas	Design
	NEEPP Lakeside Ranch STA	Operational
UEC – St. Lucie County	CERP C-25 Reservoir and STA	Construction
	CERP C-23/C-24 North Reservoir and STA	Construction
	CERP C-23/C-24 South Reservoir	Construction
	CERP North Fork Floodplain Restoration	Design
	CERP Cypress Creek Complex Natural Areas	Design
	NEEPP Taylor Creek/C-25 Restoration Dredging Project	Operational
	NEEPP C-23/C-24 District Lands Hydrologic Enhancement	Operational
	Ten Mile Creek Reservoir and STA	Operational

CERP = Comprehensive Everglades Restoration Plan; NEEPP = Northern Everglades and Estuaries Protection Program; STA = stormwater treatment area; UEC = Upper East Coast.

WATER SOURCE OPTIONS

Water users in the UEC Planning Area rely on surface water, groundwater (fresh and brackish), and reclaimed water (**Chapter 5**) to meet urban and agricultural demands. Surface water from canals and lakes, and fresh groundwater from the SAS are considered traditional water sources. Alternative water supply (AWS) sources include brackish groundwater from the Floridan aquifer system (FAS), reclaimed water, seawater, and excess surface water captured and stored in aquifer storage and recovery (ASR) wells, reservoirs, and other storage features. Use of AWS is an integral part of the current and future water supply strategy.

PS utilities within the UEC Planning Area are increasingly relying on brackish groundwater from the FAS to meet increasing demands. The FAS has been used to meet most of the PS demand since 2007 and currently supplies nearly three-fourths of the existing demand. The percentage of SAS use for PS is projected to continue decreasing over time as the use of AWS sources increases. Groundwater sources can meet 2050 PS demands; however, increases in fresh groundwater allocations are limited by resource protection criteria. Of the 15 PS utilities in the UEC Planning Area, 3 will need to construct new projects to meet their projected 2050 demands. These new projects include expanded use of the FAS and use of stormwater, both of which are AWS sources.

Fresh groundwater from the SAS supplies 100% of the estimated demand for DSS in the UEC Planning Area. DSS demand is expected to decrease by 42% over the planning horizon due to expansion of PS utility distribution systems and service areas, and groundwater from the SAS can continue to meet the 2050 DSS demands.

Within the UEC Planning Area, AG users rely primarily on surface water to meet their demands. Groundwater from the SAS is utilized to a much lesser extent. The FAS is used primarily for freeze protection or emergency backup supply due to the brackish water quality

that typically requires blending with fresh water prior to its use for irrigation. A 12% decrease in AG demands is expected over the planning horizon; therefore, existing surface water sources can continue to meet 2050 AG demands.

L/R irrigation users, including golf courses, rely primarily on surface water, fresh groundwater, and reclaimed water in nearly equal amounts. In addition, several L/R users meet their demands with treated or blended brackish groundwater from the FAS accounting for 5% of the total demand. Increases in L/R demands are expected to be met primarily through the expansion of reclaimed water systems.

Demand for the CII category is projected to increase by 0.16 mgd through 2050, accounting for just 0.2% of the projected total UEC Planning Area demand. CII demands are expected to continue to be met primarily by fresh groundwater and surface water. There are two major power generation facilities that are addressed in this plan update. One additional facility relies solely on seawater for cooling purposes. Current power generation demands are met primarily by surface water and brackish groundwater from the FAS. No new power generation facilities requiring water supply are planned for construction or operation through 2050. Surface water demands are projected to remain unchanged, while reclaimed water is expected to offset most of the current PG demand from the FAS. **Table ES-3** summarizes the variety of water source options that typically are used by each water use category.

Table ES-3. Typical water source options for the water use categories in the UEC Planning Area.

Water Use Category	Fresh Surface Water	Fresh Groundwater	Brackish Groundwater	Reclaimed Water
Public Supply		✓	✓	
Domestic Self-Supply		✓		
Agriculture	✓	✓	✓	
Commercial/Industrial/Institutional	✓	✓		✓
Landscape/Recreational	✓	✓	✓	✓
Power Generation	✓	✓	✓	✓

Surface Water

Surface water supply sources are primarily used for agricultural and urban irrigation in the UEC Planning Area and include the C-23, C-24, and C-25 canal systems; Lake Okeechobee and its hydraulically connected canals, such as the C-44 Canal and connected secondary canals; and county and water control district canals, reservoirs, and on-site ponds. Water availability from the C-23, C-24, C-25, and C-44 canals is limited due to the implementation of restricted allocation area rules (**Chapter 4**). Future surface water demands are expected to decrease for AG and remain relatively static for CII, L/R, and PG. Additional water storage features and tailwater recovery systems could enhance surface water availability.

Fresh Groundwater

The SAS is the primary source of fresh groundwater in the UEC Planning Area and is used by all water use categories with PS being the largest use. Further development of the SAS is limited by low aquifer productivity, the rate of groundwater recharge, potential impacts to

wetlands and existing legal uses, the potential for saltwater intrusion, and proximity to sources of pollution. However, new small-scale uses of the SAS are viable in many locations, subject to water use permitting criteria evaluated on an application-by-application basis, considering the quantities required, local resource conditions, existing legal uses, and viability of other supply options. Saltwater interface mapping of the region indicates little movement of the saltwater interface in the SAS from 2009 to 2024 (**Chapter 6**).

In 2024, the SAS accounted for approximately 27% of PS use and 100% of DSS use in the UEC Planning Area. Use of the SAS for PS is projected to increase only slightly by 2050 as increased PS demands are expected to be met with an increasing percentage of brackish water from the FAS. Most PS utilities in the UEC Planning Area have been proactive in permitting and constructing water supply systems that anticipate demand increases and have proposed projects to meet future growth (**Chapter 8**).

The SFWMD developed the East Coast Surficial Model (ECSM), a density-dependent groundwater model for the SAS, to evaluate the ability of this resource to sustainably meet demands. Results of the model simulations provide guidance for developing water management strategies, support periodic updates to the regional water supply plans, evaluate resiliency, and can be used in regulatory applications. The current version of the ECSM was calibrated to historical water level and water quality data (total dissolved solids observations for transient conditions), peer reviewed, and was applied for this plan update to evaluate changing conditions and demands from 2024 to 2050. Model results indicate the SAS can continue to meet demands through 2050 with properly managed wellfields and current water resource protection measures.

Brackish Groundwater

Brackish groundwater from the FAS is utilized by seven PS utilities; several AG and L/R users, including eight golf courses; and one power generation facility. Additionally, two utilities are proposing wellfield and reverse osmosis (RO) water treatment plant (WTP) projects to begin treating brackish water from the FAS to meet a portion of their 2050 projected demands. The 14 operating RO WTPs have a combined capacity of approximately 82 mgd. Utilities have proposed a total of 33 mgd of new or expanded RO treatment capacity to use brackish groundwater from the FAS to meet increasing demands. In 2024, the FAS and associated RO WTPs supplied water to meet 73% of PS demand, and expanding use of the FAS is expected to continue to meet an increasing percentage of the demand through 2050.

Current and future FAS demands were simulated using the East Coast Floridan Model (ECFM), which is a peer-reviewed, calibrated regional FAS groundwater model. ECFM was used to assess the potential impacts of withdrawals on water quality and the viability of the source through the planning horizon. Analyses of historical chloride data and model results indicate properly managed FAS wellfields can meet the projected demands through 2050.

Current groundwater level and quality data as well as model results for the FAS are discussed in **Chapter 6** and **Appendix D**. Analyses of historical FAS water level and quality data indicate there have not been substantial regional changes; however, some local changes in water quality have been observed, which may be the result of localized pumping stresses or hydrologic conditions. FAS users may need to spread out withdrawal facilities or reduce individual well pumping rates to mitigate water quality changes. These areas should continue to be monitored through a coordinated effort with utilities and other FAS stakeholders.

Reclaimed Water

Use of reclaimed water is an important component of managing water supplies in the UEC Planning Area. In 2024, all 20 existing wastewater treatment facilities provided at least a portion of the treated wastewater for reuse in other areas. Including supplemental water sources, 33% (9.72 mgd) of the region's treated wastewater was reused for golf course and landscape irrigation, industrial uses, and groundwater recharge. However, 19.85 mgd of potentially reusable wastewater was disposed, mainly through deep well injection. Wastewater flows are projected to increase to 39.34 mgd by 2050. Many utilities have constructed the required treatment facilities to produce reclaimed water for public access irrigation in anticipation of increased reclaimed water demand in the future. Reclaimed water pipelines are proposed to be extended as new development occurs, and utilities have proposed several projects to expand reuse treatment capacity, substantially increasing the volume of reuse by 2050.

Water Storage

Capturing excess surface water during wet conditions for use during dry conditions increases the amount of available water. In the UEC Planning Area, water storage options include ASR and stormwater reservoirs, which are considered sources of AWS. As of 2024, there are no operating ASR wells in the UEC Planning Area. The SFWMD has built and conducted aquifer performance testing for one ASR exploratory well (Port Mayaca), and 10 ASR wells are planned by Port St. Lucie to meet future water demands. The SFWMD, in cooperation with the USACE, is pursuing regional ASR systems as part of CERP.

Regional reservoirs (e.g., C-44, C-23/C-24 North and South, C-25) associated with large ecosystem restoration projects (**Chapter 7**) will attenuate stormwater discharges, provide water quality treatment in conjunction with stormwater treatment areas, and store seasonally available water. Local agricultural reservoirs can store recycled irrigation water or collect stormwater runoff.

FUTURE DIRECTION

Chapter 9 contains guidance to help focus future efforts in the region to meet projected water needs. Some of the key suggestions to regional stakeholders, including the SFWMD, utilities, other government agencies, agricultural interests, and environmental groups, are as follows:

- ◆ Continue implementation of water conservation programs throughout the UEC Planning Area to increase water use efficiency and reduce the amount of water needed to meet future demands.
- ◆ Continue implementation of the St. Lucie Estuary MFL prevention strategy, and review and update the strategy, as appropriate, in conjunction with future water supply plan updates.
- ◆ Continue development of AWS, including maximizing the use of reclaimed water.

- ◆ Design new FAS wellfields to maximize withdrawals while minimizing water level and quality changes. This likely will require a combination of additional wells with greater spacing between wells, lower-capacity wells, and continued refinement of wellfield operational plans.
- ◆ Develop regional and local reservoirs and other storage systems (e.g., ASR systems), where possible, to increase surface water availability for environmental, agricultural, and urban water supply needs.
- ◆ Continue supporting ecosystem restoration efforts, such as CERP, to improve the quality, timing, volume, distribution, and delivery of water to the natural system.
- ◆ Identify wells critical to long-term monitoring and modeling to ensure they are constructed, maintained, or replaced, as necessary.
- ◆ Continue mapping the saltwater interface and identify areas of concern that might require enhanced monitoring or changes in wellfield operations.
- ◆ Continue using the ECSM and ECFM to simulate changing conditions and demands on the SAS and FAS.
- ◆ Continue characterizing, monitoring, and designing adaptation solutions in response to sea level rise and other changing hydrologic and climate conditions and their impacts to water supply.
- ◆ Continue coordination and collaboration among regional and local government agencies and utility planning entities to ensure the supply of water is sufficient and sustainable to meet urban, agricultural, and environmental needs.

CONCLUSIONS

Building on the findings and conclusions of previous UEC water supply plan updates, this 2026 UEC Plan Update assesses water supply demand and available sources through 2050. This plan update concludes that future water needs of the region during average and 1-in-10-year drought conditions can be met through the 2050 planning horizon with appropriate management, conservation, and implementation of projects identified herein.

Meeting future water needs through 2050 in the UEC Planning Area depends on the following:

- ◆ Construction of potable water supply development projects by PS utilities.
- ◆ Implementation of CERP Restoration Strategies and other water resource development projects to provide additional storage.
- ◆ Implementation of the Lake Okeechobee System Operating Manual and construction of CERP capital projects identified in MFL prevention and recovery strategies.

Successful implementation of this 2026 UEC Plan Update requires close collaboration with agricultural interests, local and tribal governments, utilities, and other stakeholders. Coordination efforts should ensure that water resources in the UEC Planning Area continue to be prudently managed and available to meet future demands while also protecting natural systems.

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Acronyms and Abbreviations

AFSIRS	Agricultural Field Scale Irrigation Requirements Simulation
AG	Agriculture
APPZ	Avon Park permeable zone
ASR	aquifer storage and recovery
AWS	alternative water supply
BEBR	Bureau of Economic and Business Research (University of Florida)
BMP	best management practice
C&SF Project	Central and Southern Florida Project
CERP	Comprehensive Everglades Restoration Plan
CFP	Cooperative Funding Program
CII	Commercial/Industrial/Institutional
District	South Florida Water Management District
DSS	Domestic Self-Supply
ECFM	East Coast Floridan Model
ECSM	East Coast Surficial Model
EQIP	Environmental Quality Incentives Program
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FAS	Floridan aquifer system
FAWN	Florida Automated Weather Network
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FFL	Florida-Friendly Landscaping
FPL	Florida Power & Light
FSAID	Florida Statewide Agricultural Irrigation Demand
FY	Fiscal Year
gpcd	gallons per capita per day
HVAC	heating, ventilation, and air conditioning
IRL-S Project	Indian River Lagoon – South Project
L/R	Landscape/Recreational
LFA	Lower Floridan aquifer

LOCAR	Lake Okeechobee Component A Storage Reservoir
LOSA	Lake Okeechobee Service Area
LOSOM	Lake Okeechobee System Operating Manual
LOWRP	Lake Okeechobee Watershed Restoration Project
MFL	minimum flow and minimum water level
MIL	mobile irrigation lab
mg/L	milligrams per liter
mgd	million gallons per day
NEEPP	Northern Everglades and Estuaries Protection Program
PCUR	per capita use rate
PG	Power Generation
PS	Public Supply
RAA	restricted allocation area
RO	reverse osmosis
SAS	surficial aquifer system
SFWMD	South Florida Water Management District
STA	stormwater treatment area
TDS	total dissolved solids
UEC	Upper East Coast
UF/IFAS	University of Florida Institute of Food and Agricultural Sciences
UFA	Upper Floridan aquifer
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WRDA	Water Resources Development Act
WSVA	Water Supply Vulnerability Assessment
WWTF	wastewater treatment facility

Introduction

The South Florida Water Management District (SFWMD or District) develops and updates regional water supply plans to address current and future water needs while protecting central and southern Florida’s water resources. This *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) assesses existing and projected water demands as well as water sources to meet those demands through 2050 in the UEC Planning Area.

The UEC Planning Area includes all of Martin and St. Lucie counties, and the northeastern portion of Okeechobee County (**Figure 1-1**). The 2026 UEC Plan Update presents population estimates and associated water demands and projections, water resource and water supply development projects, and related water supply planning information. Demand estimates are provided for the 2024 base year as well as projections through 2050. Designed to be a planning guide for local and tribal governments, utilities, agricultural operations, and other water users, this 2026 UEC Plan Update provides a framework for local and regional water supply planning and management decisions in the UEC Planning Area.

The UEC Planning Area covers approximately 1,230 square miles and generally reflects the watersheds of the C-23, C-24, C-25, and C-44 canals. To the north of the UEC Planning Area is the St. Johns River Water Management District, to the west is the Lower Kissimmee Basin Planning Area and Lake Okeechobee, to the south is the Lower East Coast Planning Area, and to the east is the Atlantic Ocean. In the eastern portion of the planning area, there are metropolitan areas from Fort Pierce to Stuart, and in the western portion, there is a mixture of agricultural and urban areas from Okeechobee to Indiantown. Along the eastern boundary of the planning area are the St. Lucie Estuary and Indian River Lagoon, which provide critical habitat to a wide variety of species.

Notable water resources that are partially in and affect the UEC Planning Area include the Northwest Fork of the Loxahatchee River and Lake Okeechobee. Because these two water bodies span more than one planning area, they are noted in this plan update but are fully addressed in the *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024). The Northwest Fork of the Loxahatchee River, a federally designated Wild and Scenic River, extends from southern Martin County into northern Palm Beach County. The Lake Okeechobee Service Area includes portions of Palm Beach, Martin, Okeechobee, Hendry, Glades, and Lee counties. Because the UEC Planning Area depends on surface water from

TOPICS

- ◆ 2026 UEC Plan Update
- ◆ Goal and Objectives
- ◆ Legal Authority and Requirements
- ◆ Regional and Local Planning Linkage
- ◆ Plan Development Process
- ◆ Progress Since the 2021 UEC Plan Update

Other unique and critical ecosystems located in the UEC Planning Area include the Indian River Lagoon, St. Lucie Estuary Watershed, Allahpattah Flats, Ten Mile Creek Water Preserve Area, Cyprus Creek, Lakeside Ranch Stormwater Treatment Area, and the Hobe Sound National Wildlife Refuge. In addition to important natural areas, the UEC Planning Area includes an extensive agricultural industry and several major urban communities, all with unique water supply needs.



A. A. A.

Determining the availability of water needed to meet projected demands requires consideration of the area's water resources. The primary sources of fresh water throughout the UEC Planning Area are surface water and groundwater. To a much lesser extent, reclaimed water also is used for nonpotable uses like irrigation. Major surface water resources in the UEC Planning Area include the C-23, C-24, C-25, and C-44 canals as well as Lake Okeechobee and its hydraulically connected water bodies. The availability of surface water in the UEC Planning Area is limited, primarily due to water resource protection criteria (**Chapter 4**). Groundwater resources in the UEC Planning Area include the surficial and Floridan aquifer systems (SAS and FAS). Further information about water source options is provided in **Chapter 5**.

2026 UEC PLAN UPDATE

The 2026 UEC Plan Update reflects the changes experienced in the UEC Planning Area since 2021, describes the effects these changes have had on water use, and provides updates to include increased total projected water demands from 2045 to 2050. This update consists of two documents. First, the planning document with appendices focuses specifically on the UEC Planning Area. Second, the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026) discusses aspects common to four of the five SFWMD regional planning areas, including the legal authority and requirements for water supply planning. The Upper Kissimmee Basin is not included in the 2026–2029 Support Document because it is part of the Central Florida Water Initiative, which has its own support documents.

GOAL AND OBJECTIVES

The goal of the 2026 UEC Plan Update is to identify sufficient water supply sources and future projects to meet existing and future reasonable-beneficial uses during 1-in-10-year drought conditions through 2050 while sustaining water resources and related natural systems. The objectives for this 2026 UEC Plan Update are as follows and were updated (reviewed and modified) from the *2021 Upper East Coast Water Supply Plan Update* (2021 UEC Plan Update; SFWMD 2021):

1. **Water Supply** – Quantify sufficient volumes of water and water supply projects to meet reasonable-beneficial consumptive uses projected through 2050 under 1-in-10-year drought conditions.
2. **Natural Systems** – Sustain natural systems and water resources, including the St. Lucie River and Estuary, the Indian River Lagoon, the Northwest Fork of the Loxahatchee River, and other federal, state, and local natural resource areas.
3. **Water Conservation and Alternative Water Supply Development** – Encourage water conservation measures to improve water use efficiency. Continue to encourage development of the FAS as an alternative water supply (AWS) and monitor the SAS and FAS to enhance understanding of the relationships among water use, water levels, and water quality. Promote the development of water storage options for water supply, such as aquifer storage and recovery (ASR) systems, reservoirs, and projects that increase use of reclaimed water.

4. **Linkage with Local and Tribal Governments** – Provide information to support local government Comprehensive Plans. Promote compatibility of the 2026 UEC Plan Update with local and tribal government land use decisions.
5. **Compatibility and Linkage with Other Efforts** – Achieve compatibility and integration with the following planning-related activities within the region:
 - ♦ Comprehensive Everglades Restoration Plan (CERP) and other environmental restoration projects
 - ♦ Other state and local water resource initiatives
 - ♦ Existing and proposed environmental projects
 - ♦ Modifications to operating schedules for the regional system, including Lake Okeechobee
 - ♦ Water use permitting process, minimum flow and minimum water level criteria, water reservations, and restricted allocation areas
 - ♦ Local, District, and state resiliency efforts addressing the impacts of future changing conditions, including rising sea levels and changing rainfall and flood patterns

LEGAL AUTHORITY AND REQUIREMENTS

The legal authority and requirements related to water supply planning are included in Chapters 163, 187, 373, and 403, Florida Statutes (F.S.) with Chapter 373, F.S. establishing the District's legal authority. In accordance with Florida's Water Protection and Sustainability Program, regional water supply plans and local government Comprehensive Plans must ensure that adequate potable water facilities are constructed and concurrently available to meet the demands of new development. The water supply planning region identified in this plan update shall be designated a Water Resource Caution Area under Rule 62-40.520(2), Florida Administrative Code (F.A.C.), and for purposes of Rule 62-40.416(6), F.A.C. Affected parties may challenge the designation pursuant to Section 120.569, F.S.

The SFWMD is required by statute to provide updates for a variety of resource development, restoration, and monitoring programs implemented within the District's boundaries. Such updates are provided in the annual publication of the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>), as it contains relevant information for water supply planning, and is referenced as needed in this plan update.

TRIBAL GOVERNMENTS

The Seminole Tribe of Florida is a federally recognized Indian Tribe organized pursuant to Section 16 of the Indian Reorganization Act of 1934 and recognized by the State of Florida pursuant to Chapter 285, F.S. The Seminole Tribe of Florida's Fort Pierce Reservation encompasses approximately 60 acres within the northern portion of the UEC Planning Area (**Figure 1-1**). Much of the land is residential with a small population of permanent residents.

REGIONAL AND LOCAL PLANNING LINKAGE

The SFWMD's regional water supply planning process is closely coordinated and linked to the local water supply planning of municipal/county governments and utilities. Coordination and collaboration among all water supply planning entities is needed throughout the regional water supply plan development and approval process.

While this 2026 UEC Plan Update addresses regional and Districtwide water supply issues, local governments are required to plan for their water and wastewater needs (as well as other infrastructure and public service elements) through their Comprehensive Plans. These Comprehensive Plans also include Water Supply Facilities Work Plans (Work Plans), which are required by statute. Local governments are required by Chapter 163, F.S., to update their Work Plans and adopt revisions to their Comprehensive Plans within 18 months following approval of this 2026 UEC Plan Update. Revisions may include population projections, established planning periods, existing and future water resource projects, intergovernmental coordination activities, conservation and reuse measures, and the capital improvements element. More information on Comprehensive Plan and Work Plan requirements is provided in the 2026–2029 Support Document (SFWMD 2026).

To assist local governments in updating their Comprehensive Plans and Work Plans, the SFWMD has developed technical assistance tools and informational documents, which are available on the SFWMD webpage (<https://www.sfwmd.gov/doing-business-with-us/work-plans>). Additional information about developing a Work Plan is available from the Florida Department of Economic Opportunity webpage (<https://www.floridajobs.org/community-planning-and-development/programs/community-planning-table-of-contents/water-supply-planning>).

Public Participation

Public participation is a key component of the water supply plan development process to ensure the water supply plan update addresses the issues and concerns of stakeholders and that the future direction and projects are appropriate for future water needs. The SFWMD held three virtual workshops for this plan update. Stakeholders representing a variety of interests in the region, such as agriculture, tribal, industry, environment, utilities, local government planning departments, and state and federal agencies as well as the general public, were invited to attend the workshops. The workshops provided participants with an opportunity to review and comment on projected demands, water supply issues, the condition of regional water resources, water source options, groundwater modeling, and other key aspects of the plan update.

Individual meetings were held throughout the planning process with public supply utilities, the Seminole Tribe of Florida, other planning agencies, local government planning departments, and agricultural representatives to discuss water demand projections and coordinate planning efforts. During meetings with the region's major utilities and local governments, population and demand estimates and projections were reviewed and verified, and the condition of regional water resources and AWS development efforts were discussed. Additionally, the District's Governing Board was provided with an overview of the plan update for comments. Following the public comment period, the final version of the plan update was brought to the District's Governing Board for consideration of approval.

PLAN DEVELOPMENT PROCESS

This 2026 UEC Plan Update describes how anticipated water supply needs will be met in the UEC Planning Area through 2050. The planning process used to develop this plan update is outlined below.

PLAN DEVELOPMENT PROCESS 			
1	2	3	4
Planning and Assessment	Data Collection, Analyses, and Issue Identification	Evaluation of Water Resources and Water Source Options	Identification of Water Resource and Water Supply Development Projects
The process incorporated public participation and coordination with local stakeholders, including water supply utilities, agricultural operations, nongovernmental environmental groups, local and tribal governments, the Florida Department of Environmental Protection, the Florida Department of Agriculture and Consumer Services, and other appropriate state and federal agencies. A review of previous planning efforts in the region and documentation of activities since the approval of the 2021 UEC Plan Update (SFWMD 2021) were key starting points.	Using the 2021 UEC Plan Update (SFWMD 2021) as a foundation, developing this plan update involved collecting the latest information on current and projected population and water demands (Chapter 2), water conservation (Chapter 3), water resource protection (Chapter 4), water source options (Chapter 5), and water resource analyses (Chapter 6).	This phase of the planning process involved reviewing existing monitoring data and updated regional modeling used for evaluation of water resources to identify issues. Where projected demands exceed available supplies, water supply project options were identified, including alternative water supplies and water conservation.	Where resource conditions warranted, the SFWMD identified water resource development projects (Chapter 7). With input from stakeholders, the public, and other agencies, the SFWMD identified, compiled, and evaluated water supply development projects intended to meet water needs over the planning horizon. The SFWMD also considered water supply projects in local government Work Plans, Tribal Work Plans, and adopted Sector Plans, which are required to identify needed water supplies and available water sources pursuant to Section 163.3245(3)(a)2., F.S. Additionally, the projects were screened for permitting feasibility (Chapter 8).

PROGRESS SINCE THE 2021 UEC PLAN UPDATE

Since the 2021 UEC Plan Update (SFWMD 2021), the following activities have improved the understanding of and are supporting the sustainability and resiliency of the region's water resources, water supply, and natural systems.

Hydrologic Studies, Monitoring, and Modeling

- ◆ **Updated Delineation of the Saltwater Interface** – The SFWMD reviewed 2024 water quality data from Martin and St. Lucie counties and prepared updated maps comparing the 2009, 2014, 2019, and 2024 extent of saltwater intrusion within the SAS (**Chapter 6**).
- ◆ **FAS Monitoring Network** – The SFWMD continues to maintain and update a network of more than 117 FAS monitor wells, 16 of which are within the UEC Planning Area. Water level data from the monitor wells help manage use of the FAS as a water supply source. In addition, water quality sampling and analyses are conducted periodically to observe any trends that might signal overuse of the resource.
- ◆ **Hydrogeologic Studies** – Between 2021 and 2024, the SFWMD and its partners completed the following hydrogeologic investigations in the UEC Planning Area:
 - ◆ *Saltwater Interface Monitoring and Mapping Program Update 2024* (Zumbro and Coonts 2025)
 - ◆ *Hydrostratigraphic Mapping of the Surficial Aquifer System, Upper and Lower East Coast Planning Areas* (Coonts 2024)
 - ◆ *Upper East Coast Floridan Aquifer System Groundwater Monitoring Network Data Report 1999–2007* (Zumbro and Sunderland 2022)
- ◆ **United States Geological Survey (USGS)/SFWMD Cooperative Monitoring** – Water level and water quality monitoring at existing monitor wells provides critical information to develop groundwater models, assess groundwater conditions, and manage groundwater resources. The SFWMD maintains extensive groundwater monitoring networks and partners with the USGS to provide additional support and funding for ongoing monitoring. Well details and monitoring data are provided in various SFWMD technical publications and in the SFWMD's corporate environmental and water quality database, DBHYDRO Insights, available on the SFWMD webpage at <https://insights.sfwmd.gov>. Data from sites monitored by the USGS are archived in a USGS database and published annually.
- ◆ **East Coast Floridan Model** – The East Coast Floridan Model (Billah et al. 2021) was updated to identify potential changes in water quality, flows, and water levels in the FAS for the 2024 and 2050 withdrawal scenarios. **Chapter 6** provides information about the modeling effort for this plan update.
- ◆ **East Coast Surficial Model** – The East Coast Surficial Model, a density dependent groundwater model (Obeysekera et al. 2026), was updated to evaluate changes in water levels and water quality in the SAS for the 2024 and 2050 withdrawal scenarios (**Chapter 6**).

Water Supply Studies

- ◆ **Annual Estimated Water Use Reports** – The SFWMD prepared annual reports that summarize estimated use (based on reported withdrawals) for the water use categories: Public Supply, Domestic Self-Supply, Agriculture, Commercial/Industrial/Institutional, Landscape/Recreational, and Power Generation. The annual reports can be found at <https://www.sfwmd.gov/our-work/studies-and-reports>.
- ◆ **2023 Water Supply Cost Estimation Study** – The SFWMD funded an engineering evaluation of the capital and operational costs of various water supply facilities, including groundwater wellfields, surface facilities, water treatment processes, storage, piping and distribution facilities, and other ancillary components that was completed in 2023. The report can be found at <https://www.sfwmd.gov/our-work/studies-and-reports>.

Regulations and Operations

- ◆ **Lake Okeechobee System Operating Manual (LOSOM)** – A re-evaluation of the lake regulation schedule by the United States Army Corps of Engineers (USACE) began in 2019 to coincide with the Herbert Hoover Dike repairs which were completed in 2023. The water control plan was completed, and the final Record of Decision was signed in August of 2024.

Water Storage, Construction, and Restoration Projects

- ◆ **Herbert Hoover Dike/Lake Okeechobee** – In 2006, the USACE designated the Herbert Hoover Dike as a Level 1 risk, the highest risk for dam failure. Rehabilitation and repair of the Herbert Hoover Dike was completed in 2023. Twenty-eight water control structures were replaced with new structures, one culvert was removed, and three were filled in. Construction of all works are completed, and the Dam Safety Action Classification rating improved from a Level 1 to a Level 4 (lowest risk of dam failure).



Herbert Hoover Dike

- ◆ **Indian River Lagoon – South Project** – The Indian River Lagoon – South (IRL-S) Project is part of CERP and was authorized by WRDA 2007. The purpose of the IRL-S Project is to restore, preserve, and protect the Indian River Lagoon, St. Lucie Estuary, and associated watershed while maintaining the existing level of flood control and water supply. This project may also provide additional water supply for agricultural and other uses. Structural project components for the IRL-S Project, such as reservoirs and stormwater treatment areas (STAs), will capture, store, and treat local runoff to the Indian River Lagoon and St. Lucie Estuary from the C-44, C-23, C-24, and C-25 basins. The C-44 Reservoir and STA construction was completed in 2021, and operational testing and monitoring has commenced. Additional structural and operational components of the IRL-S Project, such as the C-23 to C-44 Estuary Discharge Diversion, the C-23/C-24 and C-25 STAs and reservoirs, the North Fork Floodplain Restoration project, and natural storage and treatment areas are discussed in **Chapter 7**.



C-44 Reservoir and STA

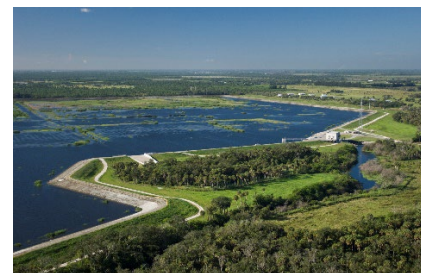
Loxahatchee River Watershed Restoration Project

– The CERP Loxahatchee River Watershed Restoration Project (formerly known as the North Palm Beach County Project – Part 1) encompasses large areas in both the UEC and Lower East Coast planning areas with planned management measures to improve flows to the Northwest Fork of the Loxahatchee River (NWFLR) and to restore connectivity of wetlands and watersheds that form the headwaters of the river. While water made available by the storage features of the project is anticipated to be reserved by rule to improve water flows to the NWFLR, additional ancillary benefits to water supplies are expected, including reduced saline water intrusion and groundwater recharge from some project components, such as storage impoundments and hydrologic restoration. See **Chapter 7** for more details.



Loxahatchee River

- ◆ **Ten Mile Creek Water Preserve Area** – The Ten Mile Creek Water Preserve Area consists of a 526-acre water storage area and 132-acre STA that improves the quantity and timing of water discharged into the St. Lucie River and Estuary. Originally constructed by the USACE, the project was transferred to the SFWMD in May 2016. Rehabilitation of the water preserve area was completed, and routine operation at a 4-foot maximum depth commenced in August 2017. See **Chapter 7** for more details.



Ten Mile Creek

- ◆ **Lakeside Ranch STA** – The Lakeside Ranch STA is a key component of the Lake Okeechobee Watershed Construction Project authorized under the Northern Everglades and Estuaries Protection Program, designed to reduce phosphorus loads to Lake Okeechobee. Located in northwestern Martin County, the Lakeside Ranch STA project consists of canals, levees, and treatment cells with an effective treatment area of 1,707 acres, a central preserve area, and a southern preserve area on a 2,700-acre parcel of land adjacent to Lake Okeechobee. The project was completed in August 2021. See **Chapter 7** for more details.



Lakeside Ranch STA

- ◆ **Additional CERP Projects** – Projects located outside of the UEC Planning Area with anticipated benefits to water resources and water supplies within the planning area include, but are not limited to, the Lake Okeechobee Component A Storage Reservoir (LOCAR) and the ASR well component of the Lake Okeechobee Watershed Restoration Project (LOWRP). These projects are planned to improve the quantity, quality, timing, and distribution of water in the Northern Everglades, including the St. Lucie and Caloosahatchee estuaries, improve aquatic and wildlife habitat within Lake Okeechobee and the surrounding watershed, and increase the availability of water supply to existing legal water users in the Lake Okeechobee Service Area. While the LOWRP planning effort has been terminated and is pending further direction from the USACE, the State of Florida continues to advance and implement the ASR well program component. The Feasibility Study and Environmental Impact Statement for LOCAR explored opportunities for 200,000 acre-feet of aboveground water storage north of Lake Okeechobee to maintain the basin storage in the original Recommended Plan for LOWRP. LOCAR is currently in the Preliminary Design Phase. More information on these CERP projects is provided in **Chapter 7**, on the CERP website at <https://www.evergladesrestoration.gov/>, and within annual updates to the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>).

Cooperative Funding Program

As part of the regional water supply plans' water resource development component (**Chapter 7**), and to assist local water users in implementation of the water supply development component (**Chapter 8**), the SFWMD periodically provides funding assistance to public water suppliers, local governments, special districts, homeowners' associations, water users, and other public and private organizations for AWS and water conservation projects that are consistent with the SFWMD's core mission. In 2019, the Florida Department of Environmental Protection and the SFWMD initiated annual funding for the construction and implementation of AWS and water conservation projects to qualified applicants through the Cooperative Funding Program.

- ◆ **Alternative Water Supply** – From Fiscal Year (FY) 2022 through FY2026, the SFWMD provided approximately \$2.5 million for one AWS project that is under construction in the UEC Planning Area, generating 2 million gallons per day (mgd) of additional brackish water capacity.

- ◆ **Water Conservation** – From FY2022 through FY2026, the SFWMD provided \$94,125 in funding for one water conservation project that was implemented in the UEC Planning Area. The project is estimated to save 6.69 million gallons per year (0.02 mgd).

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Demand Estimates and Projections

This chapter summarizes the water demand estimates and projections for the Upper East Coast (UEC) Planning Area of the South Florida Water Management District (SFWMD or District) for the 2024 base year through 2050. Demand estimates for the base year are developed as a first step when updating water supply plans, using the most recent and best available data. Estimates and projections are presented by water use category and were developed in coordination with various stakeholder groups, including agriculture, utilities, industry, local and tribal governments, and other interested groups. A detailed discussion of the data collection and analyses methods is provided in **Appendix A**.

Water demands in the UEC Planning Area are driven by agricultural irrigation, followed by potable water use provided by utilities. Due to greening disease (huanglongbing), citrus acreage and production continue to decrease. Water demand projections presented for citrus are based on the assumption that the number of active citrus groves will continue to decline through the planning horizon (2050). Acreages of most other crops are also projected to decrease. Starting in early 2020, the COVID-19 pandemic has had significant impacts to the economy, particularly to businesses and tourism. However, residential development has expanded at a robust rate in Martin and St. Lucie counties. The UEC Planning Area population continues to increase, and the average per capita use rate decreased slightly since the *2021 Upper East Coast Water Supply Plan Update* (2021 UEC Plan Update; SFWMD 2021).

TOPICS

- ◆ Water Demand
- ◆ Water Use Categories
- ◆ Population Estimates and Projections
- ◆ Public Supply
- ◆ Domestic Self-Supply
- ◆ Agriculture
- ◆ Commercial/Industrial/Institutional
- ◆ Landscape/Recreational
- ◆ Power Generation
- ◆ Summary of Demand Estimates and Projections
- ◆ Demand Projections in Perspective

WATER DEMAND

Water demands can be described and analyzed in two ways: gross demand and net demand. Gross demand is the volume of water withdrawn or diverted from a groundwater or surface water source. This definition serves as the basis for water allocations established through water use permits issued by the SFWMD. Further information on water use permitting is provided in the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026). Net demand refers to the volume of water delivered to end users after accounting for treatment losses and delivery system inefficiencies. For Public Supply (PS) and Domestic Self-Supply (DSS), demands commonly are referred to as raw and finished demands rather than gross and net demands, respectively. In this *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update), gross demand is equal to net demand for all water use categories except PS.

This 2026 UEC Plan Update presents demands for average rainfall and 1-in-10-year drought conditions (**Appendix A**). Section 373.709, Florida Statutes (F.S.), states the level-of-certainty planning goal associated with identifying water demands contained in water supply plans shall be based on meeting demands during 1-in-10-year drought conditions. Environmental demands are addressed through resource protection criteria (**Chapter 4**).

INFO ⓘ

Average Rainfall and 1-in-10-Year Drought

An **average rainfall year** is defined as a year having rainfall with a 50% probability of being exceeded in any other year.

A **1-in-10-year drought** is defined as a year in which below normal rainfall occurs with a 90% probability of being exceeded in any other year. It has an expected return frequency of once in 10 years.

WATER USE CATEGORIES

Water demands for this 2026 UEC Plan Update are estimated in 5-year increments for the following six water use categories established by the Florida Department of Environmental Protection (FDEP) in coordination with the state’s water management districts:

- ◆ **Public Supply (PS)** – Potable water supplied by water treatment plants with a current allocation of 0.10 million gallons per day (mgd) or greater.
- ◆ **Domestic Self-Supply (DSS)** – Potable water used by households served by small utilities (less than 0.10 mgd) or self-supplied by private wells.
- ◆ **Agriculture (AG)** – Self-supplied water used for commercial crop irrigation, greenhouses, nurseries, livestock watering, pasture, and aquaculture.
- ◆ **Commercial/Industrial/Institutional (CII)** – Self-supplied water associated with the production of goods or provision of services by commercial, industrial, or institutional establishments.

- **Landscape/Recreational Irrigation (L/R)** – Self-supplied and reclaimed water used to irrigate golf courses, sports fields, parks, cemeteries, and common areas, such as land managed by homeowners’ associations and commercial developments.
- **Power Generation (PG)** – Self-supplied and reclaimed water used for cooling, processing, and potable water by power generation facilities.

Table 2-1 presents estimated (2024) and projected (2050) average gross water demands, by water use category, in the UEC Planning Area for this water supply plan update. The largest water use category is AG, followed by PS, L/R, PG, DSS, and CII. A small increase in total demand is projected through the planning horizon.

Table 2-1. Estimated (2024) and projected (2050) average gross water demands (in mgd) for the UEC Planning Area by use category.

Water Use Category	2024	2050
Public Supply	68.83	99.83
Domestic Self-Supply	6.23	3.59
Agriculture	156.77	138.52
Commercial/Industrial/Institutional	0.55	0.71
Landscape/Recreational	46.04	56.58
Power Generation	21.11	16.42
UEC Planning Area Total	299.53	315.65

mgd = million gallons per day; UEC = Upper East Coast.

POPULATION ESTIMATES AND PROJECTIONS

Population estimates and projections for the UEC Planning Area are used to develop demands for all water use categories except PG and AG. Developing population estimates and projections required multiple sources of information, including county-level data from the University of Florida’s Bureau of Economic and Business Research (BEBR), pursuant to Section 373.709(2)(a), F.S., data from the 2020 Census (United States Census Bureau 2020), and data from local government Comprehensive Plans. **Appendix A** provides further details on the development of population estimates and projections.

NOTE

All population estimates and projections are for permanent residents as defined by the United States Census Bureau. However, the per capita use rate, which is used to calculate water demands, reflects use by seasonal residents as well.

In 2024, the total estimated population within the UEC Planning Area was 546,710 permanent residents (**Table 2-2**). BEBR projections indicate the UEC Planning Area population will grow to 742,217 permanent residents in 2050, an increase of approximately 36%. More than two-thirds of the UEC Planning Area population resides in St. Lucie County, while Martin County accounts for nearly one-third, and this trend is expected to continue. As explained in **Appendix A**, BEBR medium projections were used for all counties to develop detailed population projections for PS utilities and county DSS areas (Rayer and Comfort 2025). Only a small population that relies on DSS resides in the northeastern portion of Okeechobee County within the UEC Planning Area.

Table 2-2. Permanent resident population served by PS and DSS in the UEC Planning Area in 2024 and 2050.

County	2024 Population			2050 Population		
	PS	DSS	Total	PS	DSS	Total
Martin	153,359	12,021	165,380	185,386	2,414	187,800
Okeechobee ^a	0	557	557	0	617	617
St. Lucie ^b	336,848	43,925	380,773	522,772	31,028	553,800
UEC Planning Area Total	490,207	56,503	546,710	708,158	34,059	742,217

DSS = Domestic Self-Supply; PS = Public Supply; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

^b The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from St. Lucie County. However, for discussion purposes, information relating to the Seminole Tribe of Florida's Fort Pierce Reservation is included in the calculations for St. Lucie County.

PUBLIC SUPPLY

PS is the second largest water use category in the UEC Planning Area. The PS category includes potable water supplied by water treatment plants with a current allocation of 0.10 mgd or greater. Developing PS demand projections in the UEC Planning Area was a multistep process that included determining utility service area and DSS populations, calculating per capita use rates (PCURs), and projecting future water needs.

NOTE

Perceived discrepancies in table totals are due to rounding.

Per Capita Use Rates

For each utility, a net (finished) water PCUR was developed using past population and finished water data reported to the FDEP. The PCUR for each utility is a 5-year (2020 through 2024) average, calculated by dividing annual net (finished) water volumes by the corresponding service area populations for each year. For PS demand projections, PCURs were assumed to remain constant through 2050. To calculate projected gross (raw) demands, the treatment efficiency for each utility, based on existing treatment process type(s) and expected changes through 2050, was applied as a finished-to-raw ratio. Any demand reductions due to historical conservation practices are implicitly factored into the projections by using the 5-year average PCUR. Future water conservation savings (**Chapter 3**) were not factored into the demand projections used in this plan update due to water savings uncertainties. Existing (2024) areas served by PS utilities and water treatment plant types and locations are provided in **Appendix A**. Utility profiles containing population and finished water use data and projections as well as permitted allocations are provided in **Appendix B**.

PS Demand Estimates and Projections

Tables 2-3 and **2-4** present PS gross (raw) and net (finished) water demands, respectively, in 5-year increments by county. The results indicate PS gross (raw) water demands will increase 45%, from 68.83 mgd in 2024 to 99.83 mgd in 2050 under average rainfall conditions. Calculation of 1-in-10-year demand is based only on the outdoor portion of PS use, and the methodology is explained in **Appendix A**.

Table 2-3. PS gross (raw) water demands in the UEC Planning Area by county.

County	Gross (Raw) Demand – Average Rainfall Conditions (mgd)								2050 1-in-10-Year Demand
	2020	2024	2025	2030	2035	2040	2045	2050	
Martin	24.38	24.92	24.50	25.94	27.27	28.56	29.66	30.59	35.79
Okeechobee ^a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie ^b	39.91	43.91	45.32	51.62	58.43	64.06	68.32	69.24	75.47
UEC Planning Area Total	64.29	68.83	69.82	77.56	85.70	92.62	97.98	99.83	111.26

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries. No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

^b The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from St. Lucie County. However, for discussion purposes, information relating to the Seminole Tribe of Florida's Fort Pierce Reservation is included in the calculations for St. Lucie County.

Table 2-4. PS net (finished) water demands in the UEC Planning Area by county.

County	Net (Finished) Demand – Average Rainfall Conditions (mgd)								2050 1-in-10-Year Demand
	2020	2024	2025	2030	2035	2040	2045	2050	
Martin	20.52	20.97	21.06	22.21	22.87	23.76	24.36	25.01	29.27
Okeechobee ^a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie ^b	31.70	34.85	35.64	40.10	45.28	49.11	52.34	53.03	57.81
UEC Planning Area Total	52.22	55.82	56.70	62.31	68.15	72.87	76.70	78.04	87.08

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries. No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

^b The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from St. Lucie County. However, for discussion purposes, information relating to the Seminole Tribe of Florida's Fort Pierce Reservation is included in the calculations for St. Lucie County.

DOMESTIC SELF-SUPPLY

The DSS category includes potable water used by households that are served by small utilities with current allocations less than 0.10 mgd or that are self-supplied by private wells. Permanent resident populations within DSS areas were developed simultaneously with the PS population estimates and projections. All permanent residents outside of PS utility service area boundaries were considered DSS population. Population projection methodology and results are provided in the previous section and further described in **Appendix A**.

Table 2-5 contains the UEC Planning Area's DSS demand estimates and projections under average rainfall conditions for 2020 through 2050 and 1-in-10-year drought conditions demands for 2050. The average gross (raw) demands in 2024 were 6.23 mgd for 56,503 permanent residents (**Table 2-2**). DSS average demands are expected to decrease 42%, to 3.59 mgd for 34,059 residents in 2050. This decrease can be attributed to low anticipated growth in DSS areas and expansion of PS utility service areas over the planning horizon.

Table 2-5. DSS gross (raw) water demands in the UEC Planning Area by county.

County	Gross (Raw) Demand – Average Rainfall Conditions (mgd)								2050 1-in-10-Year Demand
	2020	2024	2025	2030	2035	2040	2045	2050	
Martin	1.53	1.65	1.70	1.23	1.21	0.81	0.60	0.33	0.39
Okeechobee ^a	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07
St. Lucie	1.79	4.52	5.20	5.02	3.18	2.28	1.51	3.20	3.49
UEC Planning Area Total	3.38	6.23	6.96	6.31	4.45	3.15	2.17	3.59	3.95

DSS = Domestic Self-Supply; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

AGRICULTURE



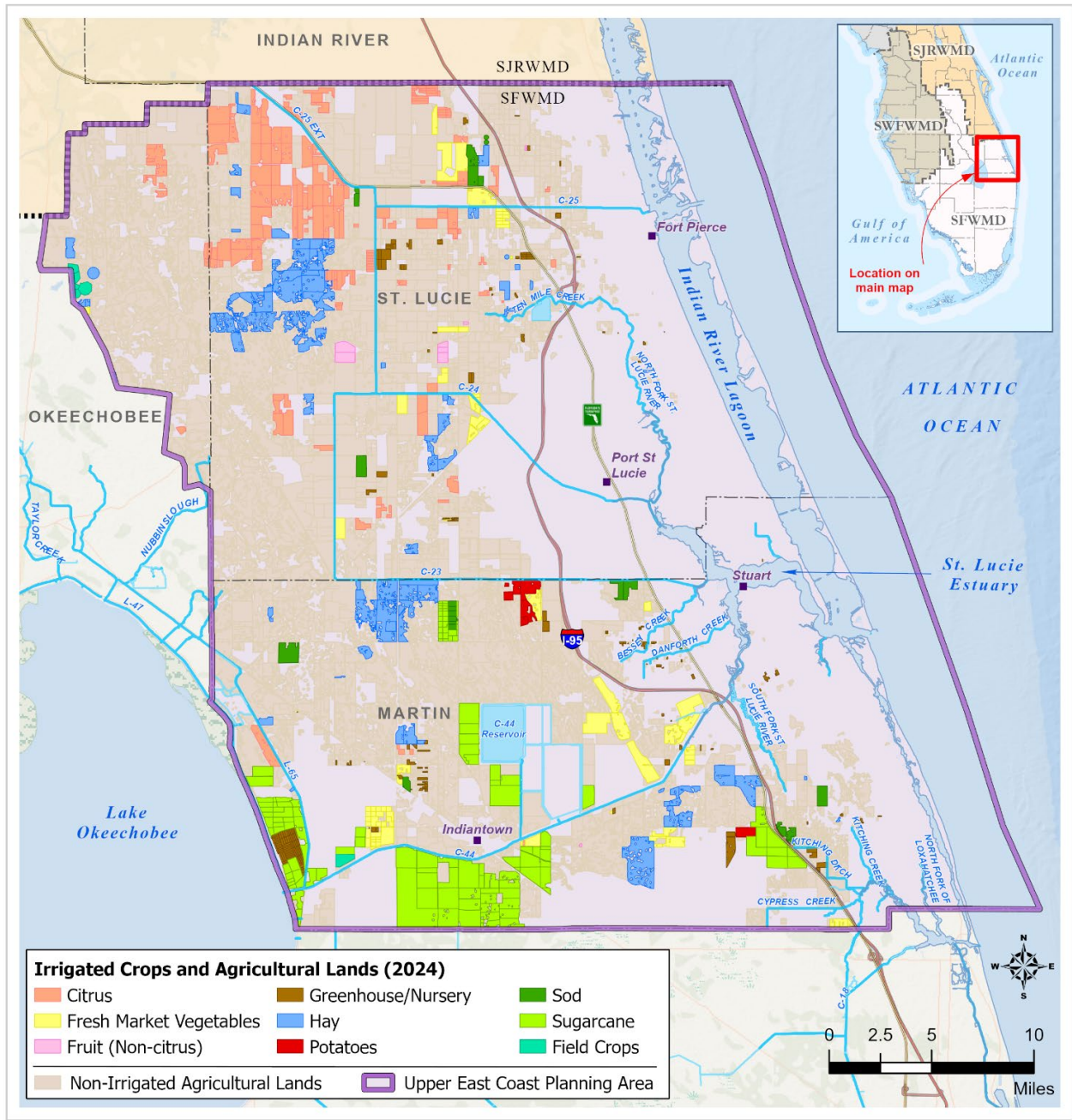
AG is the largest water use category in the UEC Planning Area, accounting for 156.77 mgd (52%) of the region's total estimated water demand in 2024. The AG category includes self-supplied water used for commercial crop irrigation, nurseries, greenhouses, livestock watering, pasture, and aquaculture. Agricultural production in the UEC Planning Area is of regional significance, with 92,065 acres under irrigation in 2024 (**Figure 2-1**).

Agricultural acreage data published by the Florida Department of Agriculture and

Consumer Services (FDACS 2025) were used to determine AG water demands for this 2026 UEC Plan Update. Pursuant to Section 373.709(2)(a), F.S., water management districts are required to consider FDACS water demand projections. Any adjustments or deviations from the projections published by FDACS, "...must be fully described, and the original data must be presented along with the adjusted data." A detailed description of the analyses is provided in **Appendix A**.

Agricultural water demand was determined using the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) model (Smajstrla 1990). No distinction is made between gross and net water demands. FDACS irrigated crop acres, as well as inputs from other data sources for parameters, such as irrigation methods, soil types, rainfall, and growing seasons, were used with the AFSIRS model to calculate current and future demands. AG demand estimates and projections are based on the commercially grown crop categories in **Table 2-6**.

Sugarcane and citrus are the predominant irrigated land use in the UEC Planning Area, encompassing 50,076 acres with an average demand of 81.87 mgd in 2024 (**Table 2-6**). Together, these two crop types account for approximately half of the irrigated acreage and demand under average rainfall conditions. Irrigated hay/pasture, fresh market vegetables, and greenhouse/nurseries are the next largest AG categories, with a combined 35,415 acres and 58.70 mgd of irrigation demand in 2024.



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Figure 2-2. Agricultural irrigated land in the UEC Planning Area (Data from FDACS 2025).

Table 2-6. Summary of average and 1-in-10-year water demands (in mgd) for all agricultural acreage, livestock, and aquaculture in the UEC Planning Area.

Crop	2024			2050		
	Acres	Average Demand	1-in-10-Year Demand	Acres	Average Demand	1-in-10-Year Demand
Sugarcane	26,152	54.35	63.12	22,716	47.60	55.72
Citrus	23,924	27.52	34.71	23,422	26.76	34.09
Hay/Pasture	19,780	28.97	33.65	18,938	27.62	32.07
Fresh Market Vegetables	11,446	19.26	22.73	9,811	16.28	19.18
Greenhouse/Nursery	4,189	10.47	11.56	3,488	8.58	9.50
Sod	3,388	6.38	7.60	2,827	5.67	6.98
Potatoes	1,398	3.93	4.57	272	0.77	0.89
Fruit (excluding citrus)	945	1.93	2.22	618	1.28	1.48
Field Crops	843	2.06	2.37	843	2.06	2.37
Livestock	N/A	1.82	1.82	N/A	1.82	1.82
Aquaculture	N/A	0.08	0.08	N/A	0.08	0.08
UEC Planning Area Total	92,065	156.77	184.43	82,935	138.52	164.18

mgd = million gallons per day; UEC = Upper East Coast.

Total irrigated AG acres in the UEC Planning Area are projected to decrease 10% by 2050. Most crops are projected to decrease in acreage over the planning horizon. The largest change in irrigated acreage and demand is expected to occur in the sugarcane industry. By 2050, sugarcane is expected to decrease by 3,436 acres, and average demands are projected to decrease by 6.75 mgd.

Overall, total AG gross water demands under average rainfall conditions in the UEC Planning Area are projected to decrease from 156.77 mgd in 2024 to 138.52 mgd in 2050 (**Table 2-7**). These totals include demands from livestock and aquaculture in addition to the demands from crop irrigation shown in **Table 2-6**. Demands for livestock and aquaculture in the UEC Planning Area are estimated to be 1.82 mgd and 0.08 mgd, respectively, in 2024 and are projected to remain constant over the planning horizon.

INFO

Examples of crop categories used by FDACS include the following:

Fresh Market Vegetables:

- Tomatoes
- Green beans
- Peppers
- Melons

Fruits (excluding citrus):

- Dragon fruit
- Strawberries

Table 2-7. AG gross water demands for all agricultural acreage, livestock, and aquaculture in the UEC Planning Area by county.

County	Gross Demand – Average Rainfall Conditions (mgd)								2050 1-in-10-Year Demand
	2020	2024	2025	2030	2035	2040	2045	2050	
Martin	99.06	98.05	97.80	94.89	92.00	89.82	86.13	83.63	97.34
Okeechobee ^a	4.24	4.24	4.24	4.16	4.16	4.16	4.16	4.16	4.77
St. Lucie	54.48	54.48	54.29	53.54	53.02	51.93	51.35	50.73	62.07
UEC Planning Area Total	157.78	156.77	156.33	152.59	149.18	145.91	141.64	138.52	164.18

AG = Agriculture; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL

The CII water use category includes water demands at commercial, industrial, and institutional facilities. CII demands only include self-supplied users and do not include users that receive water from PS utilities; those users are included in the PS category. CII projections assume demands for average rainfall and 1-in-10-year drought conditions are the same and withdrawal demand is equal to user demand. Therefore, no distinction is made between gross and net water demands. Growth within the CII category is expected to be driven by regional population growth. Estimated CII demands for 2024 were 0.55 mgd, with minimal projected growth resulting in demands of 0.71 mgd in 2050 (**Table 2-8**).

Table 2-8. CII gross water demands in the UEC Planning Area by county.

County	Gross Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin	0.36	0.24	0.24	0.25	0.26	0.27	0.27	0.28
Okeechobee ^a	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
St. Lucie	0.29	0.27	0.28	0.32	0.34	0.36	0.38	0.38
UEC Planning Area Total	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71

CII = Commercial/Industrial/Institutional; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

LANDSCAPE/RECREATIONAL

L/R is the third largest water use category in the UEC Planning Area, encompassing irrigation of golf courses and other landscaped areas, such as parks, sports fields, and homeowners' association common areas. L/R demands are met with the use of groundwater, surface water, and reclaimed water. L/R acreages reflect only the acres with water use permits, including systems using reclaimed water as a supplemental or backup supply. Acreages irrigated solely with reclaimed water do not require a water use permit and are not included. For L/R, acreage and demands are disaggregated into landscape and golf irrigation subcategories because they are projected to grow at different rates. Details regarding development of the L/R demands are provided in **Appendix A**.



Within the L/R category in 2024, an estimated 8,749 acres of land were attributed to landscape irrigation. These landscaped areas are expected to grow at the same rate as the local population through 2050. In 2024, there were 44 golf courses irrigating 5,304 acres under water use permits in the UEC Planning Area (SFWMD 2025). Following the development of three proposed golf courses in Martin County and two in St. Lucie County, golf course acreage and demands are projected to remain stable through 2050. Under average rainfall conditions, total estimated L/R gross water demands are projected to increase from 46.04 mgd in 2024 to 56.58 mgd in 2050 (**Table 2-9**).

Table 2-9. L/R gross water demands (in mgd) in the UEC Planning Area.

Land Use	Gross Demand – Average Rainfall Conditions (mgd)								2050 1-in-10-Year Demand
	2020	2024	2025	2030	2035	2040	2045	2050	
Martin County									
Landscape	8.43	12.13	12.13	12.61	12.98	13.27	13.49	13.69	17.25
Golf	8.57	11.60	11.60	12.06	12.06	12.06	12.06	12.06	15.68
Martin County Total	17.00	23.73	23.73	24.67	25.04	25.33	25.55	25.75	32.93
Okeechobee County ^a									
Landscape	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.17
Golf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.17
St. Lucie County									
Landscape	12.61	16.91	17.56	19.46	21.05	22.39	23.55	23.71	29.87
Golf	5.16	5.28	5.28	6.99	6.99	6.99	6.99	6.99	9.09
St. Lucie County Total	17.77	22.19	22.84	26.45	28.04	29.38	30.54	30.70	38.96
UEC Planning Area Total									
Landscape	21.13	29.16	29.81	32.20	34.16	35.79	37.18	37.53	47.29
Golf	13.73	16.88	16.88	19.05	19.05	19.05	19.05	19.05	24.77
UEC Planning Area Total	34.86	46.04	46.69	51.25	53.21	54.84	56.23	56.58	72.06

L/R = Landscape Recreational; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

POWER GENERATION

Demands under the PG category include use of groundwater, fresh surface water, or reclaimed water by thermoelectric power generation facilities. PG demands do not include the use of surface water returned to its withdrawal source, harvested rainfall, city water, or seawater. Demands under average rainfall and 1-in-10-year drought conditions are assumed to be equal in the PG category; no distinction is made between gross and net water demands.

There are two power generation facilities operating in the UEC Planning Area that are addressed in this plan update: Florida Power & Light (FPL) Martin Plant near Indiantown (Martin County) and the Treasure Coast Energy Center in Fort Pierce (St. Lucie County).

Also operating in the UEC Planning Area is the FPL St. Lucie Nuclear Plant on Hutchinson Island. However, the facility uses potable water (permitted separately) and seawater (which does not require a water use permit) for cooling; therefore, the facility is not addressed in this water supply plan update. The Indiantown Cogeneration Plant in Martin County was demolished in 2023.

The FPL Okeechobee Clean Energy Center, located in Okeechobee County, is within the St. Johns River Water Management District, approximately 6 miles outside the UEC Planning Area. Because the facility is beyond the planning area and SFWMD boundary, its demands are not included in this 2026 UEC Plan Update. However, the facility's demands were simulated in the groundwater modeling analysis because the influence of the withdrawals extends into the UEC Planning Area. The facility is estimated to need an average of 9.00 mgd (11.00 mgd peak) of water from the Floridan aquifer system for operation.

The need for additional power is expected to increase as the population in the UEC Planning Area and other portions of South Florida grows. The area's major power supplier, FPL, expects that much of the region's future power generation capacity will use fresh or alternative (brackish or reclaimed) water sources for cooling.

The FPL Martin Plant uses cooling pond and tower technology that varies by unit and substantially decreases overall water supply demands at the facility because the cooling pond is the intake and release point. The Mainland Water Reclamation Facility is currently under construction and is anticipated to be supplying the Treasure Coast Energy Center with reclaimed water in 2027. PG demands are expected to remain relatively stable from 2024 to 2050 (**Table 2-10**). More information on the development of PG estimates and projections is provided in **Appendix A**.

Table 2-10. PG water demands in the UEC Planning Area.

Facilities	Gross Demand (mgd) ^a							
	2020	2024	2025	2030	2035	2040	2045	2050
FPL – Martin Plant	11.81	19.61	16.01	16.01	16.01	16.01	16.01	16.01
Treasure Coast Energy Center	1.50	1.50	1.50	0.41	0.41	0.41	0.41	0.41
UEC Planning Area Total	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42

FPL = Florida Power & Light; mgd = million gallons per day; PG = Power Generation; UEC = Upper East Coast.

^a Includes groundwater from the surficial and Floridan aquifer systems, reclaimed water, and surface water; does not include harvested rainwater, seawater, or surface water returned to the source.

SUMMARY OF DEMAND ESTIMATES AND PROJECTIONS

Total gross water demands under average rainfall conditions in the UEC Planning Area are projected to be 315.65 mgd by 2050, a 5% increase from 2024 demands (299.53 mgd). Demands under 1-in-10-year drought conditions are approximately 17% higher than those for average rainfall conditions.

Table 2-11 provides 5-year incremental summaries of gross demands for all water use categories under average rainfall and 1-in-10-year drought conditions. Gross demands under average rainfall conditions are used to demonstrate projected trends, including the following key highlights:

- ◆ PS and DSS gross demands combined are expected to increase 38%, from 75.06 mgd in 2024 to 103.42 mgd in 2050. PS will remain the second largest water use category in the UEC Planning Area.
- ◆ AG gross demands are projected to decrease from 156.77 mgd in 2024 to 138.52 mgd in 2050. AG will remain the largest water use category in the UEC Planning Area.
- ◆ CII gross demands are projected to increase 0.16 mgd over the planning period. The projected demand growth is related to regional population growth.
- ◆ L/R gross demands are projected to increase by 10.54 mgd by 2050. L/R will remain the third largest water use category in the UEC Planning Area.
- ◆ PG gross demands are projected to remain relatively constant, with 16.42 mgd expected in 2050.

Table 2-11. Summary of gross water demands under average rainfall and 1-in-10-year drought conditions in the UEC Planning Area by water use category.

Water Use Category	2020	2024	2025	2030	2035	2040	2045	2050
Demand – Average Rainfall Conditions (mgd)								
PS	64.29	68.83	69.82	77.56	85.70	92.62	97.98	99.83
DSS	3.38	6.23	6.96	6.31	4.45	3.15	2.17	3.59
AG	157.78	156.77	156.33	152.59	149.18	145.91	141.64	138.52
CII	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71
L/R	34.86	46.04	46.69	51.24	53.21	54.84	56.22	56.58
PG	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42
UEC Planning Area Total	274.31	299.53	297.87	304.73	309.60	313.61	315.13	315.65
Demand – 1-in-10-Year Drought Conditions (mgd)								
PS	72.00	77.03	78.07	86.63	95.61	103.27	109.18	111.26
DSS	3.81	6.93	7.73	6.98	4.96	3.51	2.42	3.95
AG	185.56	184.43	183.89	179.60	175.59	172.40	167.41	164.18
CII	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71
L/R	44.47	58.68	59.50	65.33	67.81	69.86	71.61	72.06
PG	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42
UEC Planning Area Total	319.84	348.73	347.26	355.57	361.03	366.13	367.74	368.58

AG = Agriculture; CII = Commercial/Industrial/Institutional; DSS = Domestic Self-Supply; L/R =Landscape/Recreational; mgd = million gallons per day; PG = Power Generation; PS = Public Supply; UEC = Upper East Coast.

DEMAND PROJECTIONS IN PERSPECTIVE

Demand projections presented in this 2026 UEC Plan Update are based on the best available information. **Table 2-12** shows the 2045 average gross demands projected in 2021 UEC Plan Update (SFWMD 2021) compared to the 2050 demands projected in this 2026 UEC Plan Update. The projection for 2050 in this 2026 UEC Plan Update is 12% higher than the estimated 2045 demands projected in the 2021 UEC Plan Update (SFWMD 2021). The projections reflect trends, economic circumstances, and industry intentions that will change over time. Like any predictive tool based on past assumptions, there is uncertainty and a margin for error. The differences, beyond increases in demands due to population growth from 2045 to 2050, can be primarily attributed to the following:

- BEBR population projections used to develop PS and L/R demands for this plan update are higher for the total planning area than the projections in the 2021 UEC Plan Update.
- Agriculture acreage data published by FDACS used to develop AG demands for this plan update are higher than projected in the 2021 UEC Plan Update, including increases in irrigated acres for citrus, sugarcane, fresh vegetables, and hay/pasture.
- Projected water needs for PG in 2050 are less than in the 2021 UEC Plan Update for 2045 because the construction of additional fossil fuel and/or nuclear generation plants is no longer anticipated.

Table 2-12. Comparison of gross water demands under average rainfall conditions at the end of the respective planning horizons in the 2021 UEC Plan Update and this 2026 UEC Plan Update.

Water Use Category	2021 UEC Plan Update 2045 Demand (mgd)	2026 UEC Plan Update 2050 Demand (mgd)	Percent Difference
Public Supply	81.62	99.83	22%
Domestic Self-Supply ^a	5.61	3.59	-36%
Agriculture	130.10	138.52	6%
Commercial/Industrial/Institutional	5.74	0.71	-88%
Landscape/Recreational	40.64	56.58	39%
Power Generation	17.47	16.42	-6%
UEC Planning Area Total	281.18	315.65	12%

mgd = million gallons per day; UEC = Upper East Coast.

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Demand Management: Water Conservation

An important element of water supply planning is accounting for the reduction in water demands that can be achieved through water conservation efforts. Water conservation entails the reduction of the quantity of water required to meet demands through water use efficiency improvements, the prevention or reduction of unnecessary uses, behavioral changes that promote more efficient water use, or the cessation of water losses contributing to the sustainability of water supply resources. Section 373.709(2), Florida Statutes (F.S.), requires that water conservation be considered when determining if the total capacity of the water supply development project options included in a water supply plan (**Chapter 8**) exceeds the increase in projected demands for the planning horizon (**Chapter 2**).

TOPICS

- ◆ Conservation Measures
- ◆ Conservation Programs
- ◆ Regulatory Initiatives
- ◆ Potential for Water Conservation Savings
- ◆ Summary of Demand Management: Water Conservation

All water sources are finite; therefore, conservation and efficiency measures should be maximized, regardless of the water source, before more costly development options are implemented. Water conservation can reduce, defer, or eliminate the need to develop new water supply sources to meet current or future demands, which has the same effect as expanding the existing water supply. Moreover, conservation and demand management have been shown to reduce costs to utilities and rate payers over the long term (Feinglas et al. 2013, Chesnutt et al. 2018). Improving water use efficiency can reduce operational costs for most other users as well.

This chapter describes water conservation measures and programs and provides an estimate of potential water savings (demand reduction) achievable by 2050 in the Upper East Coast (UEC) Planning Area of the South Florida Water Management District (SFWMD or District). Additional conservation information can be found in the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026) and on the SFWMD webpage (<https://www.sfwmd.gov/conserve>).

CONSERVATION MEASURES

The average per capita water use rate in the UEC Planning Area has decreased from 167 gallons per capita per day (gpcd) in 2000 to approximately 113 gpcd in 2024. Although the reduction of per capita water use is in part due to implemented conservation measures like irrigation restrictions, it is thought to be largely due to passive water savings, which result from replacing older appliances and fixtures with more water-efficient models, and designing new homes with less irrigated green space. Federal, state, and local codes and standards promote the development and use of more efficient devices, increasing passive savings.

However, depending solely on passive savings will delay or exclude substantial conservation savings potential. Therefore, proactive conservation measures and programs are necessary to encourage the use of high-efficiency equipment or improved water use behaviors that yield water savings, including increased outreach, education, and messaging to water users. Local governments, utilities, and large water users are encouraged to research which types of programs would be most appropriate and cost effective for their residents and specific user groups and to develop goal-based water conservation plans that include development and deployment of public education and outreach materials. Cost-share funding and other collaborative opportunities may be available to help implement conservation measures and programs. The following subsections include a brief description of outdoor and indoor water conservation measures that can be implemented.

Outdoor Water Use (Irrigation)

A significant share of water used outdoors in the UEC Planning Area is for irrigation. Lawns and landscapes are irrigated by residential and commercial property owners, while irrigation of food and other commodity crops is conducted by agricultural water users. Many irrigation efficiency principles are common across these user groups; however, patterns and scales of use, system design, hardware and components, and operator knowledge can vary widely.

Agriculture

Many alternatives for improving irrigation efficiency and conserving water in agricultural operations are available and should be considered for implementation when economically feasible. Typically, agricultural water conservation measures fall under three categories: 1) converting from one irrigation method (or system type) to a more efficient one; 2) improving the precision management capabilities of the irrigation system; and 3) implementing best management practices (BMPs). Real-time information on soil moisture and weather conditions, combined with remote operational control, allows irrigation systems to adjust when water is delivered to meet crop needs precisely in response to changing weather.

Hardware and technology that can improve system management, reduce water quantities used to meet crop needs, and minimize water losses include the following:

- ◆ Flowmeters
- ◆ Weather stations
- ◆ Soil moisture sensors
- ◆ Variable-frequency pump drives
- ◆ Automated control systems
- ◆ Best management practices (e.g., laser leveling, irrigation system maintenance)



Urban

In South Florida, where irrigation may occur year-round, the largest portion of water used by urban water users served by utilities often is for irrigation. Moreover, the United States Environmental Protection Agency (USEPA) estimates approximately 50% of water used outdoors is wasted due to inefficient watering methods and systems. Therefore, improvements to irrigation efficiency are considered a primary factor in conservation savings potential among urban water users.

In accordance with Section 373.62, F.S., all automatic landscape irrigation systems must be properly equipped with technology that inhibits or interrupts the system's operation during periods of sufficient moisture. More specifically, irrigation systems should be programmed to irrigate only as necessary to supplement rainfall following any mandatory irrigation restrictions. The most common type of device used for this purpose in residential areas is a rain sensor that relies on a cork disc insert to swell when wet activating a switch to stop the irrigation system. These inserts typically last between 1 to 3 years in Florida's extreme climate. Upgrading to newer sensors, described briefly below, represents a meaningful opportunity to improve irrigation efficiency, particularly where irrigation systems are not routinely optimized.

Many irrigation systems, especially those in older urban residential areas, were not designed and installed with high-efficiency in mind. These older systems present opportunities for efficiency improvements if efficiency modifications are implemented. Irrigation efficiency improvements can be achieved at single-family and multifamily residences, commercial and institutional properties, recreational areas (e.g., parks, athletic fields, golf courses), and other landscaped areas (e.g., roadway medians) by replacing outdated irrigation system timers with newer, weather and soil moisture-based controllers. These controllers should be tested and shown to meet the USEPA's WaterSense program specifications for water efficiency and performance. More information on the WaterSense program and labeled irrigation controllers is available at <https://www.epa.gov/watersense>.



INFO ⓘ

Florida-Friendly Landscaping means using low-maintenance plants and environmentally sustainable landscaping practices to conserve water, reduce pollution and erosion, and create wildlife habitat.

In addition to hardware and scheduling improvements, incorporating Florida-Friendly Landscaping (FFL) principles can further reduce outdoor water use in urban settings. The FFL Program, developed by the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), promotes the selection of drought-tolerant plants, appropriate turf areas, soil improvement, and efficient irrigation design. Local governments and utilities are encouraged to adopt FFL principles or incentive programs that promote water-efficient landscape retrofits and new installations. Integrating FFL education into local outreach efforts complements irrigation audits,

smart-controller use, and compliance with the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, Florida Administrative Code [F.A.C.]) by reducing the long-term demand for supplemental irrigation.

The UF/IFAS publication *Estimated Water Savings Potential of Florida-Friendly Landscaping Activities* provides estimated reductions in irrigation demand for individual practices expressed in gallons per 1,000 square feet of irrigated landscape per year relative to a typical irrigation baseline. These estimates illustrate the potential magnitude of savings associated with practices such as irrigation system calibration, reduced irrigation frequency, smart controller use, and microirrigation (Boyer et al. 2025).

Indoor Water Use

Another area of potential conservation savings is indoor water use in single-family and multifamily residences and commercial/institutional buildings (e.g., office buildings, restaurants, movie theaters, long-term care facilities, and hospitals). Feasible measures include detecting and repairing water leaks and replacing older, inefficient plumbing fixtures



(e.g., toilets, urinals, faucets, showerheads) with models that have been tested and shown to meet the USEPA's WaterSense program specifications for water efficiency and performance. For more information on the WaterSense program and to find labeled products, visit <https://www.epa.gov/watersense>. In addition, older, inefficient appliances can be replaced with water-efficient models that have received the ENERGY STAR label. For more information on the ENERGY STAR program and to find labeled products, visit <https://www.energystar.gov>.

In addition to equipment upgrades, behavioral changes and improved water-use practices can further reduce indoor water demand. Encouraging residents and facility managers to promptly report and repair leaks, operate dishwashers and clothes washers only with full loads, turn off faucets when not in use, and monitor monthly water bills for unusual increases complements hardware-based conservation measures. The implementation of a water conservation program can support these actions through targeted information and user engagement efforts. Promoting efficient habits alongside the use of WaterSense and ENERGY STAR labeled devices provides a cost effective and sustainable approach to reducing indoor water use.

Common water efficiency improvement measures for commercial and industrial users are outlined in the SFWMD's (2013) *Water Efficiency and Self-Conducted Water Audits at Commercial and Institutional Facilities: A Guide for Facility Managers*, which is discussed in greater detail in the 2026–2029 Support Document (SFWMD 2026). Measures for improving water efficiency in nonresidential settings may be applicable to specific operations or facilities, such as autoclaves in hospitals; pre-rinse spray valves, food steamers, and waste grinders in restaurants; heating, ventilation, and air conditioning (HVAC) system efficiency upgrades; converting water-based cooling devices to air based; and water reuse/recycling in industrial operations. Other applicable measures may exist for specific industrial processes.

CONSERVATION PROGRAMS

Conservation programs are initiatives designed to encourage the adoption of water-saving measures and behaviors that improve water use efficiency across all user groups. These programs typically combine educational, financial, and regulatory tools to achieve measurable reductions in water demand. Conservation may involve actions, technologies, or management practices that reduce unnecessary water use while maintaining the intended level of service.

Local governments and utilities serve as the primary entities responsible for developing and implementing conservation programs within their service areas. These programs may include incentive-based rebates, outreach campaigns, enforcement of irrigation ordinances, or technical assistance programs for large users. Regional and state agencies, including the SFWMD, also play an important leadership role by providing technical support, guidance, and cost-share funding through programs.

Local governments and utilities are encouraged to evaluate their service areas to identify key user groups and select conservation strategies that are both cost effective and locally applicable. Collaborative implementation among regional agencies, local governments, and utilities maximizes conservation benefits and supports long-term water resource sustainability. The following subsections describe established conservation programs and activities that may be applied to various user categories within the planning area.

Education, Outreach, and Marketing

Although water savings attributed to education, outreach, and marketing campaigns are difficult to quantify, such campaigns are essential to reducing water use and instilling sustained water-efficient behaviors in businesses and communities. Developing long-term water conservation practices by educating water users enables people to understand why conservation is important and necessary, what conservation measures and programs are available, and how they can be implemented. Campaigns usually are conducted by regional/local agencies or utilities and are designed to reach specific user groups (e.g., residents, schools, and commercial properties), providing consistent and regular messaging.

The SFWMD maintains its commitment to water conservation education through distributing educational materials, conducting speaking engagements, and utilizing social media platforms to raise awareness about the necessity of saving water.

Cost-Share Funding Programs

Funding programs, such as the ones described below, may be available to specific user groups and should be investigated by local governments, agencies, and end users for applicability to their intended water use category.

Cooperative Funding Program

The SFWMD Cooperative Funding Program (CFP) provides financial incentives to local governments and utilities, homeowners' associations, commercial entities, and agricultural entities with construction and/or implementation of alternative water supply (AWS) and water conservation projects that support or complement the District's mission. Historically, funding for the CFP has come from both ad valorem taxes and the Florida Legislature through the Florida Department of Environmental Protection (FDEP). CFP funding is considered annually during the SFWMD's budget development process. Since the *2021 Upper East Coast Water Supply Plan Update* (2021 UEC Plan Update; SFWMD 2021), the SFWMD has provided approximately \$1.3 million in water conservation funding for 33 projects Districtwide, of which one agriculture project was funded. Over the same period (Fiscal Year [FY] 2022 through FY2025), one water conservation project was funded in the UEC Planning Area for a total of \$94,125 with 0.02 million gallons per day (mgd) of water saved. The projects supported by the CFP between FY2022 to FY2025 are listed in **Chapter 8**. The CFP is expected to continue, although future funding levels are subject to the appropriation of state funds. Beginning in FY2023, the District's Governing Board requires that local governments must have an adopted year-round irrigation ordinance that fully comports with the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, F.A.C.) to be eligible for AWS or water conservation funding through the CFP. Beginning in FY2025, the District's Governing Board requires that local governments must have an approved Water Supply Facilities Work Plan pursuant to Sections 163.3177 and 163.3184, F.S., to be eligible for AWS or water conservation funding through the CFP. Additional information regarding the CFP can be found on the SFWMD's webpage (<https://www.sfwmd.gov/doing-business-with-us/coop-funding>).

Environmental Quality Incentives Program

The Environmental Quality Incentives Program (EQIP), implemented through the United States Department of Agriculture – Natural Resources Conservation Service, promotes agricultural production and environmental quality. Financial and technical assistance is offered to participants to address natural resource concerns and deliver environmental benefits, such as improved water and air quality, conserved groundwater and surface water, reduced soil erosion and sedimentation, and improved or created wildlife habitat. From FY2022 through FY2025, two irrigation efficiency projects were funded by EQIP in the UEC Planning Area, totaling 205.7 acres in St. Lucie County. EQIP is expected to continue, although future funding levels are uncertain.

Other Programs

Agricultural Best Management Practices Program

The Florida Department of Agriculture and Consumer Services (FDACS) develops and adopts agricultural BMPs by rule for various types of agricultural operations. While not all BMPs are directly focused on water conservation, many are designed to improve or have secondary benefits related to water use efficiency in agricultural operations. As of December 31, 2025, there are 289,757 agricultural acres enrolled in the FDACS BMP program within the UEC Planning Area. This includes 128,349 acres in Martin County, 126,182 acres in St. Lucie County, and 35,226 acres in the northeastern portion of Okeechobee County. Agricultural users located within one of the three Basin Management Action Plans (BMAPs) in the UEC Planning Area are required to implement FDACS-adopted BMPs or conduct water quality monitoring under Chapter 62-307, F.A.C. Agricultural projects outside of BMAPs are encouraged to enroll in the BMP program for operational benefits and water savings. Integrating FDACS BMP implementation data into regional conservation assessments provides a more accurate accounting of realized water savings. Therefore, local governments and agencies should consider promoting these programs to agricultural operations. Additional information is available on the FDACS Agricultural Best Management Practices webpage (<https://www.fdacs.gov/Water/Agricultural-Water-Field-Services/Agricultural-Best-Management-Practices>).

Conservation Innovation Grants

The Conservation Innovation Grants (CIG) program, implemented through the United States Department of Agriculture – Natural Resources Conservation Service, supports the development, testing, and adoption of innovative conservation approaches and technologies. CIG provides competitive financial assistance to pilot projects that address priority natural resource concerns, including water conservation, irrigation efficiency, nutrient management, soil health, and climate resilience. CIG projects are designed to complement existing conservation programs by accelerating the deployment of new practices and systems that improve water use efficiency, protect groundwater and surface water resources, and enhance overall agricultural sustainability. While project locations, scope, and funding levels vary by funding cycle and are awarded competitively, CIG is expected to continue supporting innovative water conservation and agricultural efficiency efforts although future funding availability and geographic distribution remain uncertain.

Florida Automated Weather Network

The Florida Automated Weather Network (FAWN), operated by UF/IFAS, provides weather information throughout the state at 15-minute intervals. In addition to weather monitoring, FAWN offers decision-supporting tools that utilize historical and real-time data, along with crop modeling to assist with scheduling irrigation, estimating evapotranspiration, and helping to optimize water use decisions. These tools assist growers in both short- and long-term planning, thereby maximizing the efficiency of irrigation practices (UF/IFAS 2026).



Currently, there are two FAWN stations (St. Lucie West and Fort Pierce) supported by the SFWMD in the UEC Planning Area. Additional information is available at <http://www.fawn.ifas.ufl.edu>.

Agricultural Mobile Irrigation Labs

The FDACS Mobile Irrigation Lab (MIL) program performs free evaluations of irrigation system efficiency on agricultural lands and makes recommendations for physical and operational improvements. Such recommendations may include modification of irrigation systems and equipment, alteration of irrigation scheduling, and other aspects of system management. Two agricultural MILs serve Martin, St. Lucie, and Okeechobee counties, operated by the Palm Beach Soil and Water Conservation District. Since the last plan update, these agricultural MILs conducted initial evaluations on participating agricultural properties, covering a total of 13,732 acres. A potential water savings of 1.6 billion gallons per year (4.38 mgd) was estimated by these MILs if all recommended irrigation improvements were implemented.

During the period from 2021 to 2026, FDACS performed follow-up evaluations of the participating agricultural properties. Based on the improvements that were made to the properties following their initial evaluations, there was an estimated actual water savings of 97 million gallons per year (0.266 mgd) for those properties.

Certification and Recognition Programs



There are several national and statewide certification and recognition programs that direct builders, property owners, and building managers toward meeting sustainable and environmentally friendly standards that assist with water conservation. Such programs include the Florida Green Building Coalition's green certification programs, the FDEP's Florida Green Lodging Program, the United States Green Building Council's Leadership in Energy and Environmental Design (LEED), and the Green Building Initiative's Green Globes Building Certification. These holistic programs typically include criteria affecting water use, energy efficiency, climate-adaptive landscaping, sustainable building material, site selection, indoor environmental quality, and greenhouse gas emissions.

With respect to growing development and finite water resources, there are single-focus programs that target water use efficiency. These programs often are less expensive for builders and property managers than holistic ones. Two single-focus programs endorsed by all Florida water management districts are Florida Water Star and Florida-Friendly Landscaping Recognition. More information on these programs can be found on their individual program webpages and on the SFWMD's [water conservation webpage \(https://www.sfwmd.gov/conserve\)](https://www.sfwmd.gov/conserve).



Development of a Conservation Ethic

The development of a conservation ethic complements the conservation measures and programs described above and can assist in supporting long-term water use efficiency. Passive savings, such as those associated with the natural replacement of fixtures and appliances in accordance with applicable efficiency standards, provide a consistent underlying level of demand reduction. A conservation ethic complements these baseline savings by encouraging water-efficient behaviors that extend beyond minimum code requirements.

Conservation ethics can be supported through ongoing public education and outreach. These efforts promote informed water use decisions and reinforce the effectiveness of existing conservation measures and programs, including leak detection and repair, installation of efficient fixtures and appliances, adherence to irrigation schedules, and implementation of Florida-Friendly Landscaping principles. While not directly quantified, the development of a conservation ethic contributes to sustained demand management by supporting and enhancing both passive and active conservation strategies.

REGULATORY INITIATIVES

From consumptive use permitting and local landscape ordinances to year-round irrigation conservation measures, rules and regulations have a role in advancing water use efficiency. Promoting water conservation is a cost-effective way to sustaining limited water supplies and protecting the natural environment. The SFWMD requires that water conservation measures and programs be considered for users with water use permits. To demonstrate that a proposed water use is reasonable-beneficial, applicants for water use permits must provide sufficient information to support demand and efficient use of water, including implementation of water conservation measures as applicable. Section 2.3.2 of the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (SFWMD 2025a) includes specific water conservation requirements by various water use categories.

The SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, F.A.C.) was adopted to help protect South Florida's water resources by addressing landscape irrigation (the largest portion of residential water use and the greatest opportunity for viable water use reduction). In short, the rule limits landscape irrigation to 2 or 3 days per week, depending on location and local circumstances; prohibits irrigation between the hours of 10 am and 4 pm; and contains provisions for new landscaping and other situations that require a deviation from the rule requirements.

Adoption of local ordinances that comport with Chapter 40E-24, F.A.C., and associated outreach and education to residents, is crucial to reducing landscape irrigation water use. When local governments implement irrigation ordinances, it demonstrates a commitment to water resource protection through conservation.

To assist local governments in adopting such an ordinance, the SFWMD has created a model ordinance, a model code, and several customizable outreach materials designed to educate residents on their local irrigation ordinance. As of August 2025, 127 of 155 local governments Districtwide, which includes approximately 93% of the population, had adopted a year-round irrigation ordinance. Additional information and example documents for local implementation are on the SFWMD's webpage Local Government Model Ordinances and Codes available at <https://www.sfwmd.gov/conserve>.

POTENTIAL FOR WATER CONSERVATION SAVINGS

Table 3-1 summarizes prospective savings for the UEC Planning Area for each water use category: Agriculture (AG), Public Supply (PS), Domestic Self-Supply (DSS), and Landscape/Recreational (L/R). For the Commercial/Industrial/Institutional (CII) and Power Generation (PG) water use categories, potential water savings were estimated only for potable indoor water use, which was assumed to be provided by a PS utility. Therefore, those potential savings are accounted for under PS. These savings were estimated using the conservation savings rates adopted in the 2021 UEC Plan Update (SFWMD 2021) and applied to the updated 2050 average demand projections for each water use category.

Greater conservation savings may be possible if additional measures and programs are implemented or if increased participation rates are realized. Participation rates can be negatively influenced by ineffective marketing and high implementation costs. Studies have found adoption of demand-side water conservation is highly variable (e.g., Rasoulkhani et al. 2018). A comprehensive list of conservation measures and programs for applicable water use categories can be found in the 2026–2029 Support Document (SFWMD 2026).

Table 3-1. Potential water savings (in mgd) in the UEC Planning Area based on demand reduction estimates achievable by 2050.

Use Category	County			2050 Total by Sector
	Martin	St. Lucie	Okeechobee ^a	
Agriculture	3.90	2.46	0.16	6.52
Public Supply ^b	1.70	2.42	--	4.12
Domestic Self-Supply ^b	0.05	0.19	--	0.24
Landscape/Recreational	1.42	2.38	0.01	3.81
Total	7.07	7.45	0.17	14.69

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundary. There are no Public Supply utilities or golf courses located in the portion of Okeechobee County within the UEC Planning Area. The permanent resident population in the Domestic Self-Supply category is too small to realize potential water savings.

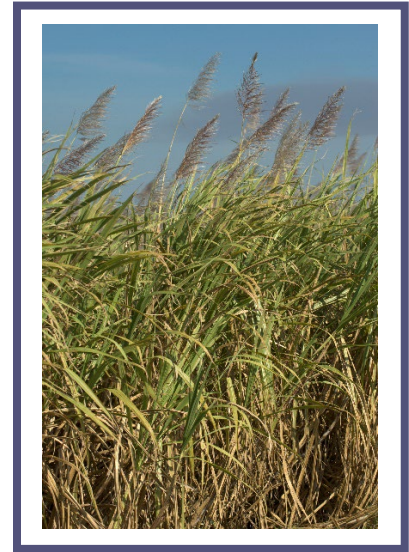
^b Includes passive savings.

Agriculture

AG is the largest water use category in the UEC Planning Area, and water demands are projected to decrease through the planning horizon. AG accounted for 52% (156.77 mgd) of the total demand in 2024. Although AG demands are projected to decline to 138.52 mgd in 2050, AG is projected to remain the largest water use category.

The amount of potential AG conservation savings in the UEC Planning Area was determined using the Florida Statewide Agricultural Irrigation Demand (FSAID) geodatabase, which is an online user interface available on the FDACS webpage (<https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Water-Supply-Planning>).

Estimated efficiency improvement (i.e., conservation estimate) is one of the parameters calculated by the FSAID model, and the spatially based data are available for water management district planning basins. According to the 2023–2050 FSAID XII report (FDACS 2025), historical trends in irrigation water use indicate that on average Florida farmers have continued to reduce water used per irrigated acre, resulting in projected irrigation efficiency improvements through 2050.



The FSAID statewide methodology for calculating the amount of potential AG conservation savings is more fully described in Appendix E of the FSAID XII report (FDACS 2025) but generally is based on the United States Department of Agriculture's (USDA) Irrigation and Water Management (IWM) Survey and the MIL actual water savings data. AG water use is based on several site-specific parameters, including crop type, acreage, soil type, evapotranspiration, and rainfall. Conservation savings can be achieved through more efficient irrigation and planting methods as well as other irrigation management strategies. The selection of new irrigation systems and management strategies depends on crop type, water source, food safety requirements, and water availability. Financial incentives may be necessary to help agricultural operations transition to more efficient irrigation systems. The volume of water that could be conserved for an individual project varies depending on the number and magnitude of parameters targeted for change. Using the FSAID statewide methodology, the accuracy of the projected conservation savings for a specific water supply planning area depends on the region's similarities to the USDA IWM Survey data (e.g., crop mix, existing irrigation systems, soil types, economic feasibility, and financial incentives).

For the 2050 projection period, irrigation efficiency improvements are estimated using two exponential trends developed from the IWM Survey dataset, consistent with the methodology described in Appendix E of the FSAID XII report (FDACS 2025). The more conservative exponential trend derived from recent IWM Survey data (2003 to 2023), reflecting efficiency gains primarily from management and scheduling improvements, is applied to newly irrigated fields or fields using drip or microsprinkler systems. The exponential trend derived from the full IWM Survey time series (1978 to 2023), reflecting combined management, equipment, and scheduling improvements, is applied to other irrigated fields. These exponential trends flatten over time and are constrained by median irrigation intensity values to prevent efficiency improvements from exceeding realistic physical limits, forming the basis for projected irrigation efficiency gains during the planning horizon.

The total savings calculated by the FSAID model for any given year depends on the crops produced, the acreage of each crop, and the irrigation systems employed, as projected to exist in that year. Because these variables change over the planning horizon (2024 to 2050), the projected savings also change and may be nonlinear. Based on data available in FSAID XII, the estimated conservation potential for 2024 to 2050 for the AG water use category in the UEC Planning Area is 6.52 mgd (**Table 3-1**). Future versions of the FSAID report may include different estimates of conservation potential based on new variables and projections.

Public Supply and Domestic Self-Supply



PS is the second largest water use category in the UEC Planning Area, and water use demands are projected to increase through the planning horizon. PS accounted for an estimated 68.83 mgd of finished water demands in 2024 and 99.83 mgd in projected 2050 demands (**Chapter 2**). DSS is estimated to have demands of 6.23 mgd in 2024 and projected to have 3.59 mgd in 2050. Historical conservation efforts in PS are reflected in the per capita use rate, which has declined approximately 32% between 2000 and 2024. This decline likely is the result of new construction

using higher-efficiency fixtures and/or designed for more efficient water use, the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, F.A.C.), the adoption of local ordinances modeled on this rule, conservation rate structures, public education, and other conservation factors.

For the 2026 *Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update), estimates of potential water savings were developed using projected demands, with consideration of the approach and findings from the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool (AWE 2016) analysis presented in the 2021 UEC Plan Update (SFWMD 2021). The 2021 analysis incorporated both active program implementation and passive savings from the natural replacement of toilets, showerheads, and water-using appliances at the end of their service lives, consistent with applicable code requirements. Active and passive savings reflected in this 2026 UEC Plan Update build upon the analysis completed in 2021 and have been scaled using projected 2050 demands. These measures excluded HVAC water use, which was estimated using a flat efficiency improvement rate of five implementations per year to represent an achievable participation level. Baseline data included Florida Department of Revenue parcel information, University of Florida Bureau of Economic and Business Research household data and population projections, and FDEP finished water monthly operating reports (as used in this plan update for demand projections; **Appendix A**).

For this 2026 potential water savings analysis, an upper-bound conservation estimate was evaluated representing proactive implementation of rebate programs, irrigation efficiency improvements, and other water-saving measures. The resulting modeled activity levels represent an achievable level of conservation implementation over the planning horizon (2024 to 2050) for most conservation measures. While useful for illustrating the potential contribution of conservation toward offsetting future demand, such scenarios represent

planning benchmarks rather than expected implementation levels. Sustained implementation at the projected levels may exceed typical participation rates and available program funding. Based on these assumptions, the combined estimated conservation potential by PS and DSS users (active and passive savings) in 2050 is approximately 4.36 mgd (**Table 3-1**).

Landscape/Recreational

L/R is the third largest water use category in the UEC Planning Area and includes irrigation of golf courses and other public access areas, such as athletic fields, parks, cemeteries, roadway medians, and land managed by homeowners' associations and commercial developments. Because the projected demands for golf courses are estimated in different ways, their potential water savings are discussed separately from other permitted landscape irrigation. The L/R water use category is projected to use a total of 56.58 mgd in 2050. Combining the estimated savings discussed below for landscape and golf course irrigation results in an estimated total of 3.81 mgd of potential water savings for the UEC Planning Area in 2050 (**Table 3-1**).

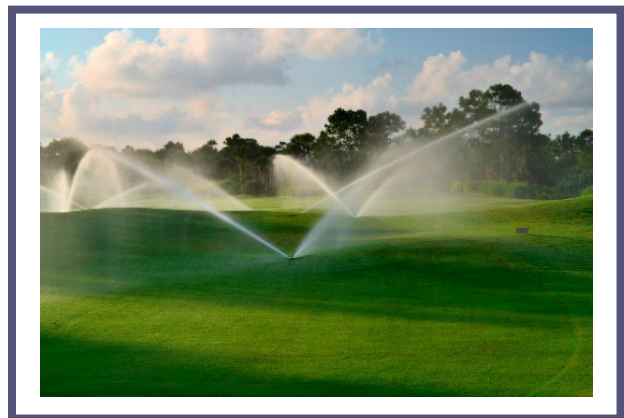
Landscape Irrigation

There are 1,754 active landscape irrigation water use permits in the UEC Planning Area, which were estimated to have used approximately 29.16 mgd in 2024 (SFWMD 2025b). To estimate the potential water conservation savings for landscaped areas, the average water use per permit by county was determined. Then the average water savings attributed to upgrading smart controllers (16% savings) was applied to represent an achievable water conservation potential over the planning horizon.

Golf Course Irrigation

There are 45 active water use permits for golf course irrigation in the UEC Planning Area. Indoor potable water use at golf courses is assumed to be provided by a PS utility. Irrigation demands for golf courses in the UEC Planning Area are projected to increase by 13% as acreage devoted to golf courses is projected to rise from 5,304 acres in 2024 to 6,718 acres in 2050.

Golf course irrigation is projected to use a total of 19.05 mgd in the UEC Planning Area by 2050. According to a 2019 statewide survey of Florida Golf Course Superintendents Association members, 55% of golf courses use advanced irrigation controllers (Irwin and Wanvestraut 2020). A conservation program would therefore aim to affect the golf courses not yet using advanced irrigation controllers.



To estimate the potential water conservation savings for golf courses, a regional level assumption of hardware upgrade potential was developed based on the methodology

presented in the 2021 UEC Plan Update (SFWMD 2021). In the absence of facility-specific data on irrigation controller types, 45% of active permits in the UEC Planning Area were assumed to have upgrade potential. The average water use per permit by county was then determined, and a 16% water savings associated with smart irrigation controllers was applied to estimate potential conservation over the planning horizon.

It should be noted that golf courses typically are irrigated with a high degree of efficiency. However, opportunities to improve efficiency may exist using many of the same types of hardware and technology (see Urban section above). Additional practices for efficient golf course irrigation can be found in the *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* published by the Golf Course Superintendents Association of America (2021).

Commercial/Industrial/Institutional

For CII permit holders, indoor potable water use is assumed to be provided by a PS utility. Therefore, conservation savings estimates were captured during the PS analysis by the measures targeting nonresidential users (i.e., high-efficiency restroom fixtures and HVAC efficiency improvement measures). CII permitted water use was not analyzed for conservation potential as those uses were assumed to be process specific and, therefore, difficult to estimate within the scope of a regional analysis.

Power Generation

PG facilitates use large quantities of water for cooling; however, most of the water is returned to the source from which it was obtained. Because these facilities do not generally use potable water for cooling purposes, and cooling efficiencies are largely dictated by system design and regulatory requirements, limited additional conservation potential is anticipated within this use category. As a result, there are minimal efficiency gains to be had from the cooling process. Accordingly, potential conservation savings for PG were not estimated as part of this analysis. As with the CII use category, indoor potable water use at PG facilities is assumed to be provided by a PS utility. Therefore, conservation savings associated with this use are accounted for within the public supply analysis through measures specifically targeting nonresidential users (i.e., high-efficiency restroom fixtures and HVAC efficiency improvement measures).

SUMMARY OF DEMAND MANAGEMENT: WATER CONSERVATION

Water conservation measures and programs that achieve increased savings through education, rebates, and new technologies are significantly less expensive than developing new capacity or AWS projects, which often require construction of new treatment plants, wells, reservoirs, or other costly infrastructure. Reductions in per capita water use also help utilities avoid or defer supply and treatment expansions as populations grow, potentially minimizing the need for future rate increases. As such, conservation should be maximized before more costly supply development options are pursued.

Potential water savings achievable by 2050 for the AG, PS, DSS, and L/R (including golf courses) water use categories are estimated to be 14.69 mgd (**Table 3-1**), assuming implementation and participation levels of the measures and programs described in this chapter. Local governments and utilities are encouraged to conduct service-area-specific conservation potential and cost analyses to inform decisions regarding investments in AWS projects.

Local governments and utilities should develop, fund, and implement comprehensive water conservation plans, particularly in areas where projected demands may exceed available traditional supplies. Conservation planning tools, targeted outreach to high water users, public education campaigns, and incentive-based programs should be incorporated. Utilities should also pursue funding opportunities, such as the SFWMD Cooperative Funding Program, to support conservation investments by individual users.

Finally, District staff are available to assist conservation program development through technical support, collaborative implementation, ordinance review, and long-term demand management planning.

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Water Resource Protection

This chapter provides an overview of protections afforded to water resources within the Upper East Coast (UEC) Planning Area of the South Florida Water Management District (SFWMD or District) through applicable statutory and regulatory criteria. The ability to meet the water demands described in **Chapter 2** largely depends on the future availability of water resources and the limitations imposed on withdrawals. Understanding the relationship between projected water demands, water sources, and limitations imposed on withdrawals is critical to water supply planning.

TOPICS

- ◆ Regulatory Protection of Water Resources
- ◆ Summary of Water Resource Protection

Surface water from canals and lakes, as well as fresh groundwater from the surficial aquifer system (SAS), are considered traditional water sources and provide the majority of the total water needs in the UEC Planning Area. Agricultural operations primarily rely on surface water sources, including the following: 1) the C-44 Canal, which receives water from Lake Okeechobee; and 2) the C-23, C-24, and C-25 canals, which were constructed primarily to provide drainage for a large agricultural area. The C-23, C-24, and C-25 canal system is not hydraulically connected to Lake Okeechobee; the system receives water from rainfall and local basin runoff only. Fresh groundwater from the SAS and brackish groundwater from the Floridan aquifer system (FAS) are the primary water sources for Public Supply, Landscape/Recreational, and Commercial/Industrial/Institutional water use categories. Withdrawals from traditional sources have approached their sustainable limits due to limited aquifer productivity, environmental concerns, and the regulatory water resource protection criteria and limitations discussed in this chapter and **Appendix C**. Therefore, alternative water supplies, such as brackish groundwater from the FAS and reclaimed water, have become vital to urbanized areas to meet increasing demands.

NOTE

MFLs and recovery strategies for Lake Okeechobee and the Northwest Fork of the Loxahatchee River affect portions of the UEC Planning Area but are discussed in detail in the Lower East Coast water supply plan updates.

To further protect water resources in the UEC Planning Area, minimum flows and minimum water levels (MFLs) were adopted for Lake Okeechobee, the St. Lucie Estuary, and the Northwest Fork of the Loxahatchee River. A water reservation for the protection of fish and wildlife was adopted for the North Fork of the St. Lucie

River. Restricted allocation areas (RAAs) were established for the C-23, C-24, and C-25 canal system, the Floridan aquifer wells in Martin and St. Lucie counties, the North Palm Beach County/Loxahatchee River Watershed Waterbodies, and the Lake Okeechobee Service Area (LOSA).

REGULATORY PROTECTION OF WATER RESOURCES

Water Use Permitting

Unless exempt by statute or identified in the Water Rights Compact of 1987, the right to use water is authorized by permit, which allows for the use of water for reasonable-beneficial uses while protecting natural systems from harm. Water use permit applicants must provide reasonable assurances that the proposed water use 1) is reasonable-beneficial, 2) will not interfere with any existing legal use of water, and 3) is consistent with the public interest as required by Section 373.223(1) (a)-(c), Florida Statutes (F.S.). The proposed water use must satisfy the conditions of issuance for a water use permit as specified in Rule 40E-2.301, Florida Administrative Code (F.A.C.), and the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (Applicant's Handbook; SFWMD 2025), including 1) implementation criteria for regulatory components of an adopted MFL prevention or recovery strategy, 2) implementation criteria for water reservations, and 3) RAA criteria. Additional information about water use permitting can be found in the *2026–2029 Support Document for the Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026).

INFO ⓘ

The Seminole Tribe of Florida has a surface water entitlement pursuant to the 1987 Water Rights Compact among the Seminole Tribe of Florida, the State of Florida, and the SFWMD (Public Law 100-228, 101 Statute 1556, and Chapter 87-292, Laws of Florida, as codified in Section 285.165, F.S.).

Minimum Flows and Minimum Water Levels

MFL criteria are the minimum flows or minimum water levels at which water resources, or the ecology of the area, would experience significant harm from further withdrawals. MFL criteria are applied individually to affected water bodies and define the minimum flow or minimum water level for surface water bodies, or minimum water level for groundwater in aquifers. Adopted MFLs in the SFWMD are contained in Chapter 40E-8, F.A.C. The SFWMD adopts a prevention or recovery strategy when an MFL is initially adopted if at the time of adoption flows or levels are projected to fall below the MFL within 20 years and, if needed, when an MFL is re-evaluated or revised (Section 373.0421 [2], F.S.). The SFWMD fulfills its statutory obligation to identify key water bodies for which MFLs should be developed or reevaluated by providing a Priority Water Body List and Schedule to the Florida Department of Environmental Protection for consideration of approval. The approved Priority Water Body Lists and Schedules are published in Chapter 3 of the annual updates to the *South Florida Environmental Report – Volume II* per Section 373.042(3), F.S. More information about MFLs, including prevention and recovery strategies, is provided in the 2026–2029 Support Document (SFWMD 2026). Additional information about MFLs can be found on the SFWMD webpage (<http://www.sfwmd.gov/mfls>) and in Chapter 40E-8, F.A.C.

Within the UEC Planning Area, an MFL and a prevention strategy have been adopted for the St. Lucie Estuary (**Figure 4-1**). Although the MFLs and recovery strategies for Lake Okeechobee and the Northwest Fork of the Loxahatchee River affect portions of the UEC Planning Area, they are evaluated and discussed in detail in the Lower East Coast water supply plan updates.

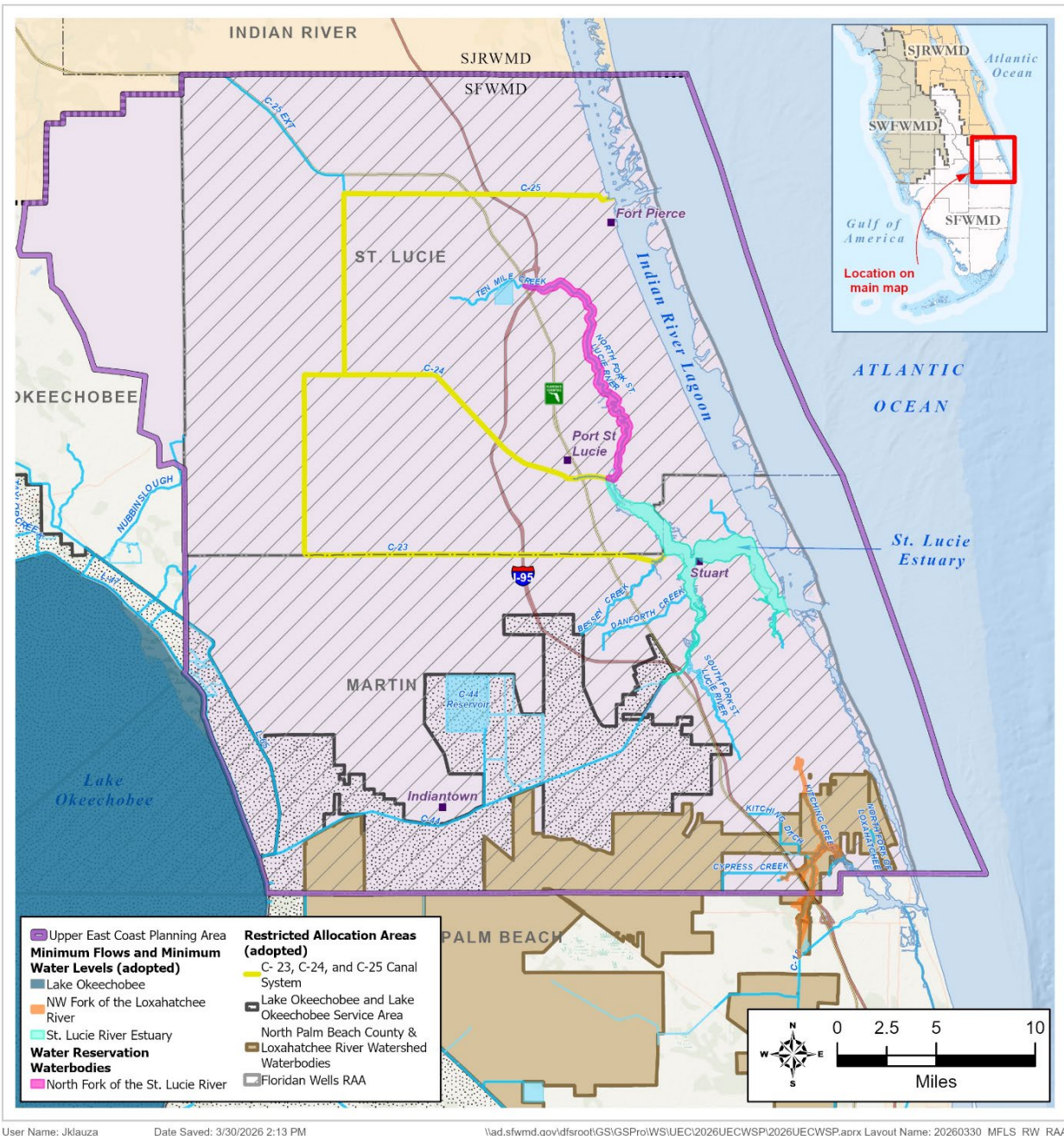


Figure 4-1. Adopted minimum flows and minimum water levels, water reservations, and restricted allocation areas in or affecting portions of the UEC Planning Area.

St. Lucie Estuary MFL

The St. Lucie Estuary MFL and prevention strategy were adopted by the SFWMD in 2002 to protect the estuary's oligohaline zone and the organisms that inhabit it (submerged aquatic vegetation, phytoplankton, zooplankton, macroinvertebrates, and larval and juvenile fish and shellfish) from significant harm. Significant harm as defined in Subsection 40E-8.021(31), F.A.C., means the temporary loss of water resource functions, which result from a change in surface or groundwater hydrology, that takes



St. Lucie Estuary

more than 2 years to recover, but which is considered less severe than serious harm. The MFL criteria for the St. Lucie Estuary are based on the determination that significant harm occurs to the oligohaline zone of the estuary when net freshwater flows to the estuary are reduced. This can occur when freshwater deliveries to the North Fork of the St. Lucie River decline substantially. A minimum mean monthly flow criterion of 28 cubic feet per second at the Gordy Road structure (**Figure 4-2**) was adopted as the MFL criteria, pursuant to Rule 40E-8.341, F.A.C. A prevention strategy, which is set forth in subsection 40E-8.421(5), F.A.C., was adopted simultaneously with the MFL. Additional information about the MFL and a description of the prevention strategy are provided in **Appendix C**.

The deterministic and probabilistic modeling analyses results have indicated that the MFL criteria are not anticipated to be exceeded through the planning period, including consideration of the water supply demands through the 2050 planning horizon, when rainfall deficits do not exceed 1-in-10-year drought conditions. See **Appendix C** for further details on the modeling analyses that were used to evaluate the St. Lucie Estuary MFL performance.

For the 2026 UEC Plan Update, District staff conducted a review of the scientific and technical data and water resource conditions utilized to establish the MFL for the St. Lucie Estuary pursuant to Sections 373.042 and 373.709, F.S., and Rule 40E-8.011, F.A.C. The District has determined that the MFL is based upon the best available scientific and technical data; therefore, no revision to the MFL criteria or prevention strategy is necessary at this time.

Water Reservations

Section 373.709, F.S., requires regional water supply plans to include reservations of water for the planning area, which are defined and adopted by rule. A water reservation sets aside a specific volume of water for the protection of fish and wildlife or public health and safety. Water reservations can be developed based on existing water availability or in consideration of future water supplies made available by water resource development projects. Reserved volumes of water are not available for allocation to consumptive uses; however, existing allocations are protected as long as they are in the public interest (Subsection 373.223(4), F.S.). Additionally, water reservations may be components of MFL prevention or recovery strategies or be adopted to protect water for Comprehensive Everglades Restoration Plan

(CERP) projects prior to their construction. More information about water reservations is provided in the 2026–2029 Support Document (SFWMD 2026).

To date, one water reservation has been adopted in the UEC Planning Area for the protection of fish and wildlife in the North Fork of the St. Lucie River (Rule 40E-10.051, F.A.C.) and downstream estuarine waters (**Figure 4-1**).

North Fork of the St. Lucie River Water Reservation

The CERP Indian River Lagoon – South (IRL-S) Project was authorized by Congress in the Water Resources Development Act of 2007. To initiate this federal project as part of CERP, the State of Florida, and ultimately the SFWMD, was required to reserve or allocate water for the natural systems associated with the project prior to project construction and implementation. A prospective water reservation was adopted by the SFWMD in 2010 for the North

Fork of the St. Lucie River (Rule 40E-10.051, F.A.C.)—a tributary to the St. Lucie Estuary and southern Indian River Lagoon—to ensure any one or all of the C-23/C-24 North and South Reservoirs and Stormwater Treatment Area Project components will provide the water needed for fish and wildlife. The water reservation rule criterion reserves from allocation the surface waters up to and including the mean monthly flow of 130 cubic feet per second over the Gordy Road structure from November 1 through May 31 of each year (**Figure 4-2**).

INFO ⓘ

A prospective water reservation legally reserves the water anticipated to be made available by a project, prior to the project being constructed.



North Fork of the St. Lucie River

The SFWMD used a resource-based approach to develop the water reservation for the North Fork of the St. Lucie River. Technical evaluations, including review of available literature and empirical data as well as development of watershed and hydrodynamic models, were conducted to 1) define hydrologic targets for the river, and 2) quantify the volume of available water produced by the C-23/C-24 North and South Reservoirs and Stormwater Treatment Area Project components (**Chapter 7**). Relationships were identified among freshwater flows discharged from

the watershed, salinity, and downstream estuarine ecological responses. These evaluations were documented in the supporting technical document for the water reservation (SFWMD 2009). An independent, expert peer-review panel reviewed the technical document and related reports and determined that the SFWMD's analyses of the best available information supported the linkages between the hydrologic conditions in the river and the habitat requirements needed for fish and wildlife. The technical document and other supporting information for the water reservation are available on the SFWMD's website at <https://www.sfwmd.gov/our-work/water-reservations>.

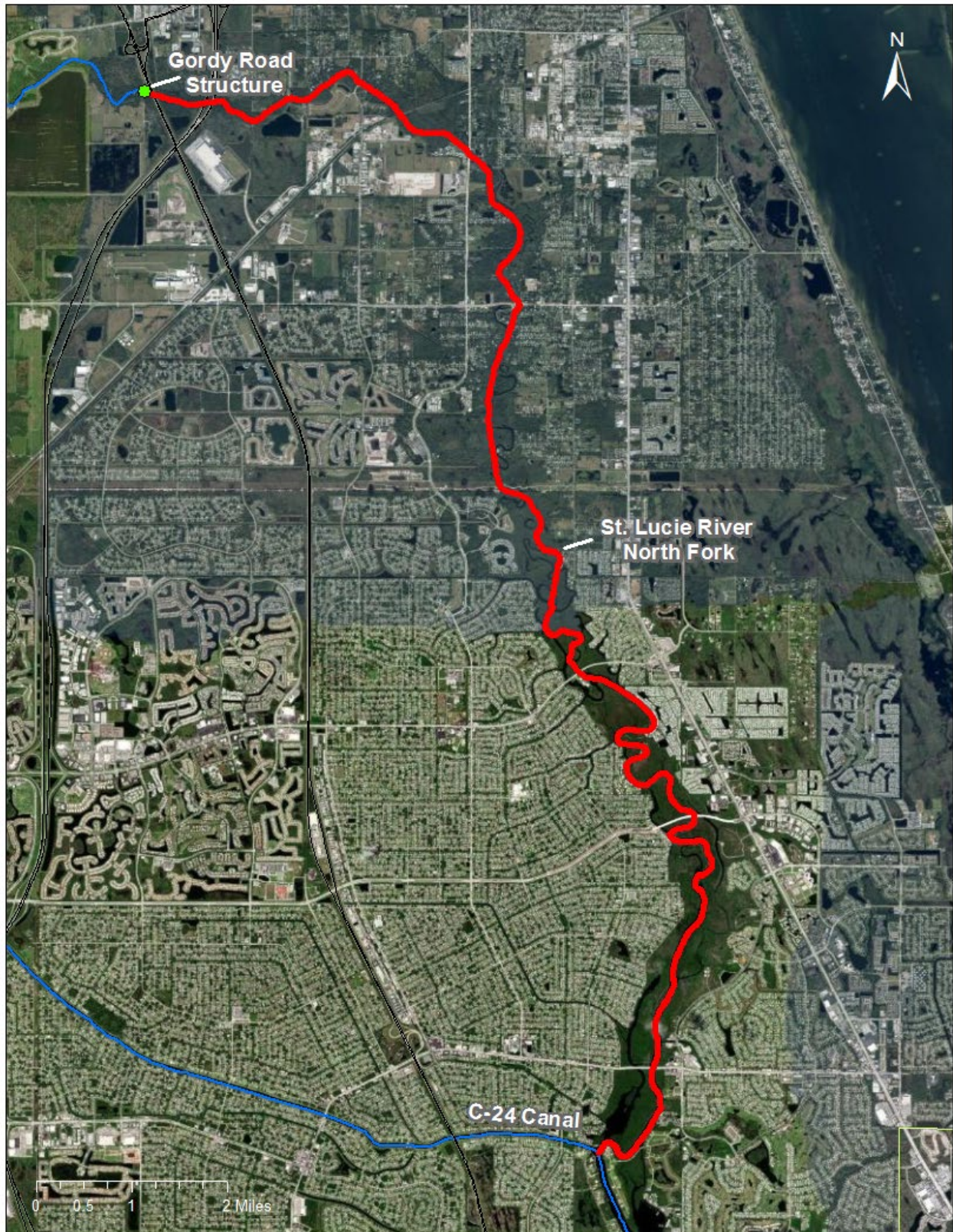


Figure 4-2. North Fork of the St. Lucie River water reservation water body.

Restricted Allocation Areas

RAAs are defined geographic areas where water allocations from specific water resources (e.g., lakes, rivers, wetlands, canals, aquifers) are limited due to concerns regarding availability for all reasonable-beneficial uses, or other water resource concerns. Additional allocations beyond the established limitation are restricted or prohibited. RAAs are established for a variety of reasons, including the following: 1) where there is a lack of available water to meet the projected needs of a region, 2) to protect water for natural systems and future restoration projects (e.g., CERP), or 3) as part of MFL prevention or recovery strategies. The specific criteria for the District's RAAs are contained in Section 3.2.1 of the Applicant's Handbook (SFWMD 2025), which is incorporated by reference in Rule 40E-2.091, F.A.C. **Figure 4-1** shows the locations of established RAAs wholly or partially within the UEC Planning Area which include the following areas:

- ◆ C-23, C-24, and C-25 Canal System
- ◆ Floridan Aquifer Wells in Martin and St. Lucie Counties
- ◆ North Palm Beach County/Loxahatchee River Watershed Waterbodies
- ◆ Lake Okeechobee Service Area (LOSA) Waterbodies

The RAAs for LOSA and North Palm Beach County/Loxahatchee River Watershed Bodies affect portions of the UEC Planning Area and are listed below for completeness. However, they are discussed in detail in the Lower East Coast water supply plan updates and Section 3.2.1 of the Applicant's Handbook (SFWMD 2025).

C-23, C-24, and C-25 Canal System Restricted Allocation Area

Due to limited surface water availability and canal bank instability at low stages, an RAA was adopted for the C-23, C-24, and C-25 canal system in 1981, as described in Subsection 3.2.1.B of the Applicant's Handbook (SFWMD 2025). The RAA criteria for the C-23, C-24, and C-25 canal system state that no additional surface water will be allocated from the C-23, C-24, and C-25 canals or any connected canal systems that derive water supply from these canals, above existing allocations. No increase in surface water pump capacity will be authorized. These canals have permitted withdrawals that are reduced or terminated based on minimum water levels in Rule 40E-22.232, F.A.C., and water shortages have been triggered more frequently than a 1-in-10-year drought. Therefore, users of these canals may not have a 1-in-10-year level of certainty unless additional water sources are used.

Floridan Aquifer Wells in Martin and St. Lucie Counties Restricted Allocation Area

An RAA was adopted in the 1980s that restricts pumps on FAS wells in Martin and St. Lucie counties due to concerns regarding water availability and water quality. RAA criteria in Subsection 3.2.1.D of the Applicant's Handbook (SFWMD 2025) prohibit the use of pumps on flowing FAS wells in Martin and St. Lucie counties unless 1) the pump was in place before March 2, 1974; 2) the proposed pump is installed to increase pressure in attached piping, not to increase the flow above the natural flow from the well; 3) an analysis shows the withdrawals will not interfere with existing legal uses; 4) the pump is installed temporarily for freeze protection; or 5) the pump is installed temporarily during a declared water shortage.

North Palm Beach County/Loxahatchee River Watershed Waterbodies Restricted Allocation Area

In 2007, the SFWMD established an RAA for the North Palm Beach County/Loxahatchee River Watershed Waterbodies and amended it in 2022. The criteria for the RAA are detailed in Section 3.2.1.E of the Applicant’s Handbook (SFWMD 2025).

Lake Okeechobee Service Area Restricted Allocation Area

In 2008, the SFWMD adopted RAA criteria for LOSA, which spans more than 1.8 million acres. The criteria for the LOSA RAA are described in Subsection 3.2.1.F of the Applicant’s Handbook (SFWMD 2025).

SUMMARY OF WATER RESOURCE PROTECTION

- ◆ The UEC Planning Area has the following resource protections in place:
 - ◆ Water use permitting criteria
 - ◆ An MFL and prevention strategy for the St. Lucie Estuary
 - ◆ A water reservation for the North Fork of the St. Lucie River
 - ◆ RAAs for the C-23, C-24, and C-25 Canal System; Floridan Aquifer Wells in Martin and St. Lucie Counties; North Palm Beach County/Loxahatchee River Watershed Waterbodies; and Lake Okeechobee Service Area Waterbodies
- ◆ MFL, water reservation, and RAA criteria continue to be implemented in the UEC Planning Area and have not been modified since the 2016 UEC Plan Update.
- ◆ Further information on water shortage management and water use permitting is available in the 2026–2029 Support Document (SFWMD 2026).

NAVIGATE

Detailed information about MFLs is available on the SFWMD webpage <http://www.sfwmd.gov/mfls>.

Detailed information about water reservations is available on the SFWMD webpage <http://www.sfwmd.gov/reservations>.

Detailed information about RAAs is available in the Applicant’s Handbook (SFWMD 2025), which can be accessed through the SFWMD webpage <http://www.sfwmd.gov/raas>.

MFL, water reservation, and RAA status updates are provided annually in Chapter 3 of the *South Florida Environmental Report – Volume II*, available at <http://www.sfwmd.gov/sfer>.

Further information can be found in the 2026–2029 Support Document (SFWMD 2026) and **Appendix C**.

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Water Source Options

This chapter of the *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) presents water source options that could be available through 2050 within the Upper East Coast (UEC) Planning Area to accommodate future urban and agricultural demands while sustaining natural systems. Descriptions of the sources, current and projected uses, and factors affecting availability for water supply purposes are provided. **Chapter 6** presents the South Florida Water Management District's (SFWMD or District) analyses of the surface water and groundwater conditions in the region. Information about water treatment technologies and their related costs is provided in the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026).

TOPICS

- ◆ Surface Water
- ◆ Groundwater
- ◆ Reclaimed Water
- ◆ Water Storage
- ◆ Seawater
- ◆ Summary of Water Source Options

In the UEC Planning Area, fresh groundwater from the surficial aquifer system (SAS) and surface water from canals and lakes are considered traditional water sources. Alternative water supply (AWS) or nontraditional water source options include brackish groundwater from the Floridan aquifer system (FAS), reclaimed water, water stored in aquifer storage and recovery (ASR) wells or in aboveground reservoirs, and seawater.

To meet water supply needs, water users primarily rely on surface water and fresh groundwater from the SAS (**Figures 5-1** and **5-2**). Surface water and fresh groundwater currently supply 72% of the total water needs in the UEC Planning Area, with agricultural operations primarily relying on surface water (**Figure 5-2**). However, withdrawals from these sources have approached sustainable limits because of limited aquifer productivity, environmental concerns, and the regulatory water resource protection criteria and limitations discussed in **Chapter 4** and **Appendix C**. As a result, over the last two decades, brackish groundwater from the FAS and reclaimed water have become vital to urbanized areas to meet increased demands.

A combination of fresh and brackish groundwater supplies 100% of Public Supply (PS) demands. Of the 15 PS utilities in the UEC Planning Area, 7 utilities use fresh groundwater to meet all their potable water demand, and the remaining 8 utilities use brackish groundwater for a portion of or all their current demands. Currently, Indiantown and St. Lucie County Utilities use only fresh groundwater from the SAS. However, Indiantown anticipates using the FAS to meet a portion of its demand beginning in 2028, and St. Lucie County Utilities anticipates using the FAS beginning in 2027.

Existing allocations and infrastructure can meet a substantial portion of the 2050 water needs for Agriculture (AG) and PS. However, most of the increased demands for PS will be met with proposed AWS projects, such as brackish groundwater from the FAS and excess stormwater. The proposed water supply development projects are summarized in **Chapter 8**. New surface water withdrawals are limited by restricted allocation area (RAA) criteria and other regulatory water resource protection measures (**Chapter 4**), and fresh groundwater withdrawals are limited by resource constraints.

Changing hydrologic and climate conditions, such as changes in air temperature and precipitation regimes, increased storm frequencies and intensities, and sea level rise could result in more frequent flooding, greater evaporation, and longer drought periods with higher risk of saltwater intrusion. Therefore, these evolving conditions need to be considered when evaluating the ability of regional water resources to meet future demands. The potential impacts of sea level rise and other changing hydrologic and climate conditions on water supply need to be better understood, and work should continue to characterize, monitor, and design adaptation solutions. **Appendix D** provides further details about efforts to assess these changing conditions.

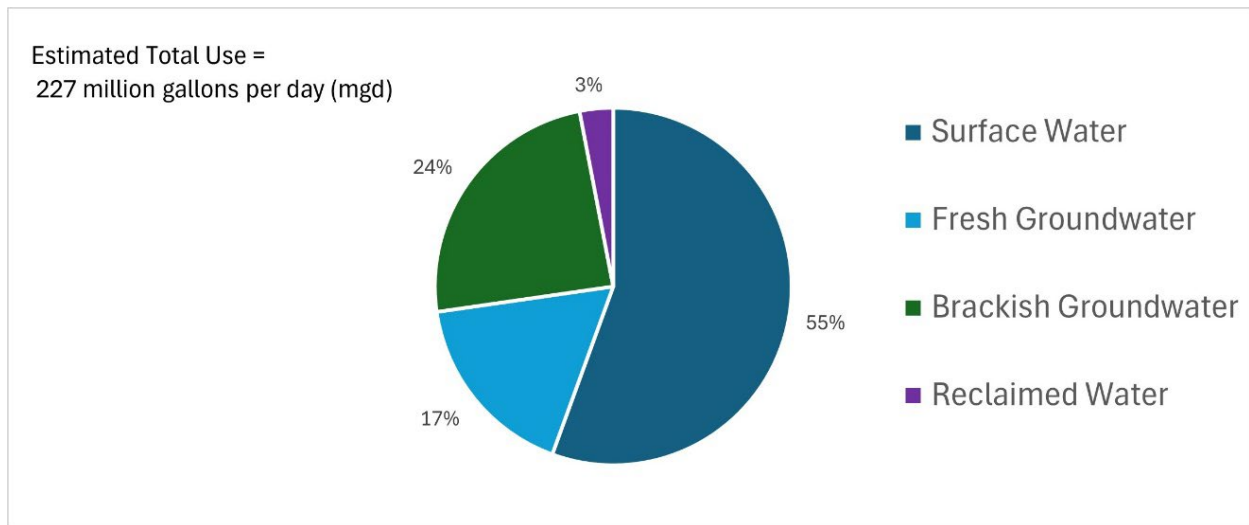


Figure 5-1. Water use percentage of the estimated total use of 227 mgd in the UEC Planning Area in 2024 by source (Data from SFWMD 2025b).

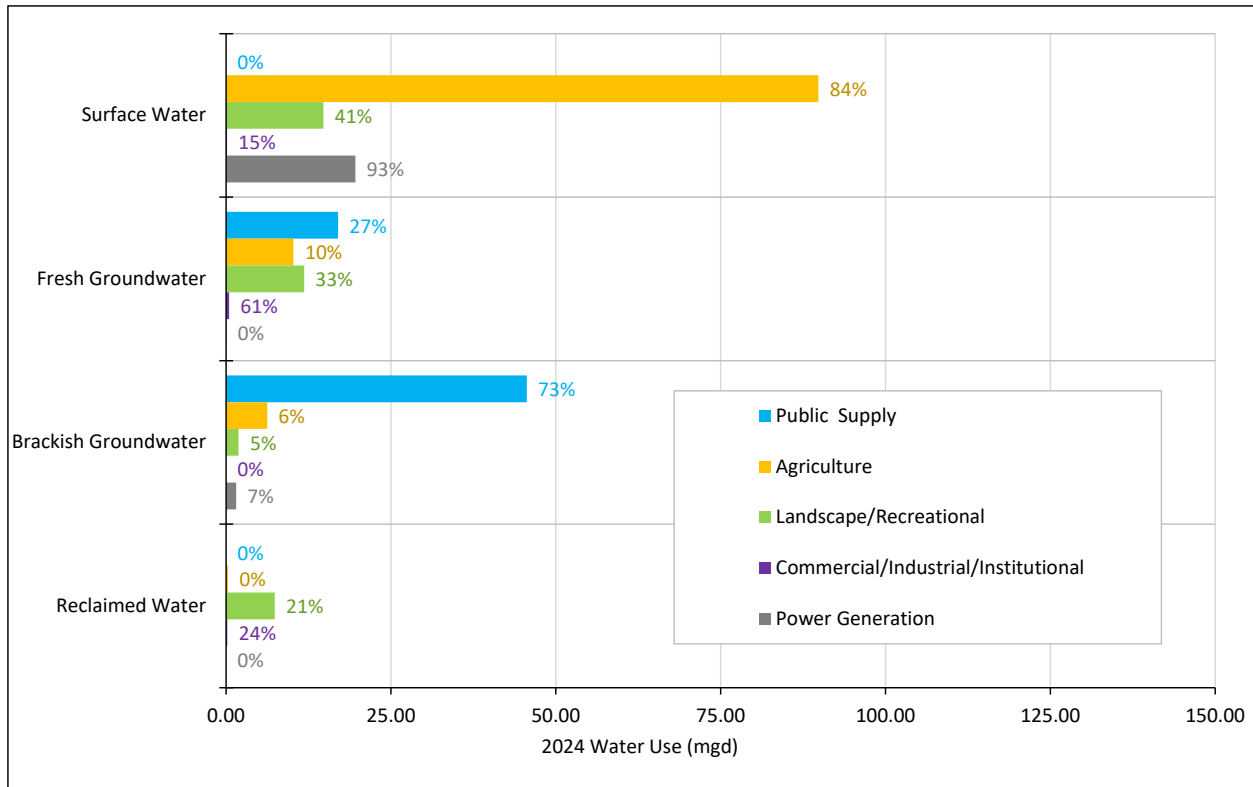


Figure 5-2. Water use in the UEC Planning Area in 2024 (Data from SFWMD 2025b) by source and use type. (Notes: Fresh groundwater supplies 100% of Domestic Self-Supply demand. Total percentages of each use type may not equal 100% due to rounding.)

SURFACE WATER

Surface water sources, primarily used for agricultural and urban irrigation, include rivers, canals, lakes, and reservoirs. Although the UEC Planning Area has multiple surface water sources, most are limited by regulatory protections (**Chapter 4**).

The most widely used surface water sources are the C-23, C-24, and C-25 canals; Lake Okeechobee and its hydraulically connected canals, such as the C-44 Canal and secondary canal systems that receive Lake Okeechobee water; and diversion and impoundment systems operated by local water control districts (**Figure 5-3**). Local canals, lakes, and reservoirs also provide a considerable amount of surface water supply in the UEC Planning Area as described in the Local Surface Water Sources section below.

C-23, C-24, and C-25 Canals

Due to limited surface water availability and canal bank instability at low stages, RAA criteria were adopted for the C-23, C-24, and C-25 canal system in 1981 (Subsection 3.2.1.B of the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* [Applicant's Handbook; SFWMD 2025a]). The RAA criteria prohibit additional surface water allocations from the C-23, C-24, and C-25 canals or any connected canal systems that derive water supply from these canals, above existing allocations. The RAA criteria also prohibit increases in surface water pump capacity.

The C-23, C-24, and C-25 canals historically provided the majority of surface water and continue to provide a significant portion of water for AG in the UEC Planning Area. Although these canals are not directly connected to Lake Okeechobee or the SFWMD's regional system, they are used to provide water to secondary local canals and are operated and maintained by the SFWMD to optimize recharge to the SAS and prevent saltwater intrusion. AG is the predominant user of surface water from these canals. Declining demands for citrus irrigation and changes in land use have reduced demands for irrigation withdrawals from these canals.

Permitted withdrawals from the C-23, C-24, and C-25 canals are reduced or terminated based on minimum water shortage water levels specified in Rule 40E-22.232, Florida Administrative Code (F.A.C.). Because these canals are not connected to Lake Okeechobee and the regional system and are recharged only by rainfall and local basin runoff, water shortages for these canals have been triggered more frequently. Therefore, users of these canals may not have a 1-in-10-year level of certainty. Additional water sources, such as the FAS, the SAS, and on-site sources of surface water (e.g., aboveground impoundments) are typically used as backup or supplemental

sources during drought conditions. See **Chapter 4** for additional information about regulatory protection measures for the C-23, C-24, and C-25 canals.

INFO ⓘ

Average Rainfall and 1-in-10-Year Drought

An **average rainfall year** is defined as a year having rainfall with a 50% probability of being exceeded in any other year.

A **1-in-10-year drought** is defined as a year in which below normal rainfall occurs with a 90% probability of being exceeded in any other year. It has an expected return frequency of once in 10 years.

The C-23/C-24 North and South Reservoirs and Stormwater Treatment Areas (STAs) and the C-25 Reservoir and STA are components of the Comprehensive Everglades Restoration Plan (CERP) Indian River Lagoon–South (IRL–S) project proposed within the C-23, C-24, and C-25 basins. These features will reduce the extreme peaks of freshwater discharge and restore more natural volume, timing, and distribution of water to the St. Lucie Estuary to help meet the estuary's minimum flow and minimum water level (MFL) criteria (**Appendix C**). In addition, the excess stormwater stored in the reservoirs may be available to release back to the canals in the dry season for water supply, which could reduce the frequency, severity, and duration of water shortage cutbacks affecting the C-23, C-24, and C-25 canals. Additional information about these and other components of CERP is provided in **Chapter 7**.

C-44 Canal

The C-44 Canal was constructed as a navigable waterway and flood control outlet for Lake Okeechobee and is the only canal in the UEC Planning Area to receive inflow from outside the basin. AG is the predominant user of the C-44 Canal.

As discussed in **Chapter 4**, the SFWMD adopted RAA criteria in 2008 for the Lake Okeechobee Service Area as part of the MFL recovery strategy for Lake Okeechobee. The criteria limit allocations from Lake Okeechobee and integrated conveyance systems that are hydraulically connected to and receive water from the lake, including the C-43 and C-44 canals, to base condition water uses that occurred from April 1, 2001 to January 1, 2008 (Section 3.2.1.F of the Applicant's Handbook [SFWMD 2025a]).

The recently completed C-44 Reservoir and STA are components of the CERP IRL-S Project and are intended to capture, store, and treat runoff from the C-44 and C-23 basins prior to its discharge back to the C-44 Canal and, ultimately, the Indian River Lagoon and St. Lucie Estuary. The reservoir has 50,600 acre-feet of storage and delivers water to the 6,400-acre STA, which is divided into six independently operating cells for water quality treatment. Construction of the C-44 Reservoir and STA was completed in June 2021. The reservoir is now in operational testing and monitoring, after which the SFWMD will evaluate water availability associated with the reservoir. The excess stormwater stored in the reservoir may be available to release back to the C-44 Canal in the dry season, which could reduce the frequency, severity, and duration of water shortage cutbacks affecting the canal. Additional information about the C-44 Reservoir and STA and other water resource development projects is provided in **Chapter 7**.

Local Surface Water Sources

There are several local water control districts, established under Chapter 298, Florida Statutes (F.S.), that are operated for flood control and water supply in the UEC Planning Area (**Figure 5-3**). Stormwater from the interconnected lakes and canals can be held in the local water control district canal systems for irrigation. Some local water control districts divert water from SFWMD canals (e.g., C-24, C-25, C-44) to maintain specific water levels within their boundaries in accordance with water use permit conditions. Water diversions into local canal networks are used primarily for AG irrigation purposes and, to a lesser extent, Landscape/Recreational (L/R) irrigation.

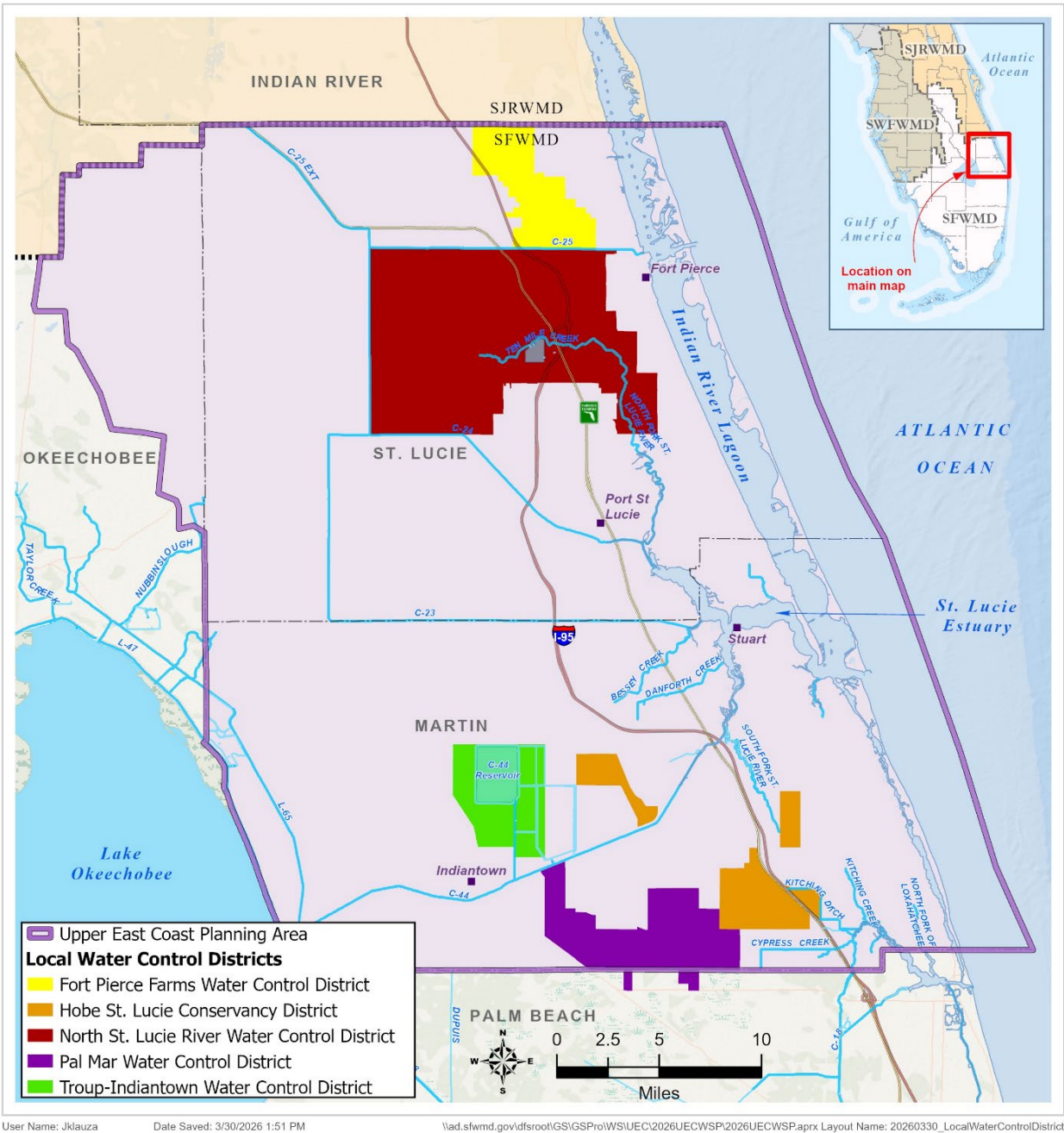
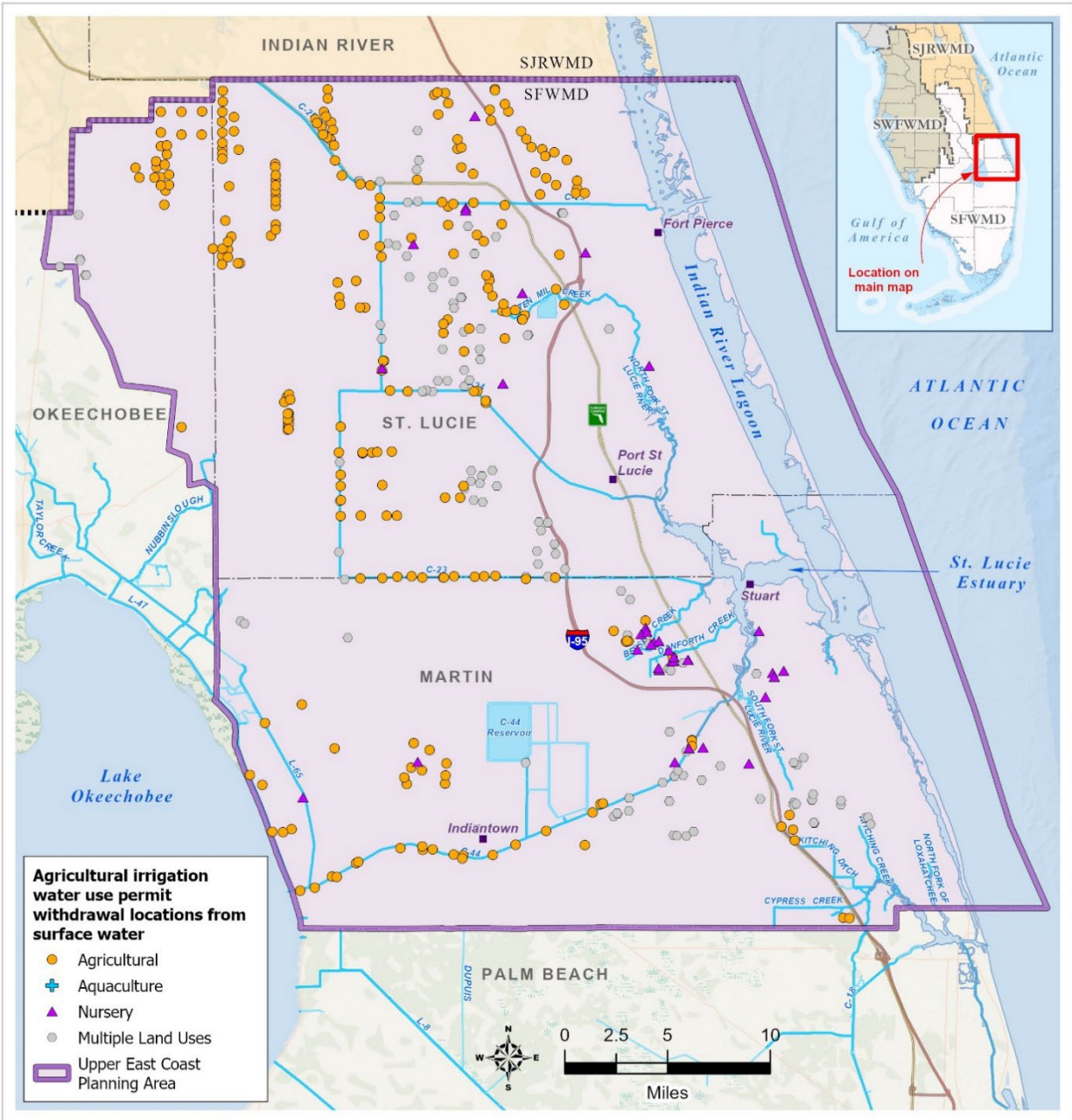


Figure 5-3. Water control districts in the UEC Planning Area.

Existing and Future Use of Surface Water

AG is the largest user of surface water in the UEC Planning Area. In 2024, approximately 84% of AG demands in the UEC Planning Area were met with surface water (**Figure 5-2**), and this percentage is expected to remain the same through 2050. However, irrigated agricultural acreage and associated demands are projected to decrease approximately 12% from 2024 to 2050 (**Chapter 2**). Permitted AG surface water withdrawal locations in the UEC Planning Area are shown in **Figure 5-4**.



User Name: ahoffart Date Saved: 5/14/2026 12:02 PM \\ad.sfwmd.gov\dfsroot\GIS\GISPro\WS\UEC\2026UECWSP\2026UECWSP_Wells.aprx Layout Name: 20260514_SWpermits_AGR_IRR

Figure 5-4. AG irrigation water use permit withdrawal locations from surface water within the UEC Planning Area.

Approximately 41% of L/R demands in the UEC Planning Area, including golf courses, was met with surface water in 2024 (**Figure 5-2**). Withdrawals primarily are from on-site ponds or adjacent local canals. L/R use is expected to increase 23% by 2050; however, some future L/R demands will likely be met with reclaimed water, as several utilities have proposed reclaimed water treatment, storage, and distribution projects, as discussed further in **Chapter 8** and in the Reclaimed Water section below. Permitted L/R surface water withdrawal locations in the UEC Planning Area are shown in **Figure 5-5**.

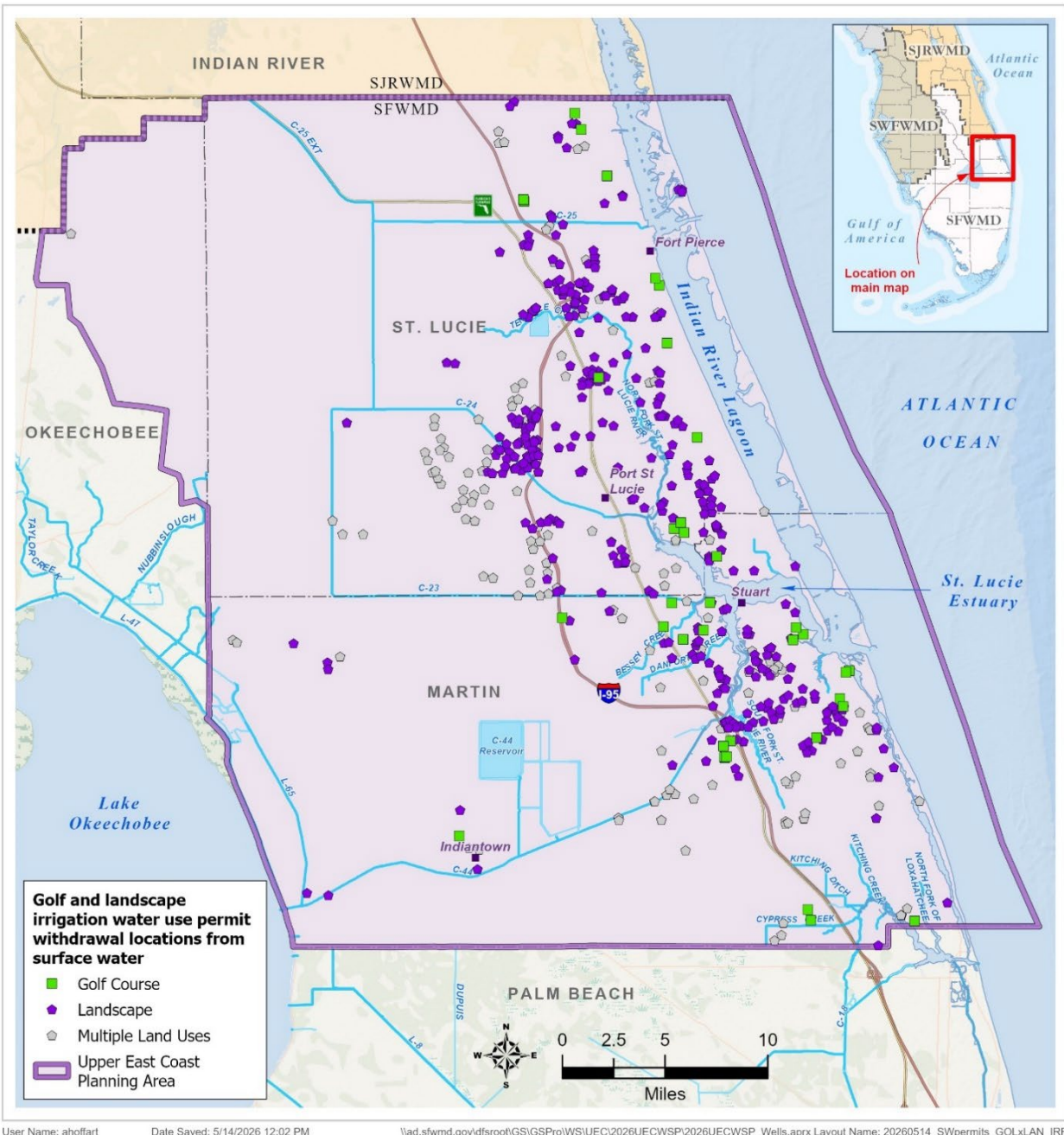


Figure 5-5. L/R irrigation water use permit withdrawal locations from surface water within the UEC Planning Area.

In 2024, surface water was used to meet 15% of Commercial/Industrial/Institutional (CII) demands in the UEC Planning Area (**Figure 5-2**). CII demands are projected to increase 16% by 2050, and the same proportion presumably will be met with surface water without exceeding existing allocations.

The Florida Power & Light (FPL) Martin Power Plant withdraws water from the C-44 Canal and is the only Power Generation (PG) facility using fresh surface water for once-through cooling pond makeup water, accounting for 93% of PG demands in 2024. Surface water withdrawals for the PG use category are projected to decrease slightly through 2050 in the UEC Planning Area, based on demand estimates provided by power generation facility staff as described further in **Appendix A**.

Surface water is used primarily for AG and to a lesser extent L/R, CII, and PG uses in the UEC Planning Area. Demands for AG and overall use of surface water are projected to decline through 2050. As discussed above and further in **Chapter 4**, RAA criteria have been established for the C-23, C-24, and C-25 canals and Lake Okeechobee and hydraulically connected canals, including the C-44 Canal, that prohibit additional surface water allocations above existing allocations. Therefore, additional demands for new or increased water supply allocations are expected to be met with groundwater or AWS sources.

Monitoring water levels and water quality is an integral component in managing surface water sources and is performed by the District at key locations throughout the UEC Planning Area and by permittees as part of the SFWMD reporting requirements for water use. Surface water monitoring, as discussed further in **Chapter 6**, enables the evaluation of coastal saltwater intrusion and hydroperiods in wetlands and other surface water bodies, provides information for flood control and water supply operations, and is used for establishing MFL criteria and monitoring compliance.

Several factors were considered when evaluating surface water availability to meet current and future demands in the UEC Planning Area. Based on review of monitoring data, the existing resource protection measures, and the revised demand projections for this plan update, surface water sources appear sufficient to meet demands through the 2050 planning horizon.

GROUNDWATER

Groundwater is produced from two major aquifer systems in the UEC Planning Area: the SAS and the FAS. **Figure 5-6** provides a generalized hydrogeologic cross section from west to east through Okeechobee and St. Lucie counties. The SAS provides fresh groundwater, and the FAS provides brackish groundwater from the Upper Floridan aquifer (UFA) and the Avon Park permeable zone (APPZ) throughout the region.

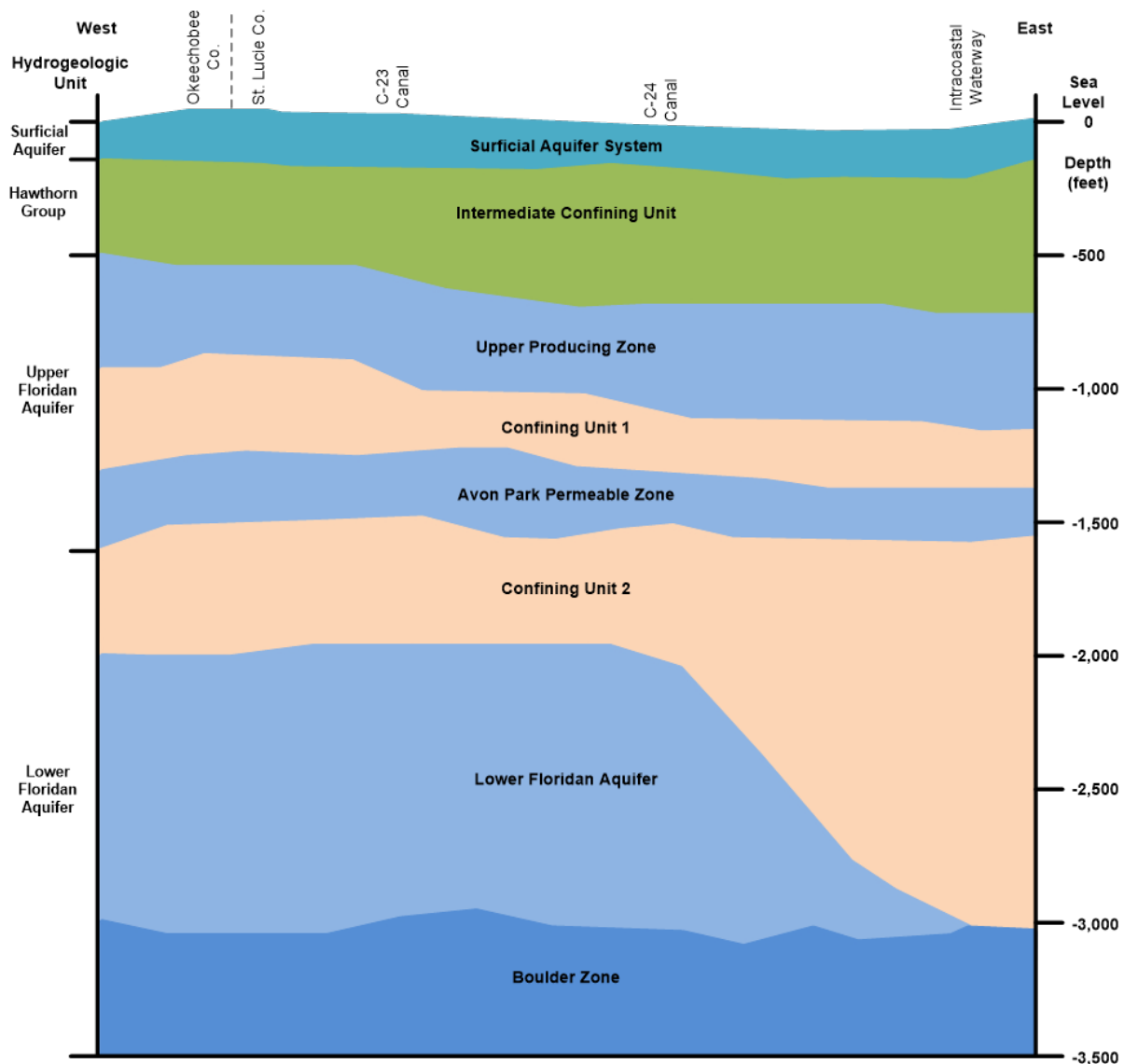


Figure 5-6. Generalized hydrogeologic cross section of the UEC Planning Area.

PS is the largest user of groundwater in the UEC Planning Area. Total groundwater withdrawals for PS have slightly increased over the past 18 years, supplied primarily by increasing use of the FAS, while the volume withdrawn from the SAS has remained steady (**Figure 5-7**). In 2006, the SAS provided approximately 49% of the water for PS, and the FAS provided approximately 51%. By 2023, only about 27% of PS demand was met with water from the SAS due to increased use of water from the FAS (73%). The percentage of SAS use for PS is projected to continue decreasing over time as the use of AWS sources (e.g., brackish water, excess stormwater, reclaimed water) increases. The slight reduction in groundwater withdrawals for PS starting in 2010 reflects a combination of factors that contributed to a lower per capita use rate, including water shortage restrictions, new irrigation rules, the economic downturn, and increased water conservation awareness.

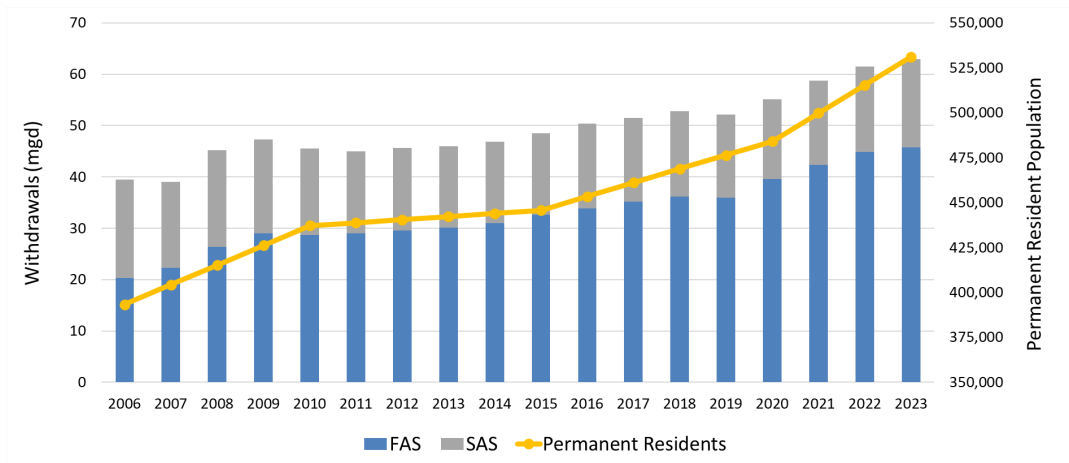


Figure 5-7. PS withdrawals from the surficial and Floridan aquifer systems in the UEC Planning Area (2006 to 2023).

Fresh Groundwater

Surficial Aquifer System

The SAS produces fresh water from relatively shallow wells in most of the UEC Planning Area. Fresh groundwater has a chloride concentration less than 250 milligrams per liter (mg/L), which meets the United States Environmental Protection Agency (USEPA) secondary drinking water standards (USEPA 2026). All water use categories in the UEC Planning Area, rely on fresh groundwater from the SAS to meet a portion of the water supply needs.

The SAS is an unconfined to semiconfined aquifer system composed of solutioned limestone, sandstone, sand, shell, and clayey sand and is recharged by local rainfall and regional canals. Water availability from the SAS in the UEC Planning Area is limited by the rate of groundwater recharge, low aquifer productivity, potential impacts to wetlands and existing legal water uses, possible saltwater intrusion, and proximity to sources of pollution. Development of new SAS groundwater sources may be feasible in some areas; however, permitting new water supplies will depend on local resource conditions.

During drought events, low regional groundwater levels may cause inland movement of the saltwater interface in the SAS. In this case, water shortage restrictions may be declared by the District's Governing Board to conserve freshwater supplies and reduce the risk of saltwater intrusion. Water availability from the SAS is further discussed in **Chapter 6**.

Existing and Future Use of Fresh Groundwater

PS is the largest user of fresh groundwater in the UEC Planning Area (**Figure 5-2**). In 2024, approximately 27% of the region's total PS demand was met with fresh groundwater from the SAS. Use of the SAS for PS is projected to increase only slightly by 2050 as increased PS demands are expected to be met with an increasing percentage of brackish water from the FAS. **Appendix B** contains information about PS utilities, including their permitted allocations from each source and wellfield maps by county. Permitted PS and small utilities with fresh groundwater withdrawal locations in the UEC Planning Area are shown in **Figure 5-8**.

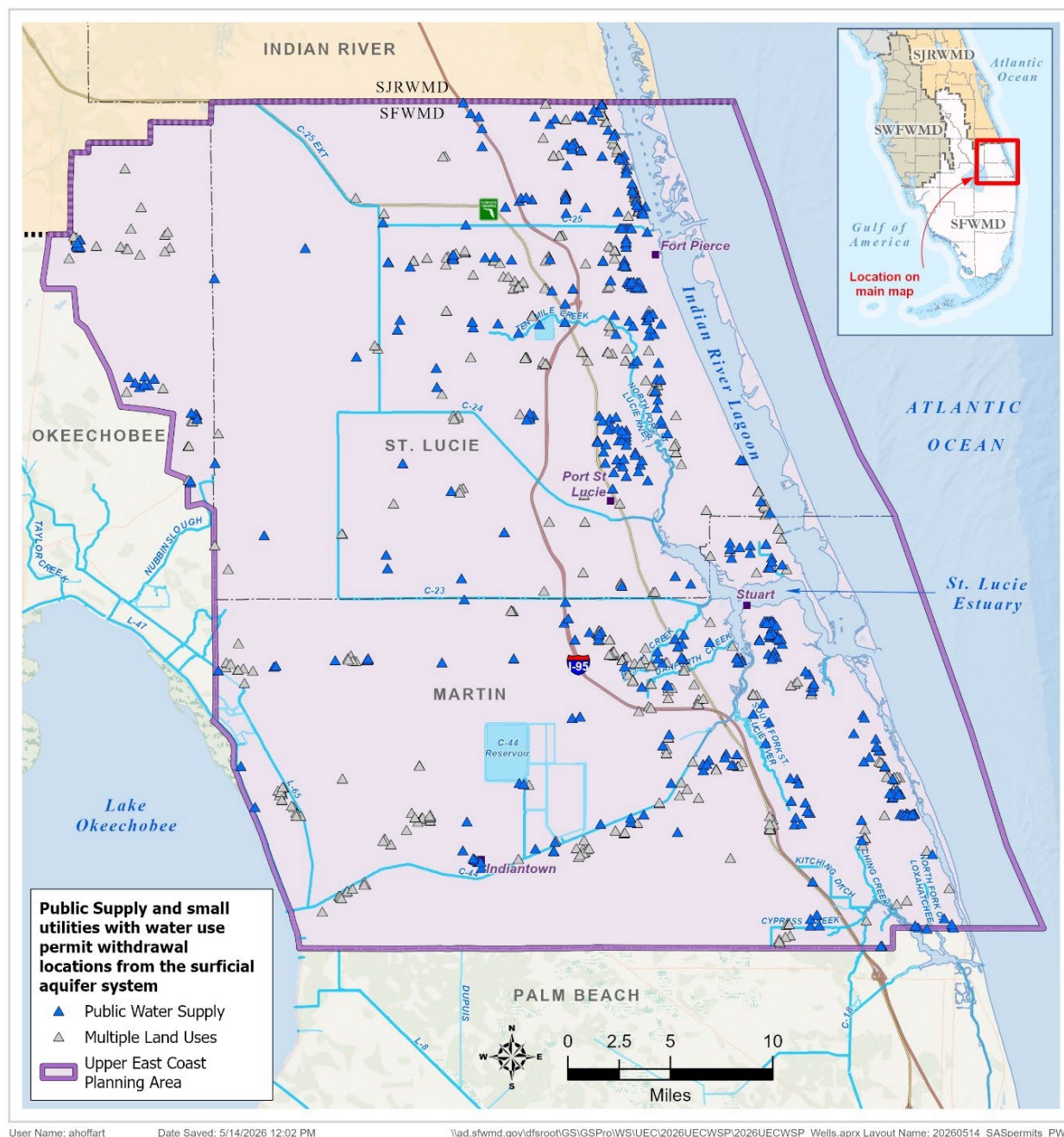


Figure 5-8. PS and small utilities with water use permit withdrawal locations from the surficial aquifer system within the UEC Planning Area.

In 2024, fresh groundwater from the SAS supplied 100% of the estimated 6.23 million gallons per day (mgd) demand for Domestic Self-Supply (DSS). By 2050, DSS demand is expected to decrease to 3.59 mgd due to low anticipated growth in DSS areas and the expansion of potable water distribution lines in PS service areas. Fresh groundwater from the SAS will continue to supply 100% of the DSS demands through 2050.

AG primarily depends on surface water and uses fresh groundwater to a much lesser extent due to the low productivity of the SAS in the region. In 2024, approximately 10% of the AG demands were met with fresh groundwater from the SAS (**Figure 5-2**). Use of fresh groundwater for AG is projected to decrease slightly over the planning period. Permitted AG fresh groundwater withdrawal locations in the UEC Planning Area are shown in **Figure 5-9**.

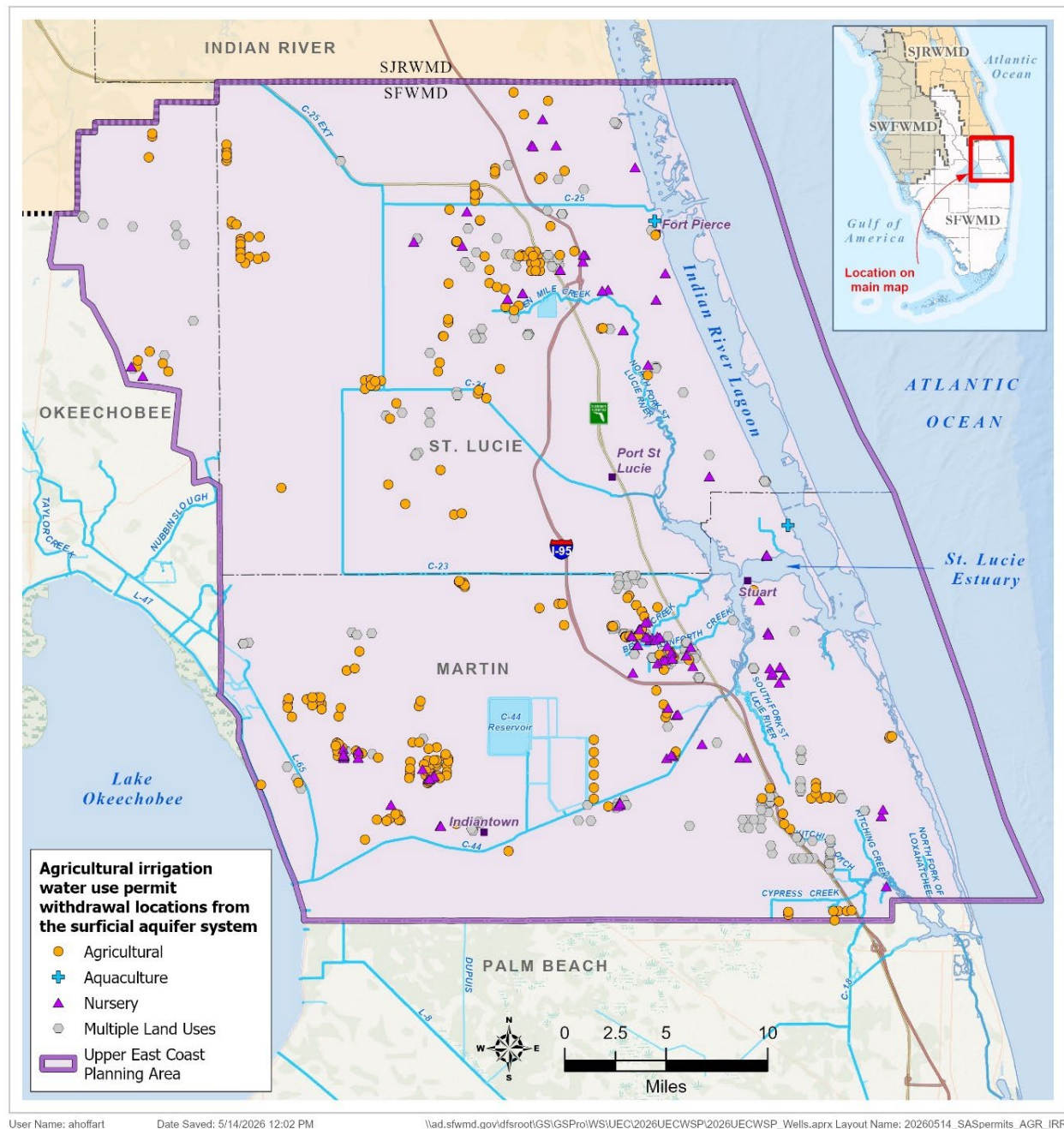


Figure 5-9. AG irrigation water use permit withdrawal locations from the surficial aquifer system within the UEC Planning Area.

In 2024, approximately 61% of the CII demand was met with fresh groundwater (Figure 5-2). For the CII category, some fresh groundwater withdrawals may be replaced with reclaimed water during the planning horizon if available. Permitted CII fresh groundwater withdrawal locations in the UEC Planning Area are shown in Figure 5-10.

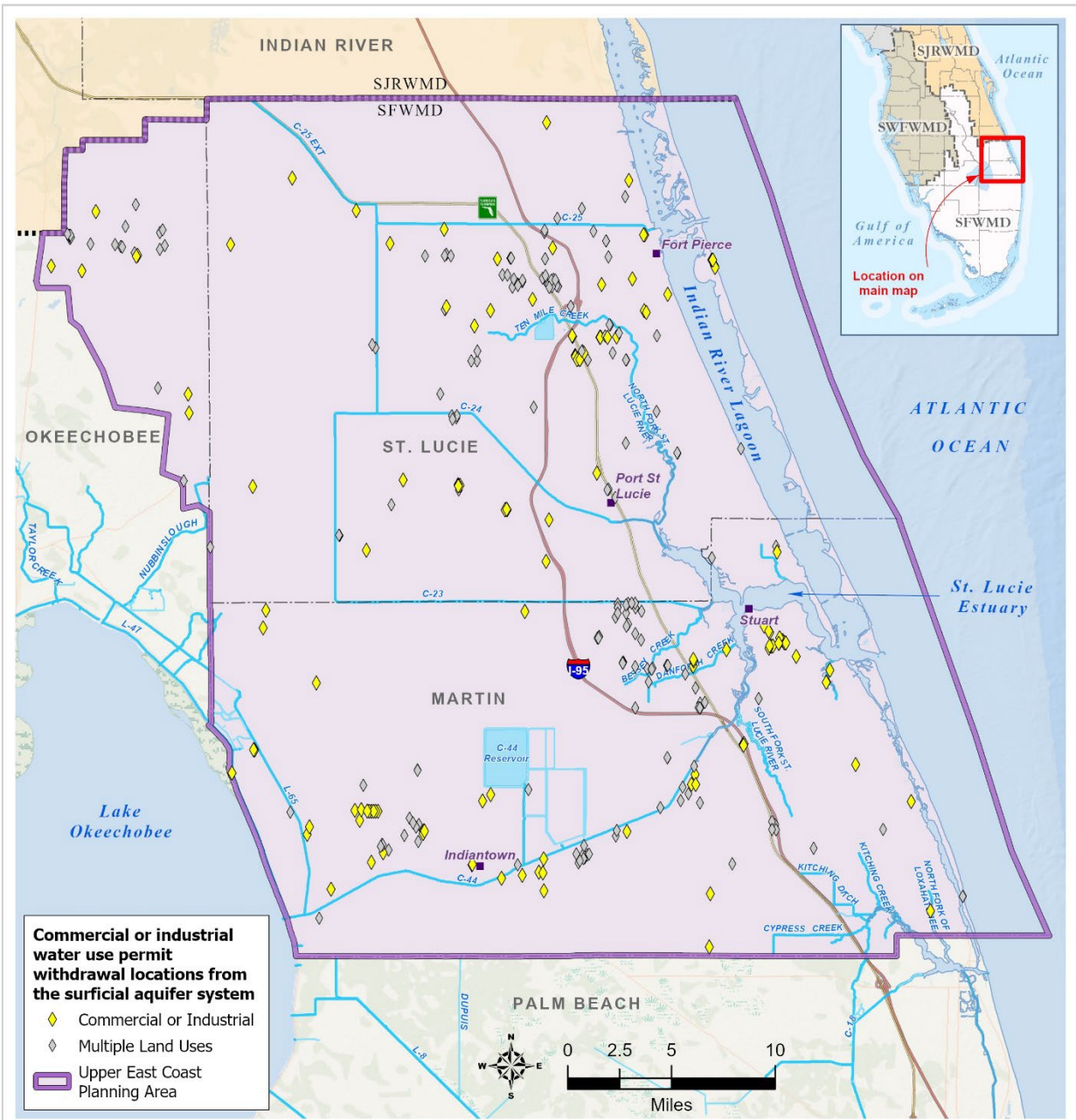


Figure 5-10. CII water use permit withdrawal locations from the surficial aquifer system within the UEC Planning Area.

In 2024, approximately 33% of L/R demand, including golf courses, was met with fresh groundwater from the SAS (**Figure 5-2**). L/R demands are expected to increase 23%. Fresh groundwater is expected to meet approximately 34% of the increased demand, depending on availability at specific locations. It is anticipated that some fresh groundwater withdrawals may be replaced with reclaimed water during the planning horizon if available for the L/R category. Permitted L/R fresh groundwater withdrawal locations in the UEC Planning Area are shown in **Figure 5-11**.

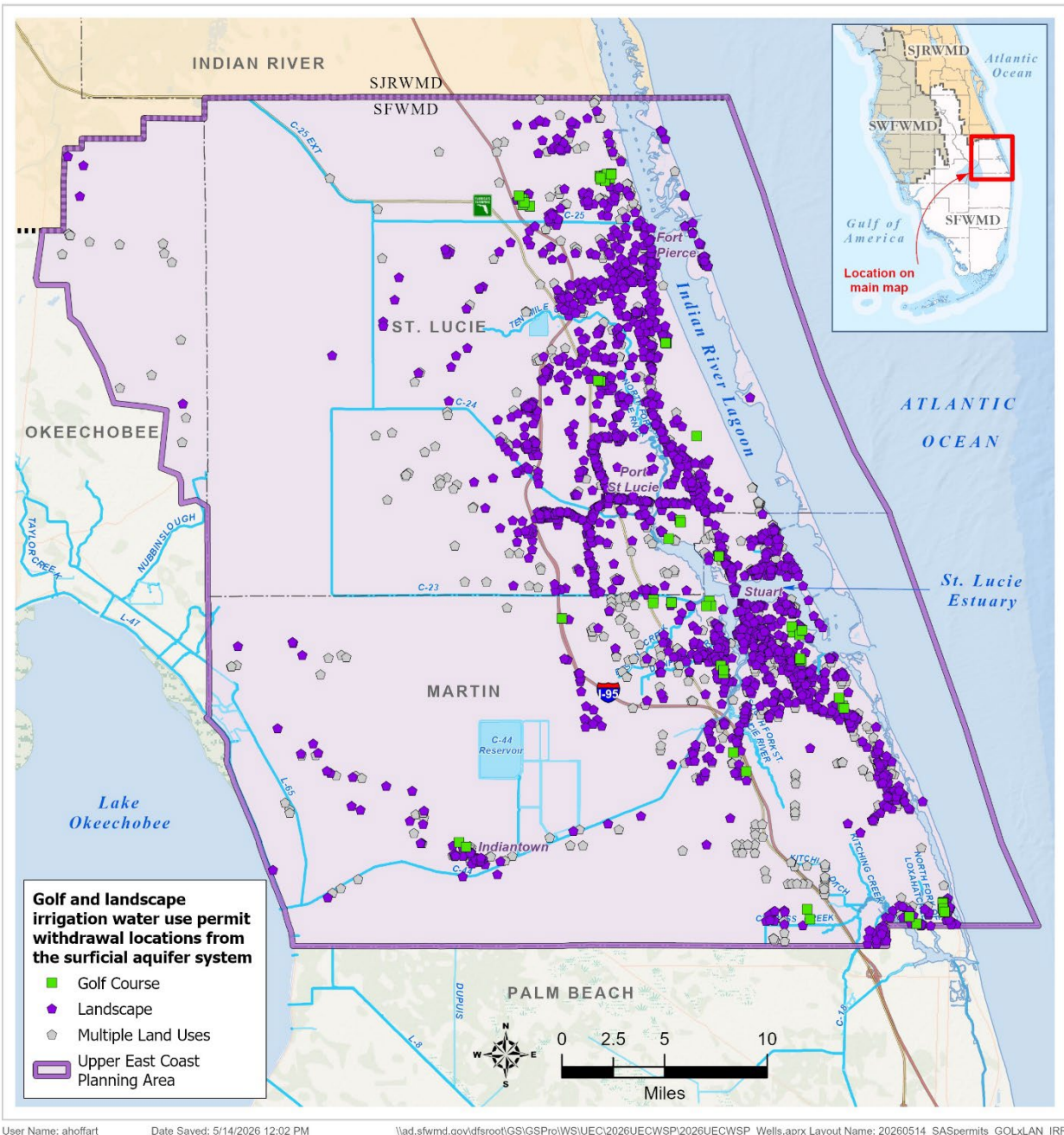


Figure 5-11. L/R irrigation water use permit withdrawal locations from the surficial aquifer system within the UEC Planning Area.

In 2024, a combination of surface water and brackish groundwater was used to meet PG demands. Fresh groundwater from the SAS is used by the Martin Power Plant (less than 0.1 mgd) for potable supply only and is not included in the PG demands.

The SFWMD partners with other agencies (e.g., the United States Geological Survey) to monitor the SAS through regional monitor well networks and through permittees as part of the SFWMD reporting requirements for water use. Analyses of the SAS monitor well data, further discussed in **Chapter 6** and **Appendix D**, indicate that groundwater elevations and water quality in the SAS appear stable at current use rates, but increased water availability is limited in many areas. Future strategies to address limits on availability are provided in **Chapter 9**.

The SFWMD used the East Coast Surficial Model (ECSM) to simulate 2024 and 2050 demands from the SAS in the UEC Planning Area. The ECSM simulations and analyses conducted to support this plan update are considered conservative and provide insight into potential water level and water quality changes that may occur in the SAS over time if no wellfield design or operations plan is implemented to minimize the movement of poor-quality water. A discussion of the model results, conclusions, and recommendations is provided in **Chapter 6** and **Appendix D**. Future strategies to address managing withdrawals to minimize water quality degradation are provided in **Chapter 9**.

Increased allocations from the SAS are generally limited by water resource protection measures, potential impacts on wetlands, existing legal water uses, proximity to pollution sources, and the potential for saltwater intrusion. Therefore, fresh groundwater from the SAS may not be sufficient to meet 2050 projected water use demands for the UEC Planning Area, and alternative sources need to be developed to meet increased demands.

Brackish Groundwater

Floridan Aquifer System

In the UEC Planning Area, water from the FAS typically has chloride concentrations greater than 1,000 mg/L and is considered brackish. Desalination or blending with fresh water is required before this water supply source is suitable for most uses, including irrigation and human consumption. Water quality in the FAS decreases substantially from central to southern Florida, with increasing hardness, chlorides, and salinity. Salinity also increases with depth, making the deeper producing zones less desirable for development than shallower parts of the system. The FAS is productive in the UEC Planning Area; however, use of this brackish water source is limited by water quality concerns (**Chapter 6**), treatment costs, and regulatory protections (**Chapter 4**).

The FAS is a confined, high-yield aquifer system that provides substantial volumes of water. Overall, the productivity of the FAS is considerably greater than that of the SAS in the region. The top of the FAS is separated from the SAS by the low-permeability sediments of the intermediate confining unit that is several hundred feet in thickness. Within the UEC Planning Area, the FAS is composed of a carbonate rock sequence (limestones and dolostones) more than 2,700 feet thick (**Figure 5-6**). The FAS has several discrete aquifers separated by low-permeability confining units, including the brackish UFA, APPZ, and the more saline Lower Floridan aquifer (LFA). Though generally not considered useful as a water supply

source in the UEC Planning Area due to high salinity, the LFA includes the Boulder Zone (approximately 3,000 to 3,500 feet below mean sea level), a cavernous and highly transmissive interval used for disposal of wastewater effluent and concentrate from reverse osmosis (RO) treatment facilities through the use of deep injection wells.

The SFWMD partners with other agencies (e.g., the United States Geological Survey) to monitor the FAS through regional monitor well networks and through permittees as part of the SFWMD reporting requirements for water use. Data from these wells indicate some seasonal variations in water levels; however, overall, levels have remained stable over the period of record evaluated for each well. Nearly all PS utilities in the UEC Planning Area that use the UFA have had one or more production wells experience degraded (increasing salinity) water quality. **Chapter 6** and **Appendix D** contain monitor well location information and data from the regional FAS network as well as water quality graphs from several PS utility wellfields.

Existing and Future Use of Brackish Groundwater

In the UEC Planning Area, the FAS provides brackish groundwater for PS, AG, L/R, CII, and PG demands. PS utilities extensively use the FAS as a water supply source. From 2006 to 2023, PS withdrawals from the FAS increased from approximately 20 to 45 mgd, with most of the growth in population and demands occurring in St. Lucie County (**Figure 5-12**). Demands for PS from the FAS are expected to increase to 72 mgd by 2050. In the UEC Planning Area, eight PS utilities have FAS permit allocations, totaling 93.03 mgd. The FAS is not used for PS in the portion of Okeechobee County within the UEC Planning Area.

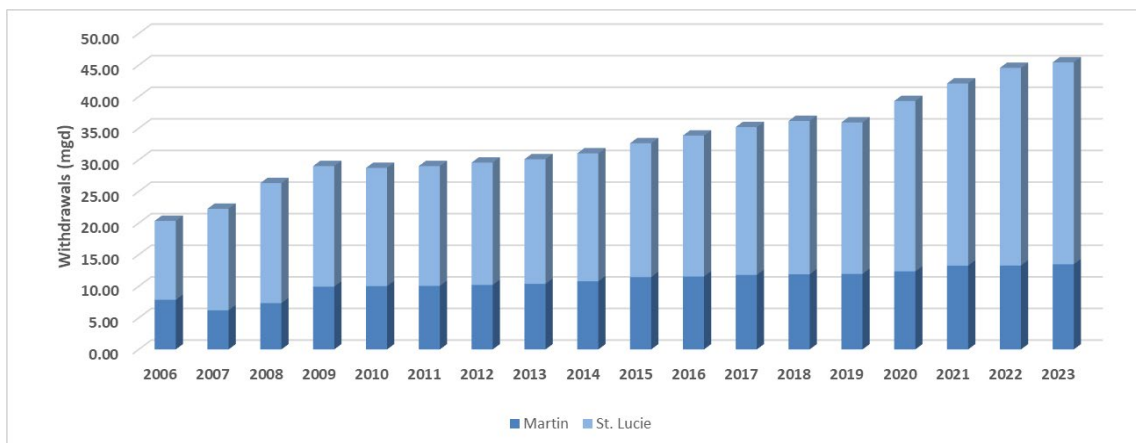


Figure 5-12. PS withdrawals from the Floridan aquifer system in the UEC Planning Area (2006 to 2023).

In some limited cases, brackish groundwater from the FAS is used by PG (7%), AG (6%), L/R (5%), and CII (less than 1%) as an AWS source (**Figure 5-2**). Demands from the FAS for PG are expected to decrease with the increased use of reclaimed water at the Treasure Coast Energy Center. AG permit holders typically use the UFA as a supplemental source when surface water availability is limited. AG demands are projected to decrease between 2024 and 2050, and the percentage of AG demands met by brackish water from the FAS is not expected to change. L/R demands from the FAS are expected to increase slightly, depending on the availability of reclaimed water. Permitted withdrawal locations from the FAS in the UEC Planning Area are shown in **Figure 5-13**.

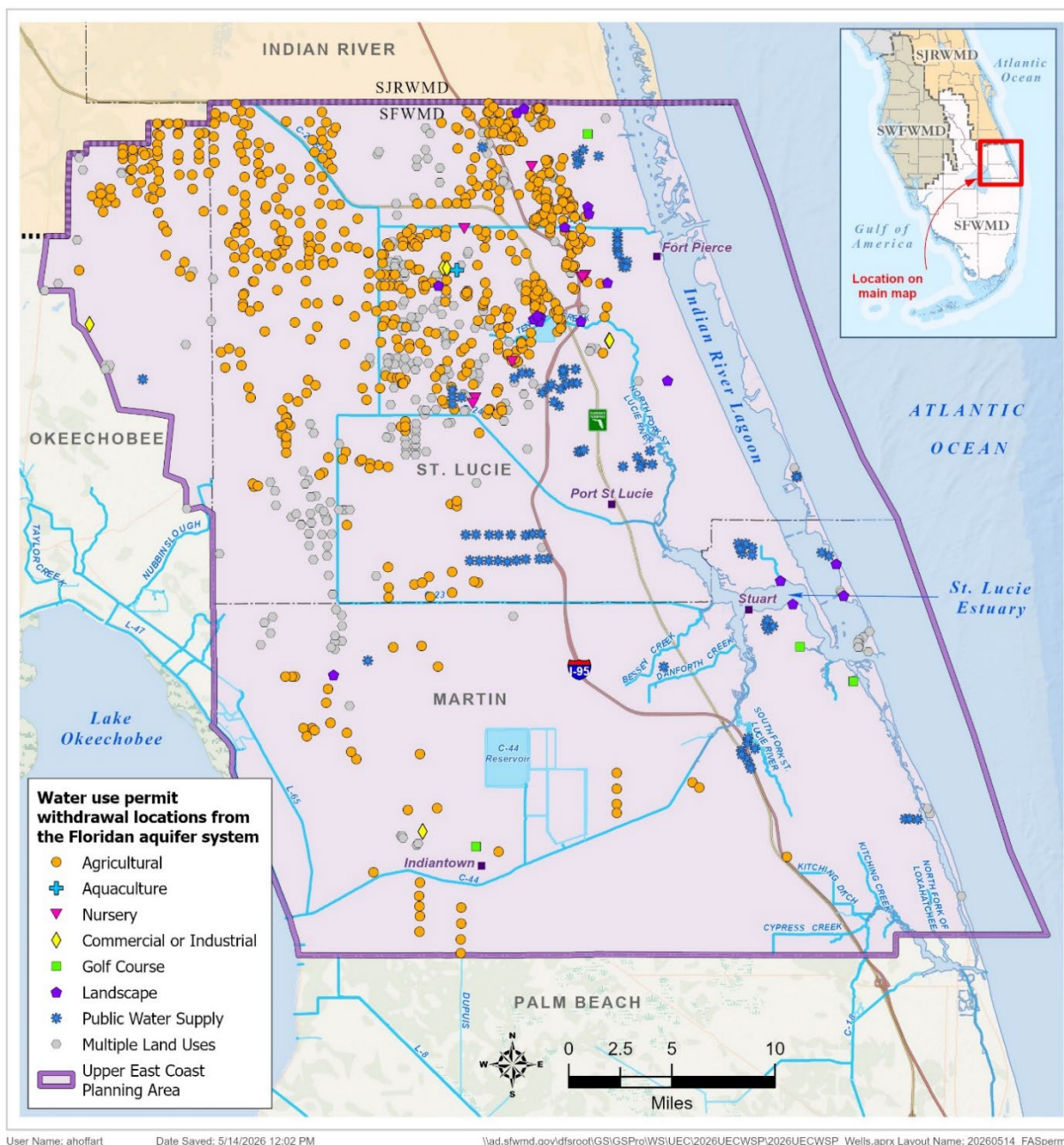


Figure 5-13. Water use permit withdrawal locations from the Floridan aquifer system in the UEC Planning Area.

PS utilities use RO treatment to remove or reduce excess salinity to acceptable drinking water quality. The approximate production efficiency, or recovery, for brackish water RO facilities Districtwide is between 75% and 85%, depending on the membrane technology employed and the salinity of the source water (Carollo Engineers, Inc. 2009). There currently are nine RO water treatment plants in Martin and St. Lucie counties, with a combined treatment capacity of 64.93 mgd, used to treat brackish water from the FAS. To some extent, FAS water can be blended with fresh water from the SAS and treated with lime softening or nanofiltration technology to meet chloride drinking water standards. The ability to use

blending depends on the water quality of the FAS water and other treated water produced by the utility.

Several FAS wellfields in the UEC Planning Area have experienced some water quality degradation, but current operations have shown this can be managed by PS utilities through appropriate wellfield design and operating plans including the following activities:

- ◆ Increasing well spacing (more than 1,000 feet) to minimize interference effects and to reduce stress on the FAS.
- ◆ Rotating the operation of individual wells, thereby reducing overall pumping stress on the well's production zone.
- ◆ Plugging and abandoning individual wells experiencing increases in chloride concentration and replacing them with new wells elsewhere within the wellfield area.
- ◆ Reducing pumping rates at individual wells to minimize water level declines, which increase the potential for poor-quality water to enter the well's production zone from below.
- ◆ Installing additional monitor wells to provide early warning of the need for changes to wellfield operations to minimize upconing or lateral movement of poor-quality water.
- ◆ Partially back-plugging individual wells to isolate deeper poor-quality layers from overlying higher-quality layers, thereby keeping the wells in operation.

The SFWMD used the East Coast Floridan Model (ECFM) to simulate 2024 and 2050 demands from the FAS in the UEC Planning Area. Review of historical chloride data and the ECFM results concluded that with properly designed and managed wellfields, the FAS appears able to meet projected demands through 2050. The ECFM simulations and analyses conducted to support this plan update are considered conservative and provide insight into potential water level and water quality changes that may occur in the FAS over time if no wellfield design or operations plan is implemented to minimize the movement of poor-quality water. The model results identified potential areas that may require further evaluation. Water quality should remain adequate for all users, with RO treatment as needed. A discussion of the model results, conclusions, and recommendations is provided in **Chapter 6** and **Appendix D**. Future strategies to address managing withdrawals to minimize water quality degradation are provided in **Chapter 9**.

RECLAIMED WATER

Reclaimed water is water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility (WWTF) as defined in Rule 62-600.200, F.A.C. Reuse is the deliberate application of reclaimed water for a beneficial purpose. Criteria used to classify projects as “reuse” or “effluent disposal” are contained in Rule 62-610.810, F.A.C.

Section 373.250, F.S., identifies reclaimed water as an AWS that is eligible for AWS funding. The Water Resource Implementation Rule (Chapter 62-40, F.A.C.) requires the FDEP and water management districts to advocate and direct the use of reclaimed water as an integral part of water and wastewater management programs, rules, and plans. The SFWMD requires all water use permit applicants proposing to use more than 0.10 mgd of water and applicants within a mandatory reuse zone, as designated by local governments through ordinance, to use reclaimed water if feasible. In addition, substitution credits and impact offsets, resulting from use of reclaimed water, may be included in a water use permit. A substitution credit is the use of reclaimed water to replace a portion or all of an existing permitted use of a limited surface water or groundwater resource, allowing a different user to initiate or increase withdrawals from the resource. Impact offsets are derived from the use of reclaimed water to reduce or eliminate a harmful impact that has occurred or would occur as a result of a surface water or groundwater withdrawal.



Wastewater reuse conserves water resources by reducing reliance on traditional freshwater sources for many uses, like irrigation, often at a lower cost. Because wastewater is generated year-round, reclaimed water is considered a highly reliable water source and an environmentally sound alternative to traditional wastewater disposal methods, such as ocean outfalls and deep well injection. However, some utilities may require backup disposal methods during wet periods when irrigation demand is low.

Existing Reuse

Wastewater, reuse, and related flows for 2024 were analyzed for the 20 existing treatment facilities in the UEC Planning Area with a capacity of 0.10 mgd or greater. Wastewater treatment facility details are summarized in **Appendix E**. Flow data for the 20 facilities permitted to produce reclaimed water were obtained from the individual reuse inventory reports submitted to the FDEP for the year 2024 (FDEP 2024).

Reclaimed water used for a beneficial purpose (e.g., landscape irrigation, golf course irrigation, cooling water, and other industrial uses) has increased in the UEC Planning Area since 1996 (**Figure 5-14**). Annual fluctuations in the volume of reclaimed water used are typically due to the addition of new users and rainfall variability.

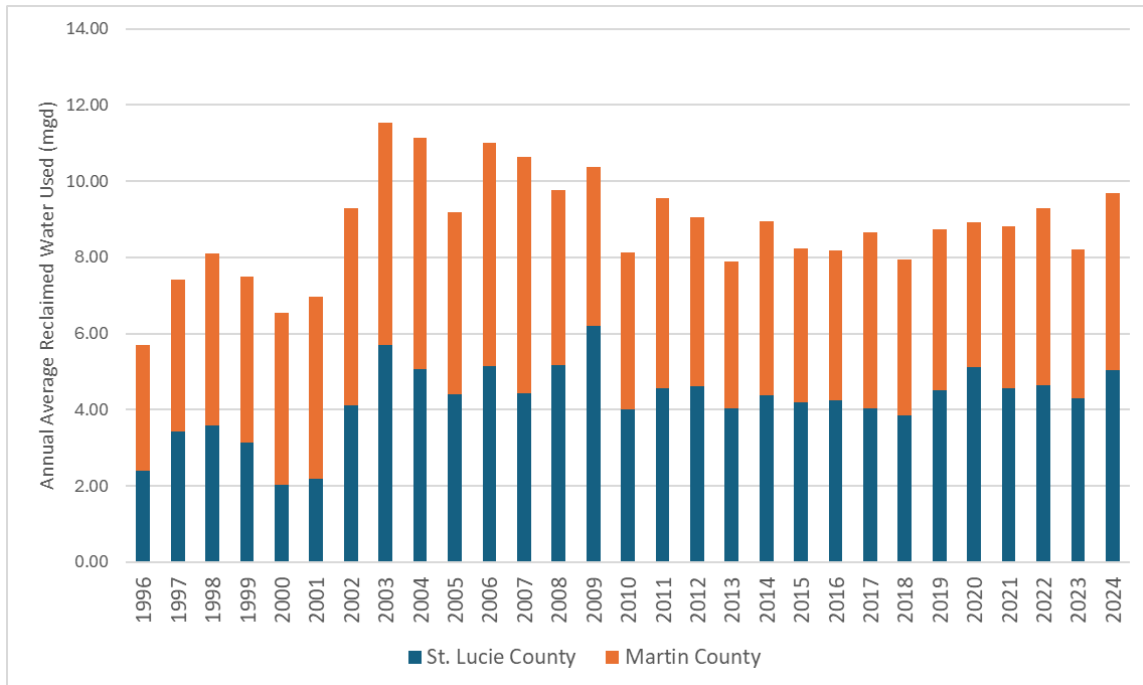


Figure 5-14. Annual average reclaimed water used in the UEC Planning Area from 1996 to 2024.

In 2024, the 20 existing facilities analyzed for this update treated a total annual average wastewater flow of 27.95 mgd, and 33% was reused. The county level data indicated 24% of wastewater generated in St. Lucie County and 56% generated in Martin County was reused.

Reclaimed water was primarily used for irrigation of golf courses, parks, schools, and residential lots, using 9.04 mgd of the 9.72 mgd total reused in the UEC Planning Area in 2024 (**Figure 5-15**). The remainder of the total reclaimed water used in 2024 provided groundwater recharge (0.60 mgd) and supplemented industrial uses (0.09 mgd). Reported disposals of treated wastewater totaled 19.85 mgd in 2024, with 19.81 mgd being injected into deep wells and 0.04 mgd discharged to surface waters.

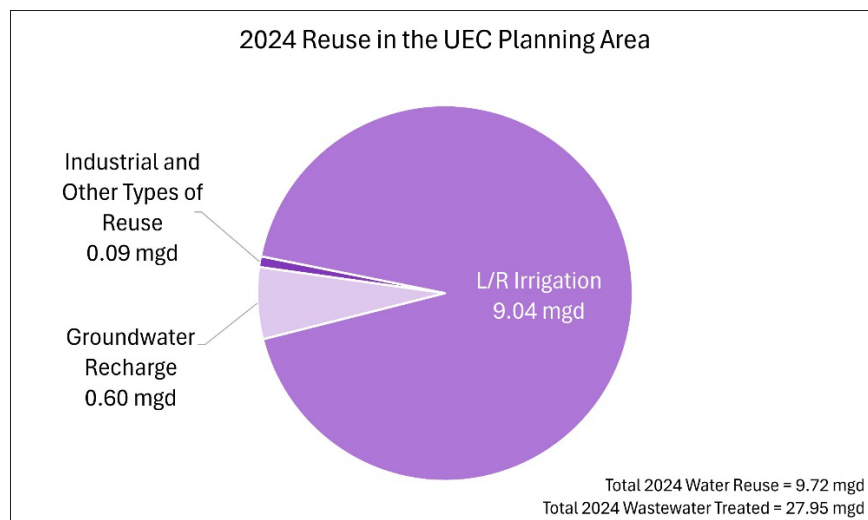


Figure 5-15. 2024 reuse in the UEC Planning Area.

Supplemental Sources to Meet Reclaimed Water Demand

The use of supplemental water supplies to meet peak demands for reclaimed water may enable a wastewater utility to maximize its use of reclaimed water. However, during times of drought, water sources (e.g., surface water, groundwater, and stormwater) may not be available to supplement reclaimed water supplies in some areas. Use of supplemental water supplies is subject to consumptive use permitting and water shortage restrictions by the SFWMD. Two wastewater utilities in the UEC Planning Area used a total of 1.35 mgd of supplemental water to support their water reuse systems in 2024.

Reclaimed Water System Interconnects

Reclaimed water system interconnects may be owned or operated by different utilities or may be shared between two or more domestic WWTFs that provide reclaimed water for reuse activities. When two or more reclaimed water systems are interconnected, additional system flexibility is attained, which increases efficiency and reliability. In the UEC Planning Area, the City of Stuart has extended a reclaimed transmission main to supply excess reclaimed water to Martin County Utilities for distribution and reuse.

Future Reuse

Projections for 2050 annual average daily wastewater, reuse, discharges, and supplemental flows were obtained directly from the utilities for all 21 treatment facilities analyzed in this section. There are two proposed WWTFs in the UEC Planning Area. St. Lucie County is modifying and expanding an existing industrial WWTF at Tropicana to treat domestic wastewater for reuse, and Fort Pierce Utility Authority recently constructed the Mainland WWTF, which will replace the Fort Pierce Utilities Authority – Island WWTF (planned for decommissioning by 2029). Additional information about reuse and profiles for each WWTF are provided in **Appendix E**. While reuse utilities have proposed projects to expand reuse to include up to 1.00 mgd for potable reuse and 7.00 mgd for PG cooling water, reclaimed water for irrigation will continue to be the largest reuse category through 2050, accounting for 77% of the projected reuse total of 39.34 mgd (**Figure 5-16**).

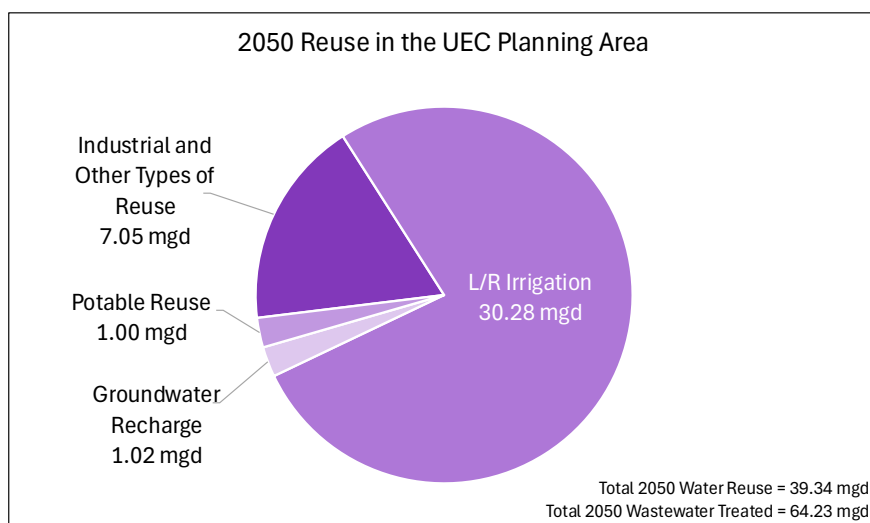


Figure 5-16. 2050 projected reuse in the UEC Planning Area.

Reuse as a percentage of treated wastewater is expected to nearly double from approximately 33% to 60%, and reuse flow volume is projected to increase from 9.72 mgd in 2024 to 39.34 mgd in 2050. In addition, the disposal of treated wastewater, as a percentage of total treated wastewater, could drop by more than 31% over the same time period as wastewater flows increase by approximately 130% (**Table 5-1**).

Table 5-1. Documented 2024 and projected 2050 annual average daily flows for reuse and related flows by county.

County	AAD Wastewater Flows (mgd)		AAD Disposal Flows (mgd)		AAD Supplemental Flows (mgd)		AAD Reuse (mgd)	
	2024	2050	2024	2050	2024	2050	2024	2050
Martin	8.11	14.10	3.89	6.68	0.19	0.00	4.64	7.42
Okeechobee ^a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie	19.84	50.12	15.96	18.85	1.16	1.35	5.08	31.92
UEC Planning Area Total	27.95	64.22	19.85	25.53	1.35	1.35	9.72	39.34

AAD = annual average daily; mgd = million gallons per day.

^a Values listed are only for the area within the UEC Planning Area boundaries. No WWTFs with a capacity of 0.10 mgd or greater are located in the portion of Okeechobee County within the UEC Planning Area.

Utilities currently distributing reclaimed water to customers intend to continue and expand their reuse systems as additional reclaimed water end users become available. Most major utilities in the region are planning to provide more reclaimed water and have begun or anticipate constructing the required treatment facilities by 2050. In many cases, future reuse will occur in new residential developments, which will decrease the demands needed from other sources for irrigation. In some areas, local government development approval requires use of reclaimed water and extension of reclaimed water pipelines, increasing the projected volume of reuse by 2050.

There are 10 treatment capacity expansion projects, 3 distribution expansion projects, and 3 storage projects proposed to be completed by 2050 for expanding reclaimed water supplies. The full listing of these proposed reclaimed water projects can be found in **Chapter 8**.

WATER STORAGE

Capturing surface water and groundwater during wet conditions for use during dry conditions increases the amount of available water. Over two-thirds of the UEC Planning Area's historical annual average rainfall of 55 inches occurs during the wet season. Without sufficient storage capacity, much of this water discharges to the ocean through surface water management systems and natural drainage. In the UEC Planning Area, potential water storage options include ASR systems and reservoirs, both of which are considered AWS options.

Aquifer Storage and Recovery

ASR involves storing stormwater, surface water, fresh groundwater, drinking water, or reclaimed water in an aquifer that has appropriate attributes (e.g., modest transmissivity, intergranular porosity, overlain by a competent confining unit, low ambient water salinity) and subsequently recovering the water. In this process, an aquifer acts as an underground reservoir for recharged (injected) water. Prior to injection, the source water is treated to appropriate standards, which may vary depending on the water quality of the receiving aquifer, and then pumped into the aquifer through a well (i.e., stored). The water is pumped back out (i.e., recovered) at a later date for use. The amount of water recovered depends on subsurface conditions, storage time, and water quality. The level of treatment required during recovery depends on the intended use of the water (e.g., public consumption, irrigation, surface water augmentation, wetlands enhancement).

The volume of water made available through ASR depends on several factors, including well yield, water availability, aquifer characteristics, variability in water supply and demand, and use type. There are uncertainties that need to be addressed with the implementation of ASR systems, but this storage option has the potential to retain substantial quantities of water that otherwise would be lost to the ocean, deep well injection, or evaporation.

Most of the ASR systems in the SFWMD have been built by PS utilities to store potable water during periods of low seasonal demand for subsequent recovery during periods of high demand. To date, one ASR exploratory well and an associated monitor well have been constructed (Port Mayaca) within the UEC Planning Area. The SFWMD has conducted aquifer performance testing on this exploratory well. Ten ASR wells are proposed by the City of Port St. Lucie Utility Systems Department at McCarty Ranch with initial construction and testing beginning in 2035. The SFWMD, in cooperation with the United States Army Corps of Engineers, is pursuing regional ASR systems as part of CERP. Further information about these projects is provided in **Chapter 7**.



ASR Well

Local and Regional Reservoirs

Surface water reservoirs allow storage of water, primarily captured during wet weather conditions, for use in the dry season and are considered an AWS source. Water typically is pumped from rivers or canals and stored in aboveground or in-ground reservoirs, which are referred to as off-stream reservoirs. Small-scale (local) reservoirs are used by agricultural operations to store recycled irrigation water or for collection of stormwater runoff. These reservoirs also may provide water quality treatment before off-site discharge. Large-scale (regional) reservoirs are used for stormwater attenuation, water quality treatment in

conjunction with STAs, and storage of seasonally available water. Regional storage projects, such as those related to the CERP IRL-S Project (**Chapter 7**), may enhance surface water availability. The recently completed C-44 Reservoir and the proposed McCarty Ranch Reservoir are examples of off-stream regional reservoirs in the UEC Planning Area.

SEAWATER

The use of desalinated seawater from the Atlantic Ocean is an AWS option. The SFWMD does not require water use permits for the use of seawater. One PG facility in the UEC Planning Area uses seawater for cooling purposes (FPL St. Lucie Nuclear Plant). The ocean is an abundant source of water; however, desalination is required before seawater can be used for most water supply purposes. There are no PS utilities currently using or proposing to use seawater by 2050.

Major advances in seawater desalination treatment and efficiencies have occurred over the past decade. As a result, desalination costs are declining; however, the cost of standalone seawater desalination facilities remains higher than brackish water desalination. Co-locating seawater desalination facilities with coastal power plants results in cost savings and decreases the cost difference compared to other AWS options. Additional information regarding seawater desalination is provided in the 2026–2029 Support Document (SFWMD 2026).

SUMMARY OF WATER SOURCE OPTIONS

Water users in the UEC Planning Area rely on fresh groundwater and surface water for urban, agricultural, and industrial uses. However, traditional freshwater sources are not sufficient to meet projected 2050 water demands; therefore, continued development of AWS sources is needed.

The SAS historically has served as the primary source of water to meet PS demands in the UEC Planning Area. Large-scale expansion of SAS withdrawals is limited by the rate of groundwater recharge, low aquifer productivity, potential impacts to wetlands and existing legal water uses, possible saltwater intrusion, and proximity to sources of pollution. Therefore, the FAS will continue to provide an increasing portion of the water needed to meet PS demands through 2050.

Surface water bodies and the SAS will remain the primary sources for AG and L/R irrigation. Large-scale expansion of surface water and groundwater withdrawals is limited due to resource and regulatory constraints. As urban growth occurs, some agricultural land is expected to transition to urban uses. Many existing agricultural areas have water use permits to use fresh groundwater and surface water for crop irrigation. While water use permits cannot be directly transferred from one land use type to another, conversion of agricultural lands to another use may result in some additional available fresh groundwater and surface water, consistent with regulatory criteria. In addition, several utilities are proposing to expand reclaimed water distribution systems to new developments and golf courses for irrigation.

In addition, the potential impacts of sea level rise and other changing hydrologic and climate conditions on water supply need to be better understood. Correspondingly, research should continue to characterize, monitor, and design adaptation solutions. **Appendix D** provides further details about sea level rise and changing hydrologic and climate conditions.

The following findings could increase the availability of water resources in the UEC Planning Area to meet the projected 2050 water demands:

- ◆ The FAS is a brackish water source that requires blending or desalination before use. Eight PS utilities use the FAS as an AWS source to meet a portion of their demands. The FAS will provide an increasing portion of the water needed to meet 2050 projected demands. The ECFM results, as discussed in **Chapter 6** and **Appendix D**, indicate the FAS will be able to meet demand in terms of volume and water quality with properly designed and managed wellfields.
- ◆ An increase in reuse of 29.57 mgd is expected from 2024 to 2050. Reclaimed water is primarily being reused for public access irrigation and PG cooling processes. Further development of reclaimed water as an AWS option is expected.
- ◆ More than two-thirds of the UEC Planning Area's annual rainfall of 55 inches occurs during the wet season; however, without sufficient storage capacity, much of this water discharges to tide. In the UEC Planning Area, potential types of needed water storage are under development, including ASR systems and reservoirs. For example, the water supply development projects proposed by the City of Port St. Lucie will enable the capture, storage, and treatment of up to 10.00 mgd of excess stormwater from the C-23 Canal for potable supply (**Chapter 8**).
- ◆ Changing hydrologic and climate conditions (e.g., changes in air temperature and precipitation regimes, increased storm frequencies and intensities, and sea level rise) could result in more frequent flooding, greater evaporation, and longer drought periods with higher risk of saltwater intrusion. Therefore, these evolving conditions need to be considered when evaluating the ability of regional water resources to meet future demands.

Water source options depend on location, use type, demand, regulatory requirements, and cost. As competition for limited water resources increases, development of AWS sources will also increase. The findings and conclusions of previous plan updates continue to represent the issues considered to meet the 2050 projected water demands within the UEC Planning Area.

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Water Resource Analyses

This chapter provides historical data and analyzes the current and future status of water resources in the Upper East Coast (UEC) Planning Area of the South Florida Water Management District (SFWMD or District) as well as their limitations and ability to meet the projected demands described in **Chapter 2**. The issues identified in this chapter may affect the use of existing water resources and the development of new supplies to meet projected water demands for 2050. **Appendix D** provides additional details about groundwater monitoring, sea level rise and other changing hydrologic and climate conditions, utilities vulnerable to dry conditions, and groundwater modeling, including the East Coast Surficial Model (ECSM) and the East Coast Floridan Model (ECFM). Understanding the effects of meeting water demands through withdrawals from water resources is critical to water supply planning.

TOPICS

- ◆ Summary of Issues and Considerations Identified for 2050
- ◆ Evaluation and Analyses
- ◆ Surface Water Availability
- ◆ Groundwater Availability
- ◆ Groundwater Models
- ◆ Sea Level Rise and Other Changing Hydrologic and Climate Conditions
- ◆ Summary of Water Resource Analyses

SUMMARY OF ISSUES AND CONSIDERATIONS IDENTIFIED FOR 2050

Traditional freshwater sources in the UEC Planning Area are not sufficient to meet the 2024 through 2050 total projected increase in water use demands. Past analyses indicated that fresh groundwater, in conjunction with currently permitted surface water, is not adequate to meet the growing needs of the UEC Planning Area during 1-in-10-year drought conditions. As a result, water users from several use categories are expanding their use of alternative water supply (AWS) sources. Most Public Supply (PS) utilities are using brackish water from the Floridan aquifer system (FAS) to meet a portion of their current demands and are planning to increase use of the FAS to meet increased demands through 2050. To meet greenspace irrigation demands, the use of reclaimed water is projected to increase in the UEC Planning Area. In addition, continued decreases in irrigated agricultural acreage and associated demands have resulted in reduced demands on surface water sources, and the trend is expected to continue through 2050. Finally, the Indian River Lagoon – South (IRL-S) Project components throughout the St. Lucie watershed will capture excess surface water discharges for later release, which will enhance water availability for water supply purposes. To date, construction is complete and operational testing has commenced on two IRL-S Project

components, the C-44 Reservoir and Stormwater Treatment Area as well as the C-23 Estuary Discharge Diversion, and additional project components are planned (**Chapter 7**). The following issues and considerations identified in this *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) are consistent with those in previous plan updates and continue to influence water supply planning efforts in the UEC Planning Area.

- ◆ Increased withdrawals from the surficial aquifer system (SAS) are limited by low aquifer productivity, the rate of groundwater recharge, potential impacts to wetlands and existing legal water uses, the potential for saltwater intrusion, and proximity to sources of pollution. New or increased allocations will be evaluated on an application-by-application basis to determine if a project meets water use permitting criteria.
- ◆ Peak discharges of surface water during the wet season are affecting the ecological health of the St. Lucie River and Indian River Lagoon.
- ◆ Regulatory limitations prohibit additional surface water allocations from the C-23, C-24, and C-25 canals and from Lake Okeechobee and the Lake Okeechobee Service Area (LOSA).
- ◆ The Lake Okeechobee System Operating Manual (LOSOM) and associated water control plan became final in August 2024 and will have effects on water supply and the Lake Okeechobee minimum flow and minimum water level (MFL).
- ◆ Withdrawals from the FAS are expected to increase to meet future demands. Continued monitoring of FAS groundwater elevations and water quality is necessary to ensure long-term sustainability of the resource.
- ◆ Sea level rise and other changing hydrologic and climate conditions may impact the UEC Planning Area.
- ◆ Recent developments by the United States Environmental Protection Agency (USEPA) on the regulatory criteria for perfluoroalkyl and polyfluoroalkyl substances or PFAS could necessitate changes in the level of treatment required to meet drinking water standards and may result in increased raw water demands.

Previous UEC water supply plan updates identified a variety of AWS projects that help avoid impacts to water resources and competition among water users and provide a sustainable supply of water. AWS projects include the use of reclaimed water, storage of water using aquifer storage and recovery (ASR) wells and reservoirs, and use of brackish water sources (**Chapter 8**).

While the development of fresh groundwater is limited in many areas of the UEC Planning Area, it may be available in portions of the region. As population growth and urban expansion continues to increase, some agricultural land is expected to transition to urban community uses. While water use permits cannot be directly transferred from one land use type to another, conversion of agricultural lands to another use may result in available fresh groundwater and surface water.

EVALUATION AND ANALYSES

Data and information from many sources were evaluated in developing this water supply plan update. To analyze the availability and ability of water resources to meet projected demands in the UEC Planning Area, including the issues and considerations listed above, the following information sources were used:

- ◆ Water use permits and permit applications
- ◆ Water supply demand projections for 2050
- ◆ Groundwater elevations and water quality data for the SAS and FAS
- ◆ Results from the ECSM using 2024 and 2050 demands
- ◆ Results from the ECFM using 2024 and 2050 demands
- ◆ Updated 2024 saltwater interface maps for Martin and St. Lucie counties
- ◆ Input from planning area stakeholders and the public
- ◆ Updated Water Supply Facilities Work Plans and capital improvement elements from local governments
- ◆ Activities and progress since the *2021 Upper East Coast Water Supply Plan Update* (2021 UEC Plan Update; SFWMD 2021), including water supply and AWS project implementation
- ◆ Data and information from the Comprehensive Everglades Restoration Plan (CERP), including status of CERP projects from the Integrated Delivery Schedule (USACE 2026).
- ◆ LOSOM and associated water control plan

Based on information from these data sources, issues identified in the 2021 UEC Plan Update were determined to be applicable for this 5-year plan update. The projected 2050 gross water demands for all water use categories in this plan update are 12% more than the projected 2045 demands in the 2021 UEC Plan Update (**Chapter 2**). The increase in total projected demand is due primarily to increases in urban demands for PS and Landscape/Recreational (L/R) irrigation. As a result, current and projected scenarios were reevaluated as discussed further in this chapter.

SURFACE WATER AVAILABILITY

In the UEC Planning Area, surface water is primarily used for Agriculture (AG) irrigation, Power Generation (PG) cooling water, and L/R irrigation. Notable surface water sources for the region include the C-23, C-24, and C-25 canals, and the C-44 Canal, which is part of LOSA. Resource protection criteria (**Chapter 4**) must be considered when determining the availability of water sources. Surface water use is limited by restricted allocation area (RAA) criteria adopted for Lake Okeechobee and LOSA, North Palm Beach County/Loxahatchee River Watershed Waterbodies; and for the C-23, C-24, and C-25 canals (**Chapter 4**). The RAA for Lake Okeechobee and LOSA restricts additional allocations from Lake Okeechobee and the integrated conveyance systems that are hydraulically connected to and receive water from Lake Okeechobee, including the C-44 Canal. The RAA for the North Palm Beach

County/Loxahatchee River Watershed Waterbodies limits net increases in the volume (or changes in timing) of direct surface water and indirect groundwater withdrawals from the RAA above existing allocations on a monthly basis. The RAA for the C-23, C-24, and C-25 canals limits withdrawals to the existing allocations; therefore, these canals cannot be relied on to meet additional future demands. However, use of these surface water bodies has decreased with the decline in agricultural acreage. In the future, some surface water use may be replaced with AWS sources, such as reclaimed water if it becomes available.

In addition to water supply, canals, lakes, and other surface water bodies are used for flood control, groundwater recharge, and preventing saltwater intrusion. Depending on the canal location, water level control elevations are established and managed to meet one or more of these objectives. Surface water level monitoring is a key component in managing surface water sources and is performed for a variety of reasons, including the following:

- Evaluating saltwater intrusion potential by measuring freshwater heads at coastal canal structures
- Monitoring hydroperiods in natural and man-made water bodies (i.e., wetlands) by measuring surface water gauges
- Guiding operations for flood control and water supply by measuring surface water levels in lakes, reservoirs, and canals
- Establishing MFL criteria and monitoring compliance using surface water levels and flows

Several factors were considered when evaluating surface water availability to meet current and future demands in the UEC Planning Area. Based on monitoring data and resource protection criteria (i.e., RAAs, MFLs, water reservations), increased use of surface water for water supply is limited and is expected to remain so through the planning horizon. Increased future demands in the region will likely be met using groundwater and AWS sources.

GROUNDWATER AVAILABILITY

In the UEC Planning Area, approximately 41% of the total water demand is being met by groundwater, including 100% of PS demands (**Chapter 5**). Monitoring programs facilitate a better understanding of the hydrogeologic system and provide data to develop and calibrate regional surface water and groundwater models. These monitoring programs also provide water users and managers with an early warning of threats to water supply that can be used to guide operations to prevent impacts to existing users and natural systems and to ensure long-term resource sustainability. Monitoring programs associated with environmental restoration are identified in **Chapter 7**, and monitoring results can be found in the annual *South Florida Environmental Report* available at <https://www.sfwmd.gov/sfer>. Real-time and long-term climate monitoring information is hosted by the SFWMD on the Resilience Metrics Hub available at <https://sfwmd-district-resiliency-sfwmd.hub.arcgis.com>. Historical and current hydrologic, meteorologic, hydrogeologic, and water quality data for the 16 counties within the District's boundaries are available from the SFWMD's corporate environmental database, DBHYDRO Insights, at <https://insights.sfwmd.gov>.

The SAS and FAS are the primary groundwater sources in the UEC Planning Area (**Chapter 5**). The following sections provide data and analyses of groundwater elevations and water quality in the SAS and FAS within the UEC Planning Area. The analyses focus on Martin and St. Lucie counties because the portion of Okeechobee County within the planning area lacks continuous long-term monitoring data. Time-series hydrographs showing the long-term groundwater elevation trends at representative SAS and FAS monitor wells are presented here and in **Appendix D**. These data were obtained from the District's DBHYDRO Insights database (described and linked above). In addition to the groundwater elevation time-series hydrographs, time series plots of chloride concentrations are provided as indicators of water quality and are of particular value to operators of PS wellfields and coastal irrigation projects using groundwater. Water quality data presented in these time series plots are provided by PS utilities as part of their water use permit monitoring requirements. This chapter provides information on the following:

- ◆ Long-term trends in groundwater elevations and water quality at selected SAS and FAS wells
- ◆ Location of the saltwater interface in Martin and St. Lucie counties
- ◆ Chloride concentration time-series graphs
- ◆ Groundwater models
- ◆ Resiliency efforts to mitigate and adapt to sea level rise and other changing hydrologic and climate conditions

Additional detailed information on the District's saltwater intrusion mapping program can be found in **Appendix D**.

Surficial Aquifer System Evaluation

SAS water availability is affected by the rate of groundwater recharge, low aquifer productivity, potential impacts to wetlands and existing legal uses, proximity to sources of pollution, and the potential for saltwater intrusion. Additional limited supplies may be developed and permitted from the SAS depending on local resource conditions, changing land use, and the viability of other supply options. Future strategies to address limits on availability are provided in **Chapter 9**.

Surficial Aquifer System Groundwater Elevations

Historically, the SAS has been the primary source of potable water and urban irrigation in the UEC Planning Area. PS utilities use both the SAS and FAS but are meeting increased demands with water from the FAS. For water supply planning purposes, 12 SAS monitor wells in the UEC Planning Area were chosen to evaluate long-term trends in regional groundwater elevations (**Figure 6-1, Table 6-1**). Of these 12 wells, 7 are discussed in this chapter; additional groundwater time-series hydrographs are presented in **Appendix D**.



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Table 6-1. Minimum, maximum, and average groundwater elevations for select surficial aquifer system monitor wells in the UEC Planning Area.

Well Name*	Total Depth (ft bls)	Minimum Elevation (ft NAVD88)	Maximum Elevation (ft NAVD88)	Average Elevation (ft NAVD88)	Period of Record
Martin					
M-1024	83.00	-0.39	6.60	1.67	10/01/2007 to 12/31/2024
M-1048	80.00	22.87	32.21	27.21	10/01/2007 to 12/31/2024
M-1261	20.00	4.10	13.03	8.49	10/01/2007 to 12/31/2024
M-1255	39.00	22.19	27.03	24.06	10/01/2007 to 12/31/2024
M-1073	56.62	0.79	9.55	3.76	03/27/2008 to 12/31/2024
SAV4-GW	22.50	5.65	14.17	10.99	01/01/1997 to 12/31/2024
St. Lucie					
STL-42	13.00	22.82	27.39	24.31	10/01/2007 to 12/31/2024
STL-176	30.00	8.68	16.90	12.70	10/01/2007 to 05/08/2024
STL-185	118.00	19.45	26.55	23.53	10/01/2007 to 12/31/2024
STL-214	70.00	15.95	24.39	19.77	10/01/2007 to 12/31/2024
*STL-264	90.00	16.28	20.18	17.83	10/01/2007 to 03/21/2021
STL-213	126.00	7.10	15.11	10.08	10/01/2007 to 12/31/2024

bls = below land surface; ft = feet; NAVD88 = North American Vertical Datum of 1988.

* STL-264 became inactive on 03/21/2021 and no longer records data. STL-213 is used for the current data representation.

Note: Bolded wells are discussed in this chapter. Hydrographs for the remaining wells are presented in **Appendix D**.

The SAS is recharged by infiltration from rainfall and local surface water bodies, including canals. Seasonal variations in groundwater elevations between the wet and dry seasons are typical in rain-driven shallow aquifers. While the magnitude of these fluctuations may vary from year to year and region to region (**Figures 6-2 to 6-8**), overall SAS groundwater elevations in the UEC Planning Area appear to be stable.

Figures 6-2, 6-3, and 6-4 show long-term groundwater elevations in monitor wells M-1024, M-1048, and M-1261, respectively. Seasonal groundwater elevations at these wells generally vary by approximately 2 to 8 feet between the annual wet and dry seasons. There also is a subtle increase in dry season water levels over the past 5 years at coastal monitor well M-1024. The groundwater elevation trends at these wells appear to be stable.

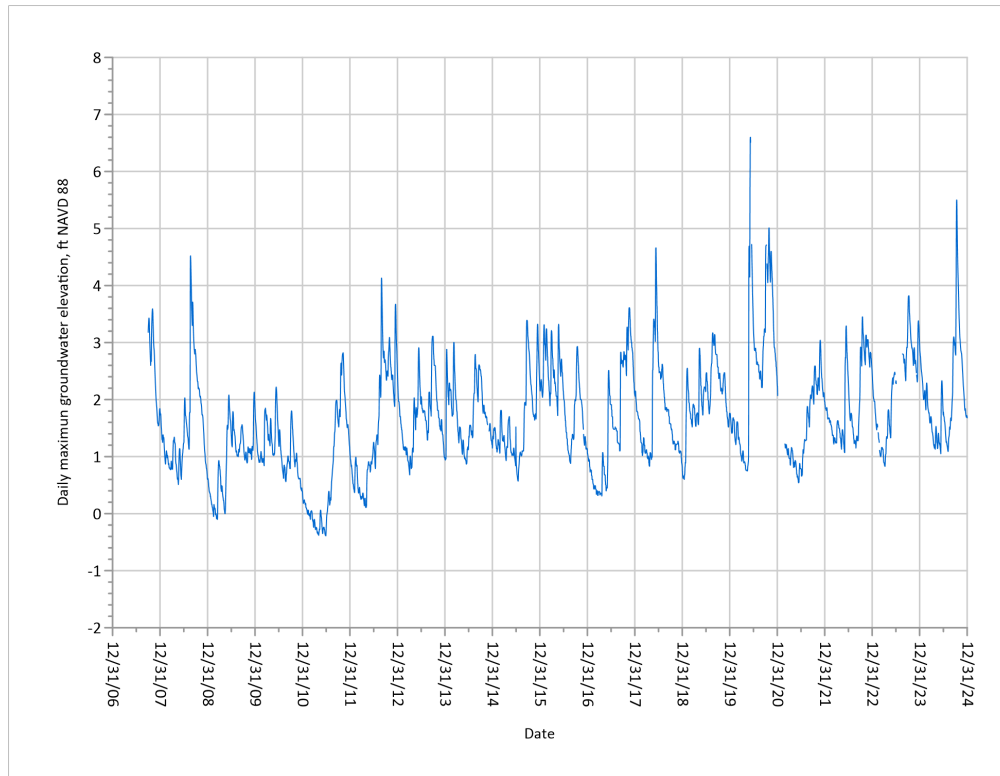


Figure 6-2. Groundwater elevations in surficial aquifer system monitor well M-1024, southern coastal Martin County.

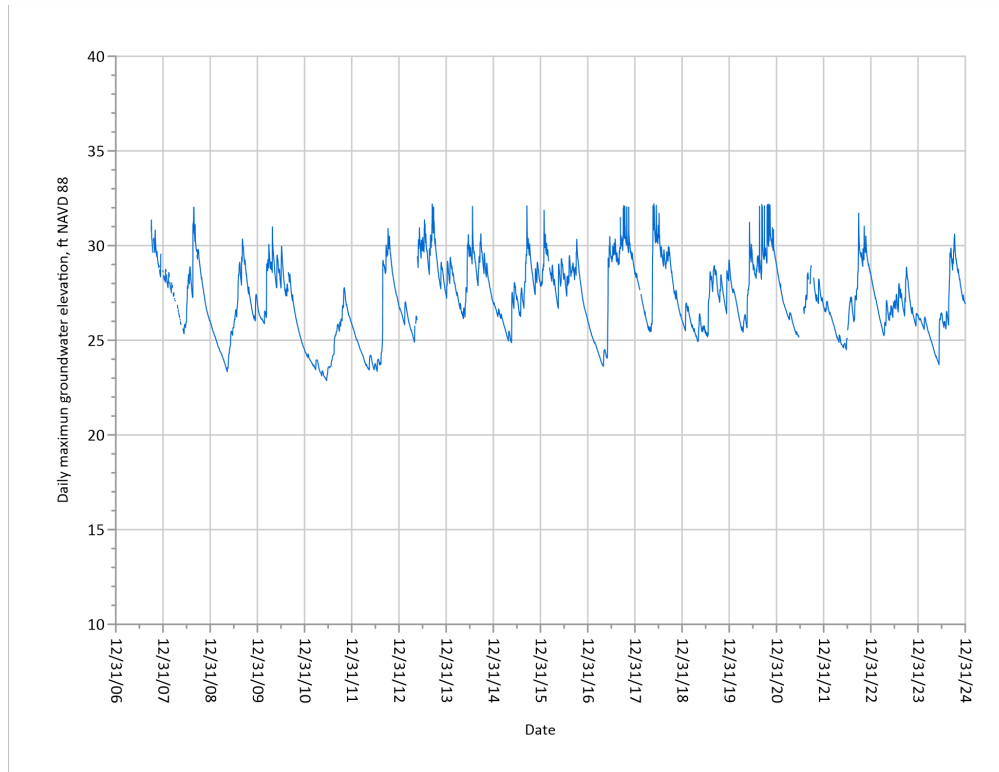


Figure 6-3. Groundwater elevations in surficial aquifer system monitor well M-1048, central Martin County.

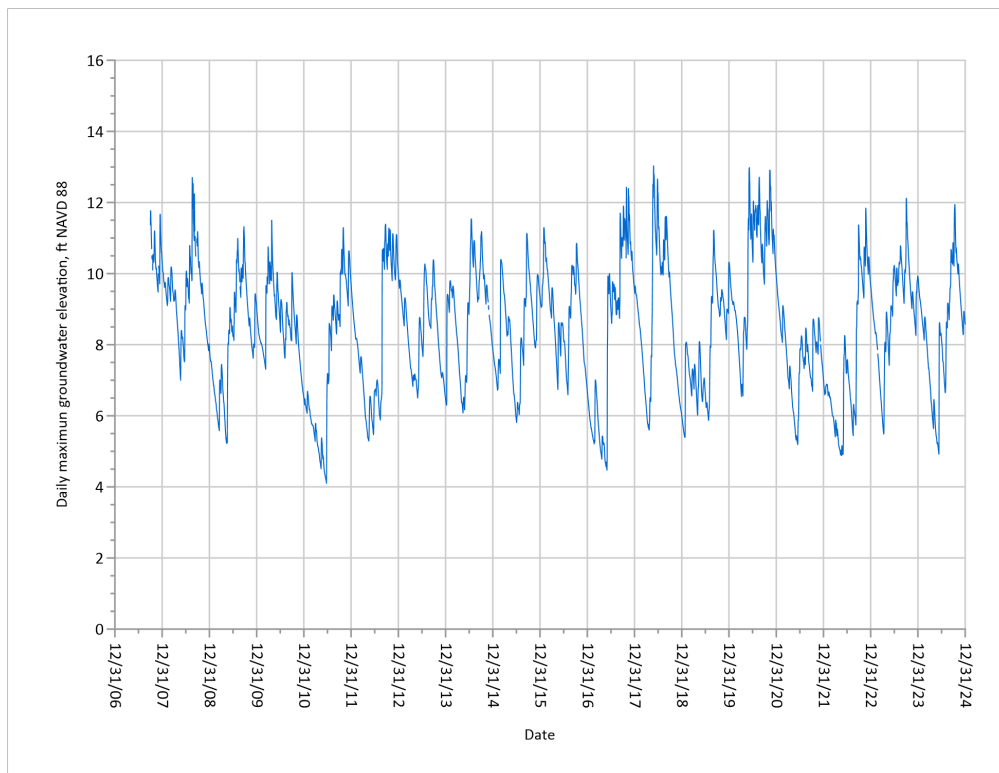


Figure 6-4. Groundwater elevations in surficial aquifer system monitoring well M-1261, central Martin County.

Figures 6-5, 6-6, 6-7, and 6-8 show long-term groundwater elevation trends in monitor wells STL-42, STL-185, STL-264, and STL-213, respectively. STL-42 shows seasonal fluctuations and an overall stable trend (**Figure 6-5**). STL-185 recorded its lowest groundwater elevation in 2009 (a drought year) and then rebounded to a normal pattern with a maximum seasonal fluctuation of approximately 7 feet (**Figure 6-6**). STL-264 shows seasonal fluctuations of up to 4 feet as well as decreased water levels recorded during the 2007 and 2009 droughts; groundwater elevations have since rebounded and remained stable (**Figure 6-7**). STL-264 stopped recording data on March 31, 2021. Groundwater elevations are now recorded at STL-213 (**Figure 6-8**). STL-213 also recorded its lowest groundwater elevations during the 2009 drought and shows seasonal fluctuations of up to approximately 7.6 feet. The groundwater elevation trends at STL-42, STL-185, STL-264, and STL-213 all appear stable.

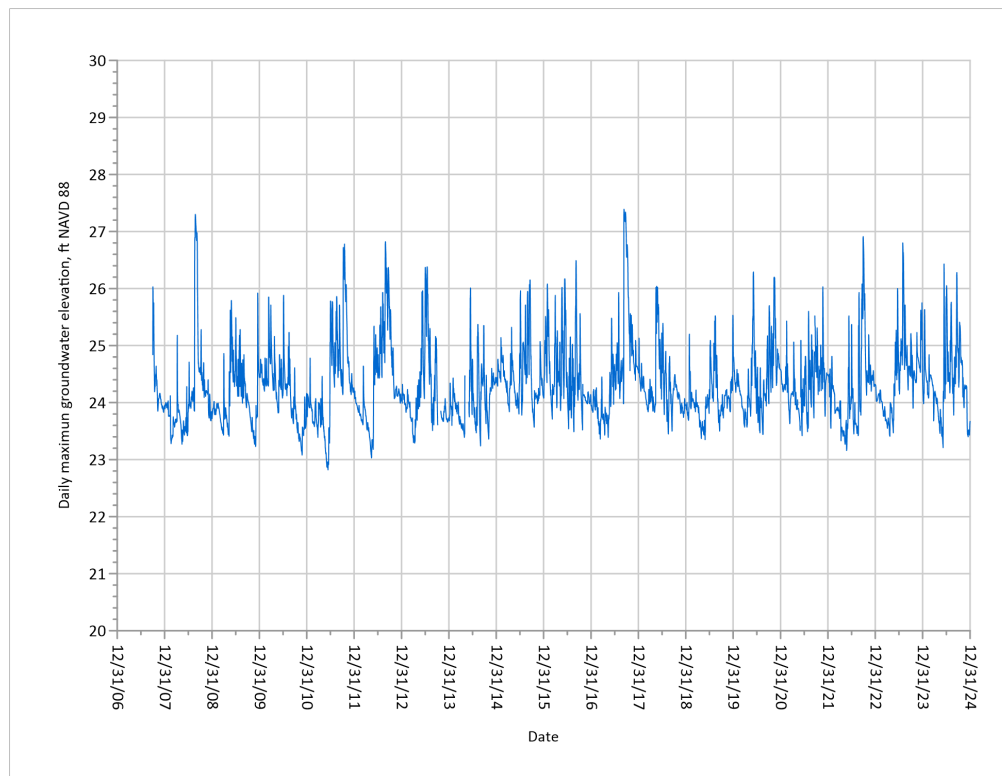


Figure 6-5. Groundwater elevations in surficial aquifer system monitor well STL-42, northwestern St. Lucie County.

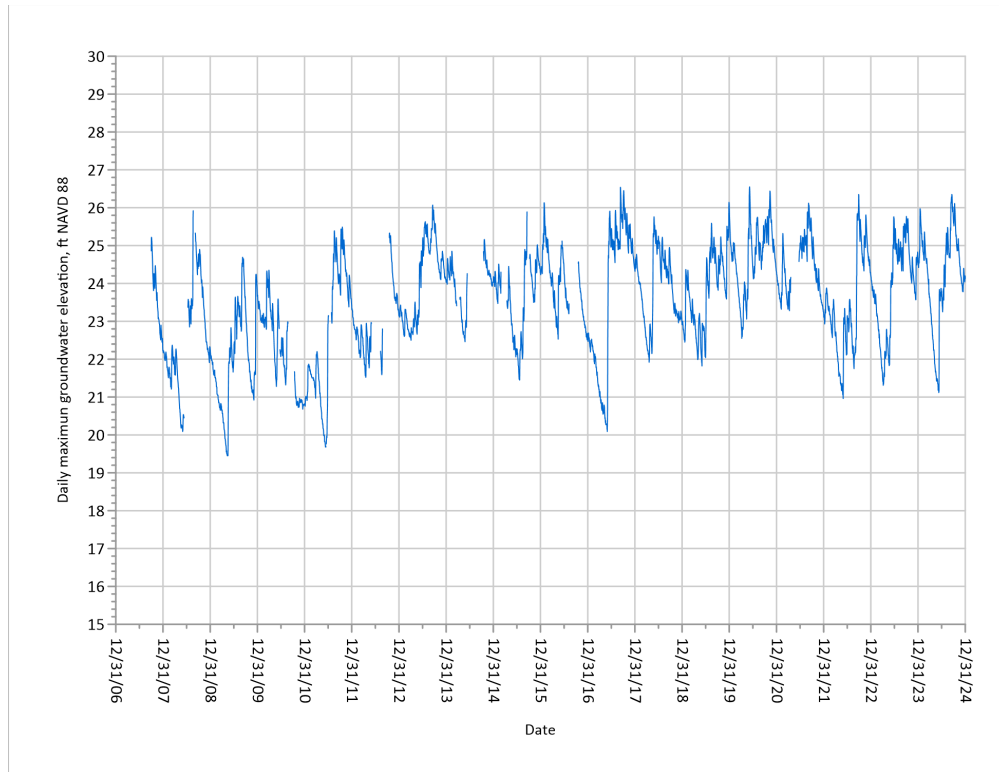


Figure 6-6. Groundwater elevations in surficial aquifer system monitor well STL-185, south central St. Lucie County.

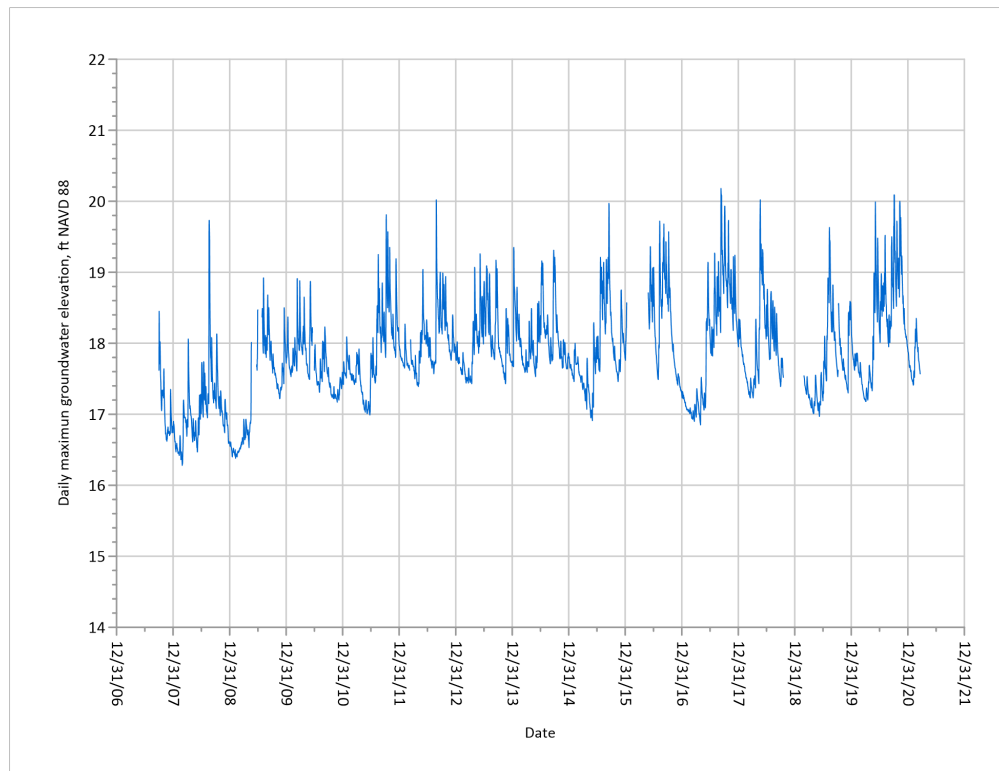


Figure 6-7. Groundwater elevations in surficial aquifer system monitor well STL-264, north central St. Lucie County.

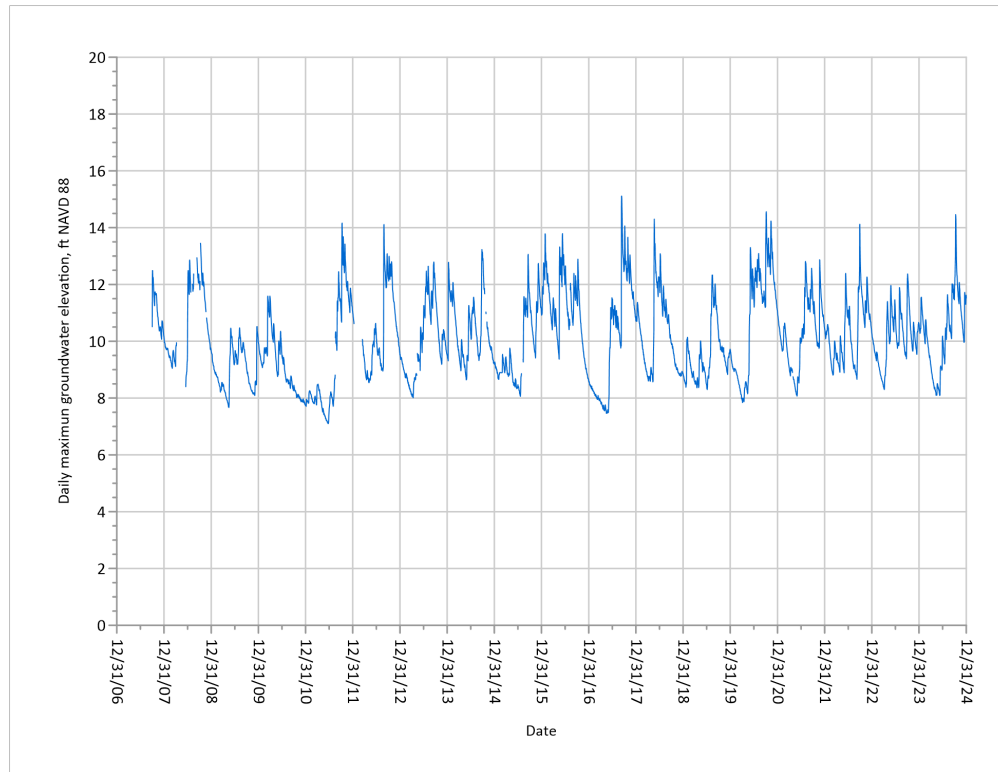


Figure 6-8. Groundwater elevations in surficial aquifer system monitor well STL-213, north central St. Lucie County.

Surficial Aquifer System Water Quality

Water quality monitoring is crucial to managing and protecting fresh groundwater sources. Chloride concentration data are used to monitor saltwater intrusion, which can occur from the inland movement of the saltwater interface or the sustained upward movement of saline groundwater from deeper aquifers (upconing). Chloride concentrations in drinking water must be less than 250 milligrams per liter (mg/L) to meet the USEPA secondary drinking water standards (USEPA 2026).

The inland, lateral movement of seawater primarily affects coastal communities, while the upward movement of brackish groundwater is a concern for some inland areas. The east coast of Florida is particularly susceptible to lateral saltwater intrusion due to the following factors:

- ◆ Proximity to the Atlantic Ocean, inlets, and lagoons
- ◆ A large number of coastal PS wellfields
- ◆ Low land surface elevations (less than 10 feet above mean sea level)
- ◆ Drainage canals that lower the water table, lowering the freshwater head in the SAS
- ◆ Canals lacking coastal water control structures to maintain dry season water levels and prevent saltwater intrusion, or canals with salinity control structures that are located inland
- ◆ Rising sea levels

In the UEC Planning Area, several PS utilities withdraw water from the SAS (**Table 6-2**). Some of these wellfields are located near the coast and may be susceptible to saltwater intrusion. Monitor wells are often installed to the east of these wellfields to act as sentinel wells for encroachment of the saltwater front.

Table 6-2. Major PS utilities withdrawing water from the surficial aquifer system.

Utility	Permit Number	Number of Existing Permitted SAS Production Wells	SAS Allocation (mgd)
Martin County			
Martin County Utilities	43-00102-W	24	5.92
South Martin Regional Utility	43-00066-W	16	4.83
Stuart	43-00053-W	29	3.40
St. Lucie County			
Fort Pierce Utilities Authority	56-00085-W	42	8.00
Port St. Lucie	56-00142-W	29	5.00

mgd = million gallons per day; SAS = surficial aquifer system.

Martin County Utilities

Martin County Utilities has utilized the SAS since the 1980s. Most of the utility's SAS monitor wells have reported chloride concentrations below 200 mg/L as shown in **Figure 6-9**. Overall, chloride concentrations have remained stable since 2009, with chloride concentrations at most of the wells remaining below 250 mg/L. However, well B21_SW-2 shows the highest chloride concentrations of all the wells at Martin County Utilities and shows an overall steadily increasing trend in chloride concentrations over time. Chloride concentrations at B21_SW-2 have been at or greater than 200 mg/L since 2009 and have increased to a maximum concentration of approximately 500 mg/L in 2022. Chloride concentrations at well TF-1 have been steadily increasing since 2014 and reached a maximum of 300 mg/L on January 31, 2021. Well W2D was abandoned and replaced by W2D-R in 2021. Monitor well TF-22 shows more scatter in the chloride concentration data than the other wells, occasionally exceeding 250 mg/L; however, most of the chloride concentrations reported for this well are below 200 mg/L. The other Martin County Utilities monitor wells show no notable long-term increases in chloride concentrations.

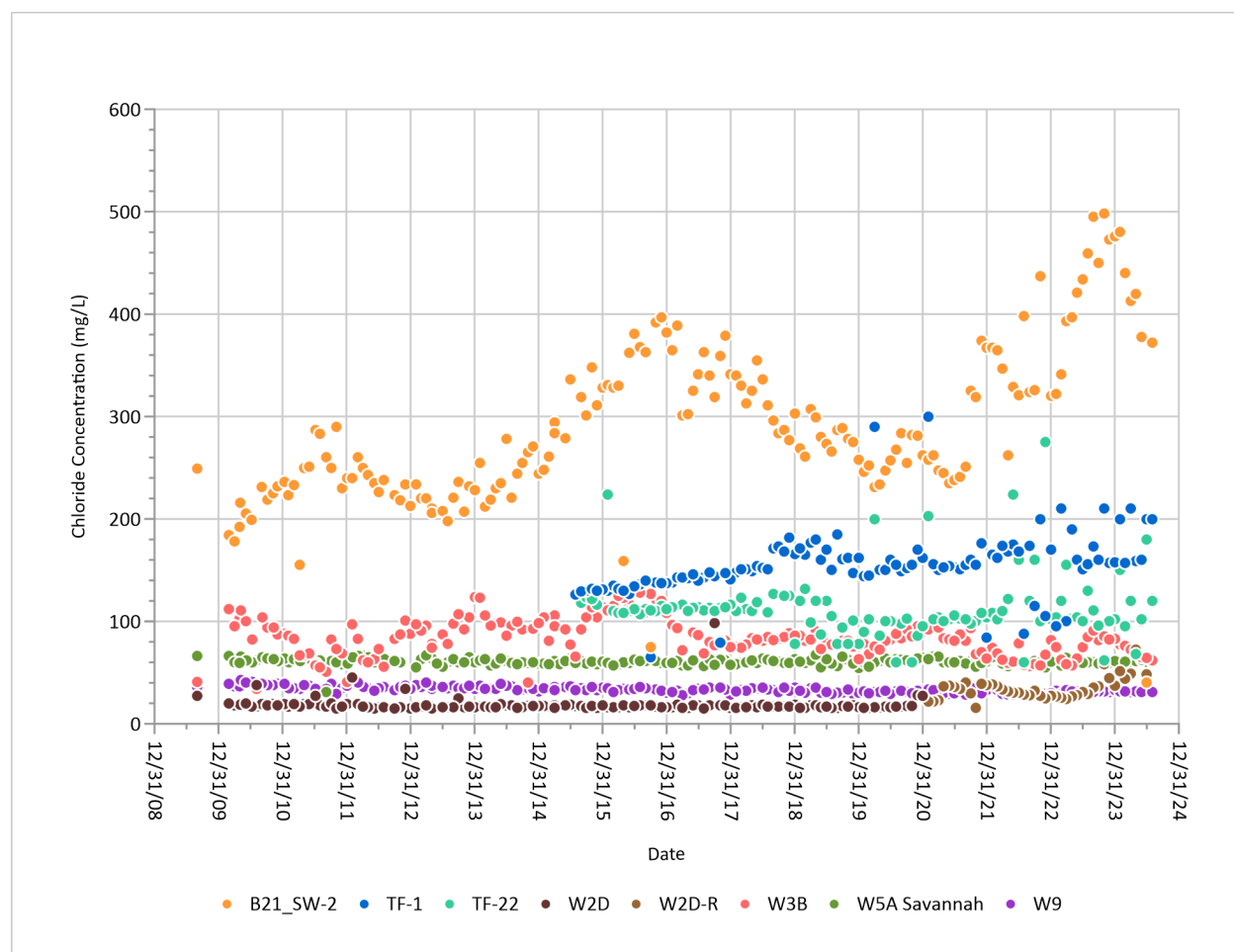


Figure 6-9. Chloride concentration trends at surficial aquifer system wells monitored by Martin County Utilities under permit 43-00102-W.

South Martin Regional Utility

South Martin Regional Utility (formerly Hobe Sound Water Company and Hydratech Utilities) has used the SAS for water supply since the 1970s. Most of the utility's SAS monitor wells have reported chloride concentrations of less than 250 mg/L; therefore, only representative wells are shown in **Figure 6-10**. Overall, chloride concentrations have been stable since 2009 and have remained below 200 mg/L, except for wells SW-13S and SW-3DR, which show much more fluctuation than the other wells. Chloride concentrations at well SW-3DR exceeded 250 mg/L between 2008 and 2011 as well as 2020 through 2021. Chloride concentrations at SW-3DR have been at or below 250 mg/L since 2021. SW-13S showed the most fluctuations in chloride concentrations of all the wells between 2008 and 2021. Since 2021, however, concentrations at SW-13S have declined to less than 40 mg/L and have remained stable. Chloride concentrations at well S14 have been gradually increasing since 2014 and approached 200 mg/L in 2024.

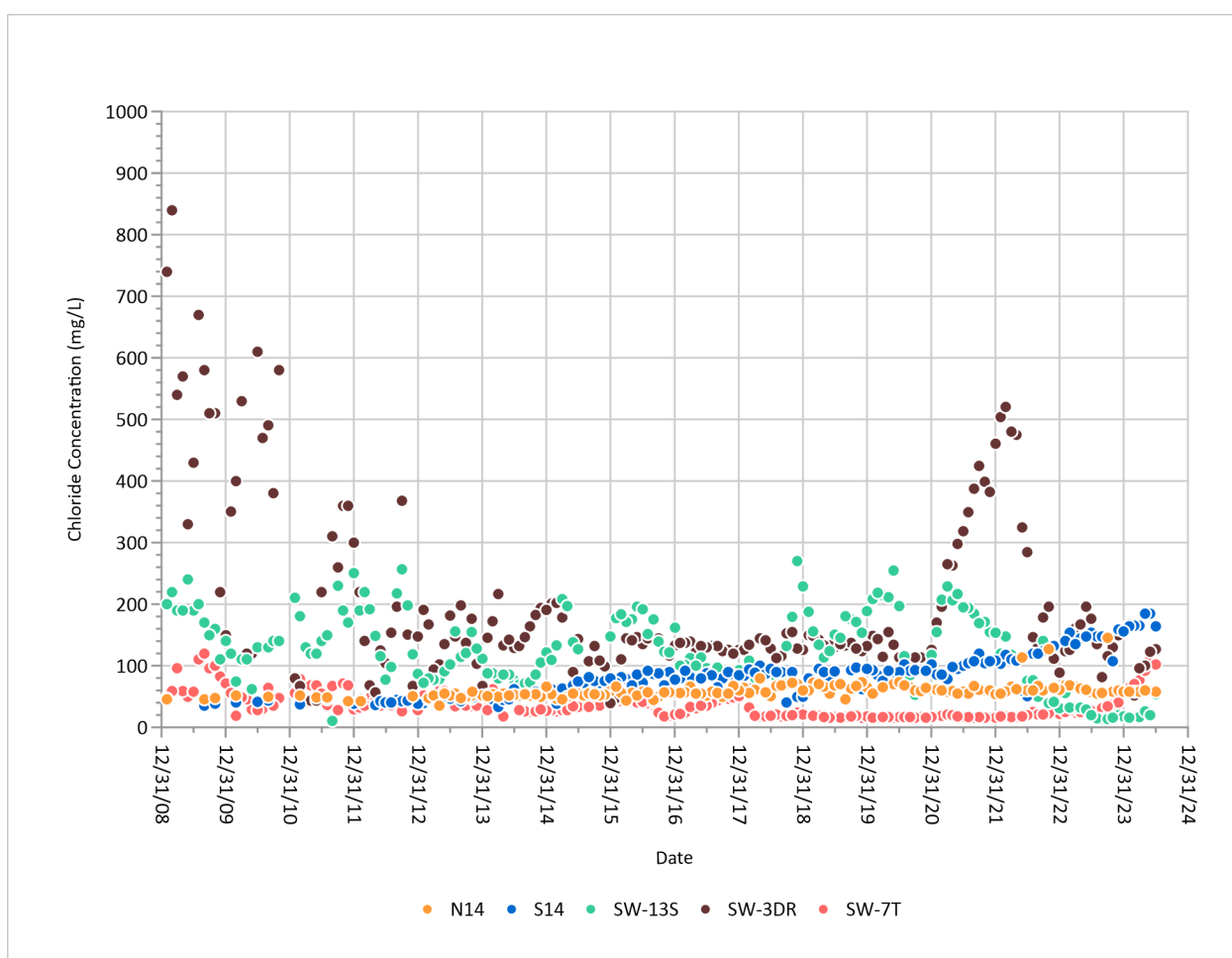


Figure 6-10. Chloride concentration trends at surficial aquifer system wells monitored by South Martin Regional Utility under permit 43-00066-W.

Stuart

Stuart has obtained its water supply from the SAS since the 1950s and started using the FAS in 2024 to meet a portion of the utility's demands. Most of the utility's SAS monitor wells have reported chloride concentrations less than 200 mg/L; therefore, only a representative sample is shown in **Figure 6-11**. Chloride concentrations have remained stable in most of the wells since 2009 except for well M-1147, where chloride concentrations have been slowly rising since 2020. Well M-1158 contained chloride concentrations exceeding 250 mg/L from 2011 to 2016 but have been less than 50 mg/L since 2017.

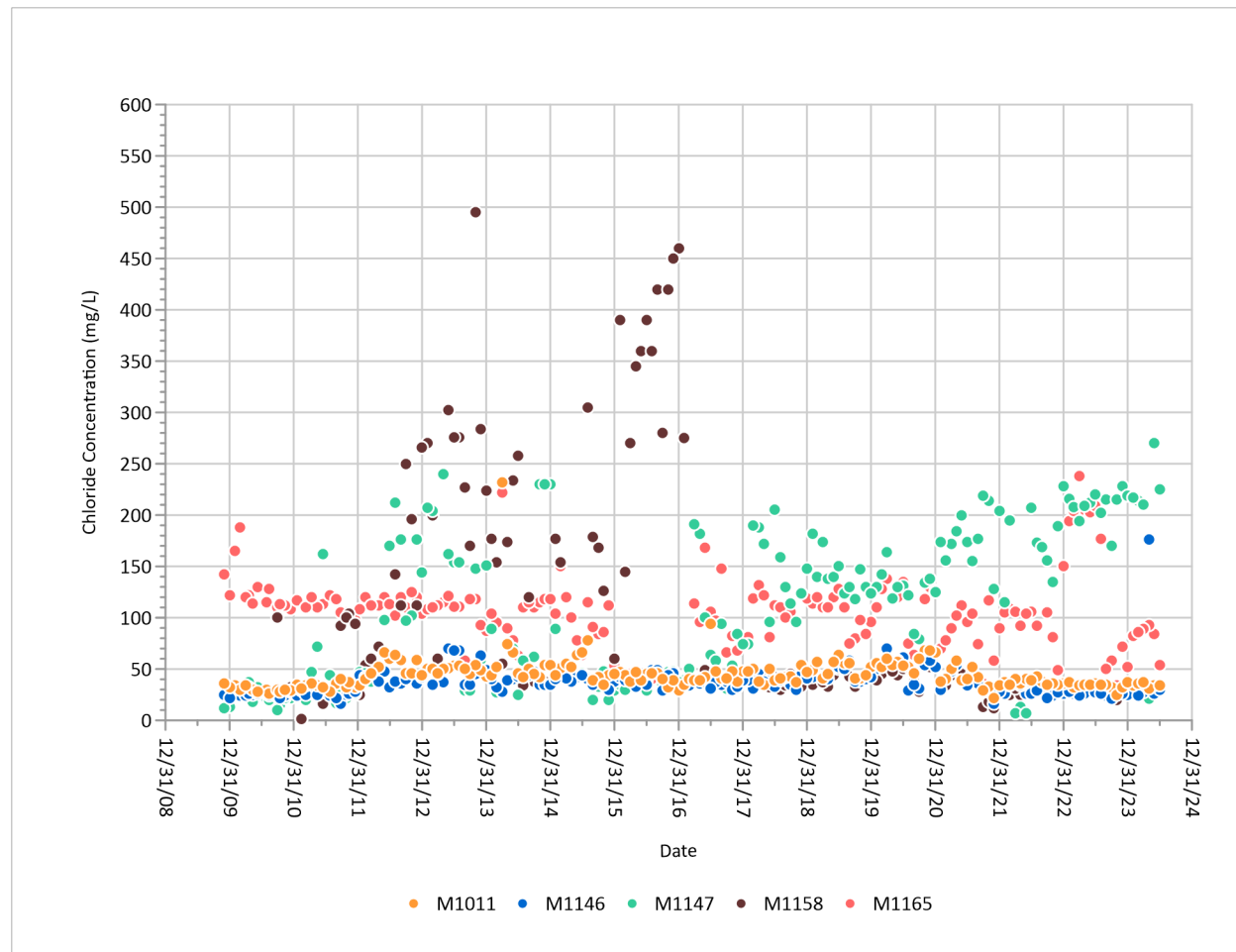


Figure 6-11. Chloride concentration trends at surficial aquifer system wells monitored by Stuart under permit 43-00053-W.

Fort Pierce Utilities Authority

Fort Pierce Utilities Authority has obtained a portion of its water supply from the SAS since the 1960s. All wells except for FPSW2 and FPSW3 have reported chloride concentrations less than 100 mg/L since 2008; therefore, only a representative sample is shown in **Figure 6-12**. Since 2008, wells FPSW2 and FPSW3 have shown large fluctuations in chloride concentrations, from less than 100 mg/L to more than 600 mg/L. However, no increasing trend is visible at either well for the period of record.

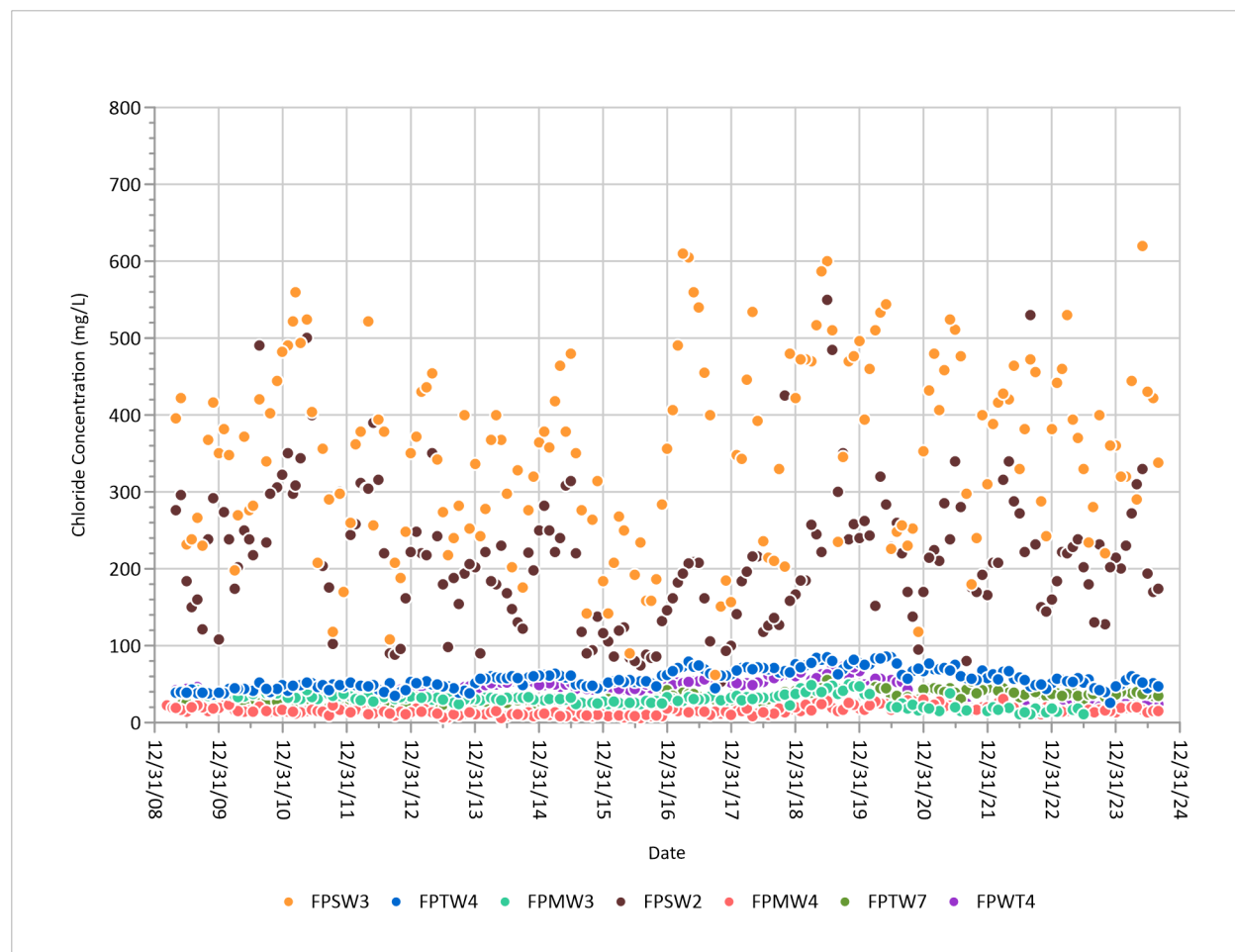


Figure 6-12. Chloride concentration trends at surficial aquifer system wells monitored by Fort Pierce Utilities Authority under permit 56-00085-W.

Port St. Lucie

Port St. Lucie has obtained a portion of its water supply from the SAS since the 1960s. Most of the utility's SAS wells have reported chloride concentrations less than 250 mg/L; therefore, only a representative sample is shown in **Figure 6-13**. At well 24, chloride concentrations showed an increasing trend between 2008 and 2018, reaching a maximum concentration of 320 mg/L on October 31, 2018. Well 24 stopped recording data in April 2020. Overall, in all the other wells shown in **Figure 6-13**, chloride concentrations have remained stable over the period of record and at concentrations below 200 mg/L.

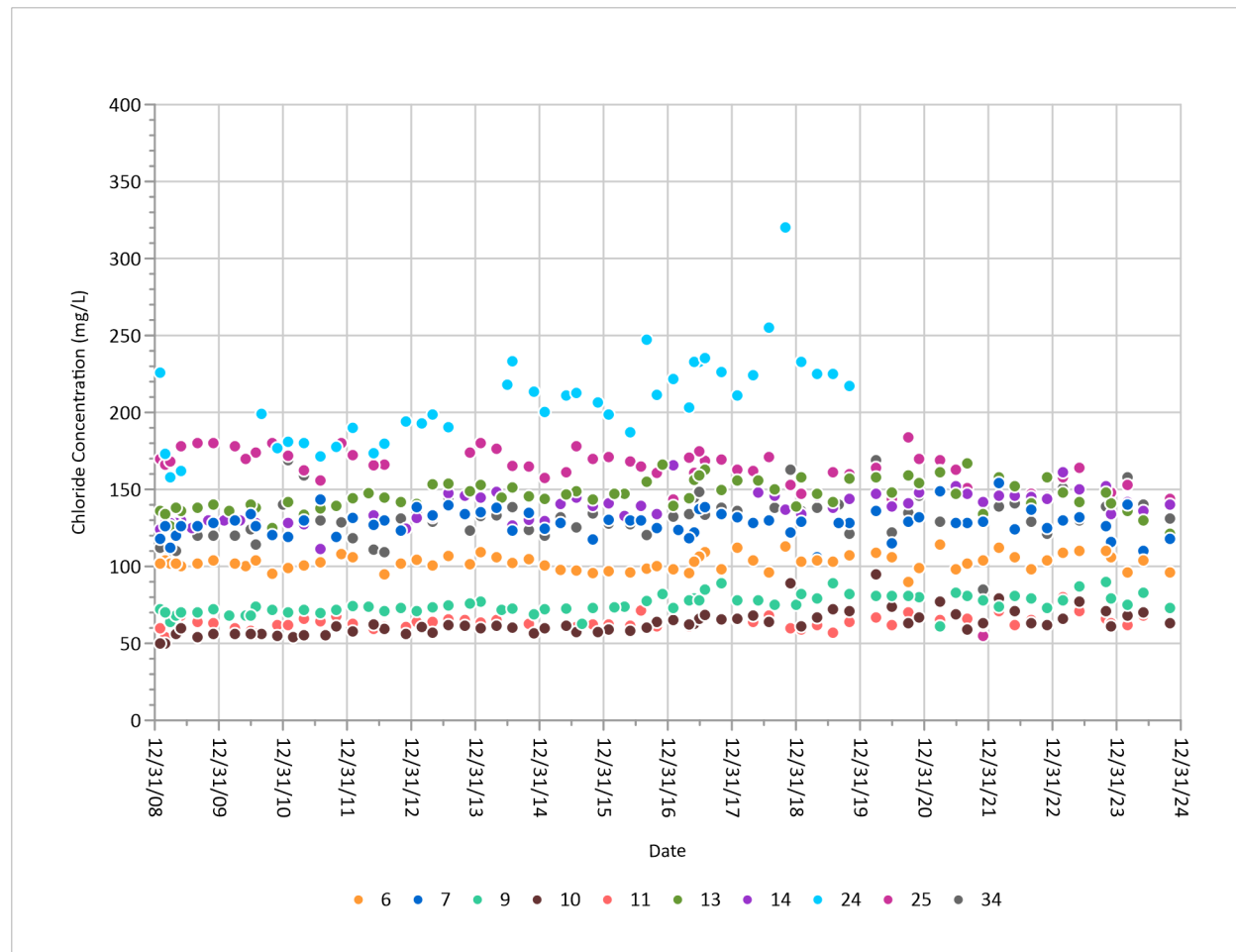


Figure 6-13. Chloride concentration trends at surficial aquifer system wells monitored by Port St. Lucie under permit 56-00142-W.

Saltwater Interface Mapping

Saltwater intrusion monitoring is an important component of water management and water supply planning. For example, if coastal wellfields are over pumped, salt water can be drawn into the wells, resulting in the need to shut down operations, relocate wellfields, or develop AWS sources. The SFWMD develops maps estimating the position of the coastal saltwater interface (250 mg/L isochlor line) at 5-year intervals using specific conductance and salinity data to identify wellfields and coastal aquifers that could be affected. Salinity data from monitor wells are compiled from multiple sources (e.g., United States Geological Survey [USGS], SFWMD, water use permittees) and contoured to estimate the position of the 250 mg/L isochlor.

To date, four series of maps have been developed (2009, 2014, 2019, and 2024). The SFWMD's saltwater interface monitoring and mapping program is described by Zumbro and Coonts (2025). The 2024 maps are available on the SFWMD's website at <https://www.sfwmd.gov/documents-by-tag/saltwaterinterface>. **Appendix D** provides a discussion of PS utilities with wells or wellfields near the saltwater interface that are potentially vulnerable to saltwater intrusion during drought conditions.

There were 213 monitor wells evaluated for the 2024 Martin and St. Lucie counties SAS isochlor map. There has been little movement of the saltwater interface in this region as shown by all four isochlor lines (2009, 2014, 2019, and 2024) overlapping in much of the mapped area (**Figure 6-14**). In general, the 2024 maps are similar to the 2019 maps; however, relatively small differences indicate the interface is regionally dynamic, with inland movement in some areas and seaward movement in other areas. Local-scale investigation of the saltwater interface position could be warranted in some areas, depending on the network of monitor wells available, the proximity of salt water to wellfield locations, and withdrawal rates.

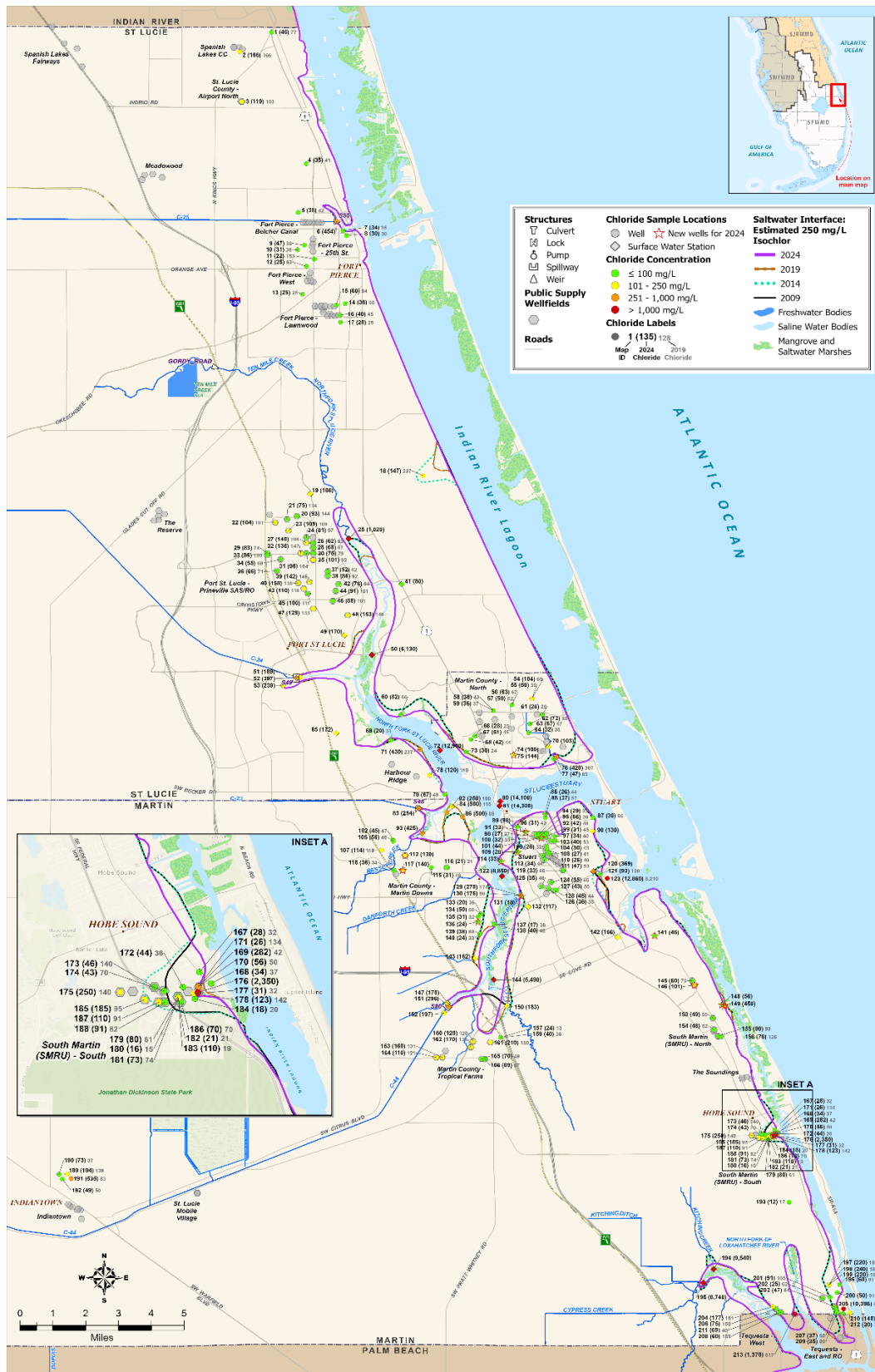


Figure 16-14. Estimated position of the saltwater interface in 2009, 2014, 2019, and 2024 in Martin and St. Lucie counties.

Surficial Aquifer System Conclusions

Analyses of the SAS indicated that water availability for increased water allocations is limited in many areas and cannot be the primary source for all projected water demands in the UEC Planning Area without harming the water resource, including related natural systems. Groundwater elevations and water quality in the SAS appear to be stable at current withdrawal rates. AWS sources (e.g., reservoirs, brackish groundwater from the FAS, and reclaimed water) will need to be relied upon to meet increasing water demands in many urbanized areas.

Floridan Aquifer System Evaluation

The FAS is a productive and important aquifer used primarily for the PS and AG water use categories in the UEC Planning Area. Throughout most of the UEC Planning Area, the FAS is brackish (requires desalination prior to potable use) and flowing artesian (groundwater flows naturally at land surface without the need for pumps). There are two water-producing zones in the FAS that are used in this region: the Upper Floridan aquifer (UFA) and the Avon Park permeable zone (APPZ). Currently, the Lower Floridan aquifer is not used as a water source in the UEC Planning Area due to very high chloride concentrations.

FAS groundwater availability is affected primarily by water quality degradation, which can be managed through appropriate wellfield design and operating protocols. One of the key objectives in this management strategy is to minimize upconing of saline water from deeper portions of the aquifer system. To accomplish this, PS utilities can increase the spacing between newly installed wells to minimize pumping interference, rotate the operation of individual wells to reduce pumping stress and excessive drawdowns, reduce pumping rates, and plug and abandon wells that have shown an increase in chloride concentrations or that were designed with open intervals intersecting multiple aquifer zones of varying water quality. Most PS utilities are required to monitor water quality at their wellfields as part of their water use permits. Future strategies to address managing withdrawals to minimize water quality degradation are provided in **Chapter 9**. In addition, an RAA was adopted prohibiting pumps on flowing FAS wells in Martin and St. Lucie counties that increase the flow above the natural flow from the well, with some exceptions (**Chapter 4**).

The SFWMD's Regional Floridan Groundwater (RFGW) monitoring program consists of a network of monitor wells completed in the various producing zones (i.e., UFA, APPZ) that are used to track FAS groundwater elevations and water quality trends. These trends are crucial for evaluating the water supply potential of the FAS. The RFGW wells are intended to collect background data and thus are located in areas where they are not directly influenced by withdrawals from consumptive use.

Floridan Aquifer System Groundwater Elevations

PS utilities are expanding their use of the FAS to meet increasing water demands. Due to increased pumping from the FAS, it is important to monitor groundwater elevations to identify any impacts to the resource. FAS monitor well locations in the UEC Planning Area are shown in **Figure 6-15**. For water supply planning purposes, 10 representative FAS monitor wells were chosen to show regional groundwater elevation trends (**Table 6-3**). Of these wells, seven are co-located wells at three locations and are discussed in this chapter; supplemental hydrographs are presented in **Appendix D**.

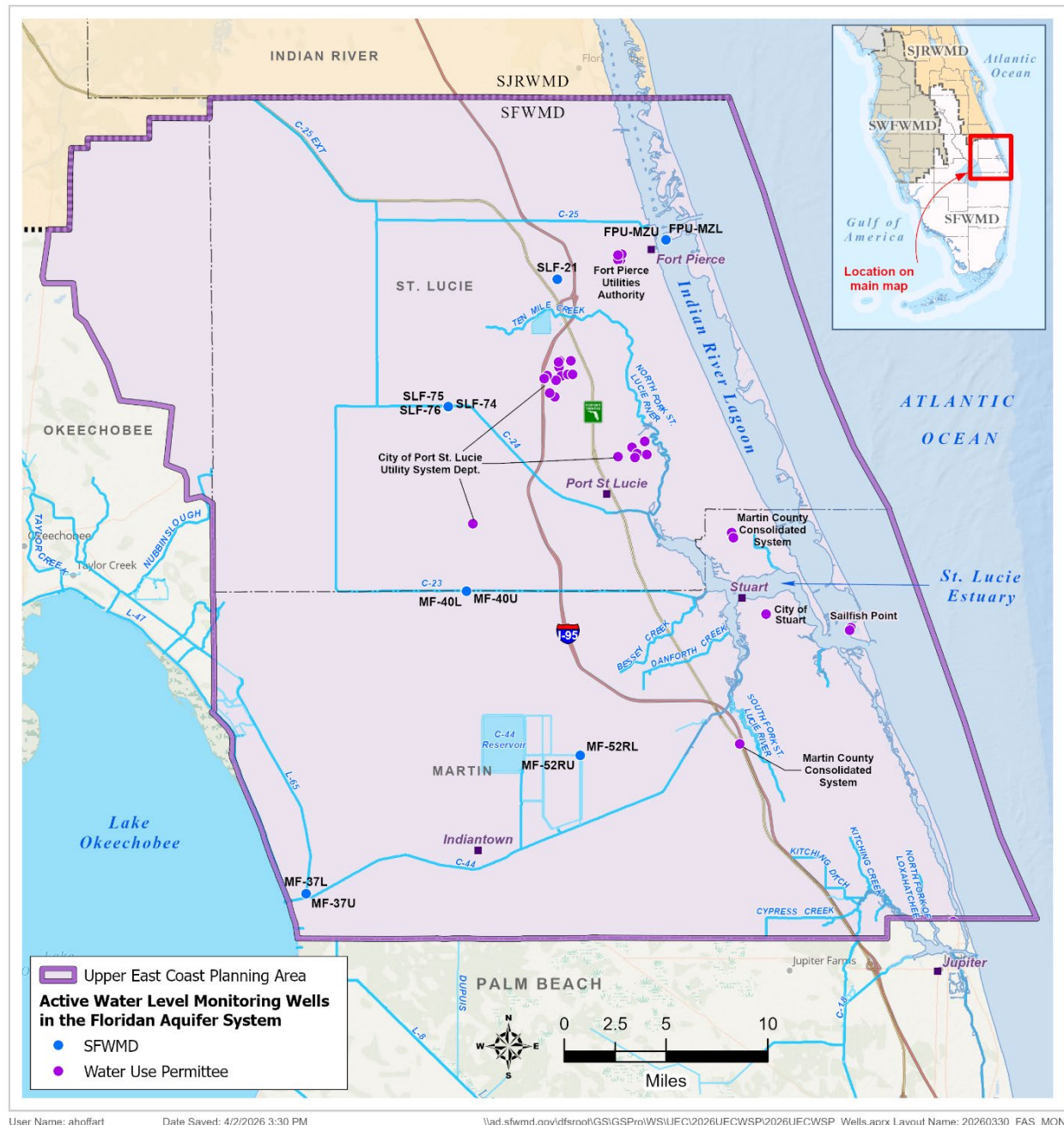


Figure 6-15. Active Floridan aquifer system monitor wells in the UEC Planning Area.

Table 6-3. Floridan aquifer system monitor wells with long-term groundwater elevation data.

Well Name	Open Hole Depth Interval (ft bls)	Minimum Elevation (ft NAVD88)	Maximum Elevation (ft NAVD88)	Average Elevation (ft NAVD88)	Period of Record
Martin					
MF-37U*	765 – 1,039	49.42	53.41	51.59	05/01/2008 to 09/05/2023
MF-37L*	1,486 – 1,690	47.84	51.96	50.28	05/01/2008 to 09/05/2023
MF-40U*	790 – 970	33.26	49.90	48.02	02/04/2009 to 12/31/2024
MF-40L*	1,100 – 1,200	26.85	61.22	47.76	02/04/2009 to 12/31/2024
MF-52RU*	652 – 802.6	48.13	51.03	49.44	02/09/2017 to 12/31/2024
MF-52RL*	1,206 – 1,450	48.34	51.40	49.67	02/09/2017 to 12/31/2024
St. Lucie					
SLF-21	156 – 707	29.12	36.88	33.41	08/23/2002 to 12/31/2024
SLF-74	1,068 – 1,450	33.48	42.14	39.39	08/20/2002 to 12/31/2024
SLF-75	480 – 700	36.64	42.86	39.88	08/20/2002 to 12/31/2024
SLF-76	790 – 860	36.67	42.79	40.01	08/20/2002 to 12/31/2024

bls = below land surface; ft = feet; NAVD88 = North American Vertical Datum of 1988.

* Paired well; L denotes the well is open to the Avon Park permeable zone, and U denotes the well is open to the Upper Floridan aquifer.

Note: Bolded wells are discussed in this chapter. Hydrographs for the remaining wells are presented in **Appendix D**.

Figure 6-16 shows long-term groundwater elevations for the paired wells MF-37U (open to the UFA) and MF-37L (open to the APPZ). Water levels in the two zones closely track each other, but the difference in the water levels between the zones indicates some level of confinement. Both wells show less than 4 feet of variation over the period of record.

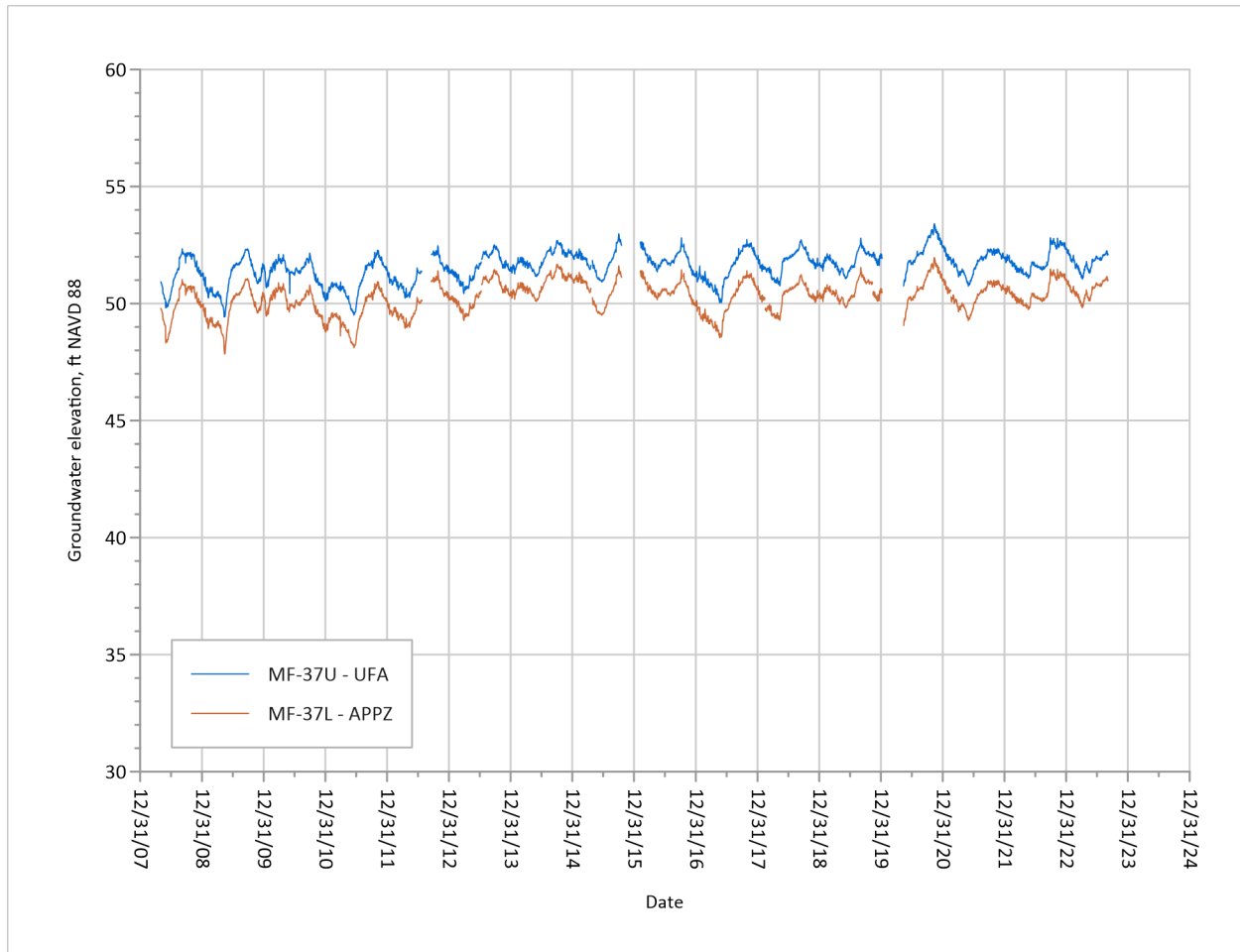


Figure 6-16. Groundwater elevations in Floridan aquifer system monitor wells MF-37U and MF-37L, southwestern Martin County.

Figure 6-17 shows long-term groundwater elevations for the paired wells MF-40U (open to the UFA) and MF-40L (open to the APPZ). Groundwater elevations in the two zones are nearly the same, consistent with a hydrogeologic assessment from this site, which reported minimal confinement between these zones (Sunderland 2008). Both wells show less than 4 feet of variation over the period of record.

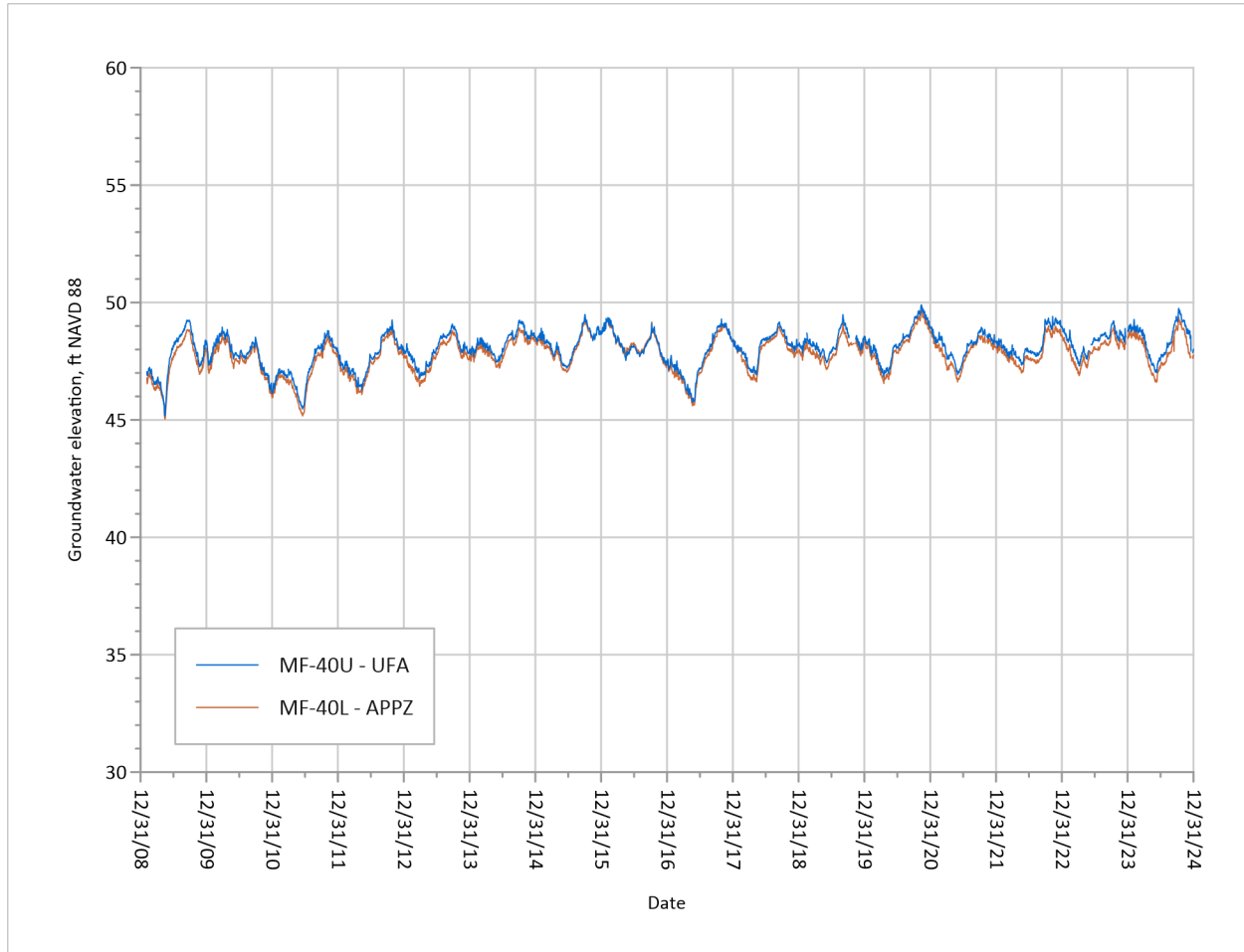


Figure 6-17. Groundwater elevations in Floridan aquifer system monitor wells MF-40U and MF-40L, north central Martin County.

Figure 6-18 shows long-term groundwater elevations for the three clustered wells SLF-74, SLF-75, and SLF-76, which are open to different zones within the UFA. Groundwater elevations in all three zones fluctuate in a similar manner. In general, the three wells have not experienced large changes in groundwater elevations.

Overall, FAS groundwater elevations appear stable with normal seasonal fluctuations. While the magnitude of these fluctuations may vary from year to year, no FAS monitor wells show declining groundwater elevation trends.

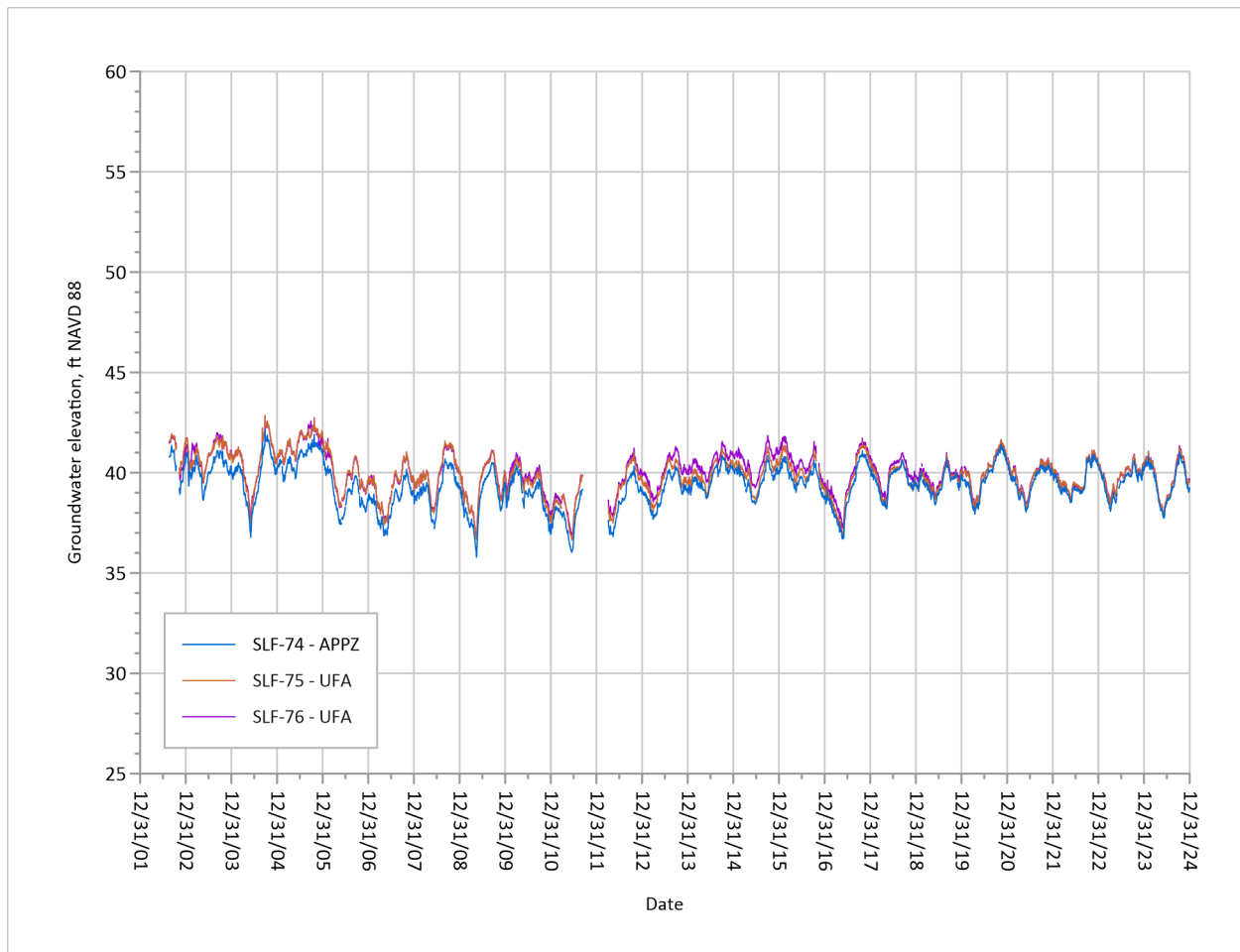


Figure 6-18. Groundwater elevations in Floridan aquifer system monitor wells SLF-74, SLF-75, and SLF-76, central St. Lucie County.

Floridan Aquifer System Water Quality

In the UEC Planning Area, the FAS is brackish and requires desalination prior to potable use. Water quality in the UFA generally is better in the northern and western portions of the UEC Planning Area and degrades to the south and east. The UFA supplies water primarily for PS utilities, and several AG users have permits to withdraw from the UFA for freeze protection or backup supply. While the APPZ is used by several PS utilities in the UEC Planning Area (**Table 6-4**), it requires reverse osmosis treatment to meet drinking water standards. Due to elevated chloride concentrations, the APPZ is rarely used for AG irrigation. Similarly, the UFA and APPZ are infrequently used for other applications (e.g., urban irrigation, industrial uses, cooling water) due to poor water quality and high treatment costs.

Although chloride concentrations are expected to be greater than 250 mg/L in the FAS, it is important to monitor water quality trends to ensure treatment processes are suitable to deliver fresh drinking water and consumptive uses are not impacting the resource. Increased chloride concentrations suggest that water in deeper portions of the FAS is upconing into a wellfield. If this should occur, FAS wellfield operations may need to be adjusted to shift pumpage within the wellfield or temporarily cease FAS pumping and instead use SAS wells until FAS water quality stabilizes.

Table 6-4. Major PS utilities withdrawing from the Floridan aquifer system.

Utility	Permit Number	Number of Existing Permitted FAS Wells	Allocation (mgd)
Martin County			
Martin County Utilities	43-00102-W	11	15.09
South Martin Regional Utility*	43-00066-W	2	4.76
St. Lucie County			
Fort Pierce Utilities Authority	56-00085-W	11	13.13
Port St. Lucie	56-00142-W	19	46.38

FAS = Floridan aquifer system; mgd = million gallons per day.

* Not required to submit chloride data for the FAS.

Martin County Utilities

Martin County Utilities has been using groundwater from the FAS since the 1990s. Chloride concentrations at TFRO-3 were relatively stable between 2014 and 2019 at concentrations generally between 2,000 mg/L and 2,500 mg/L before decreasing to concentrations between approximately 1,700 mg/L and 2,200 mg/L since 2019. The chloride concentrations at well North RO-3 show the greatest scatter in chloride concentrations of all the wells at this utility, and chloride concentrations at this well started increasing in 2019. Concentrations at this well have shown less scatter and have remained relatively stable since 2022 (Figure 6-19).

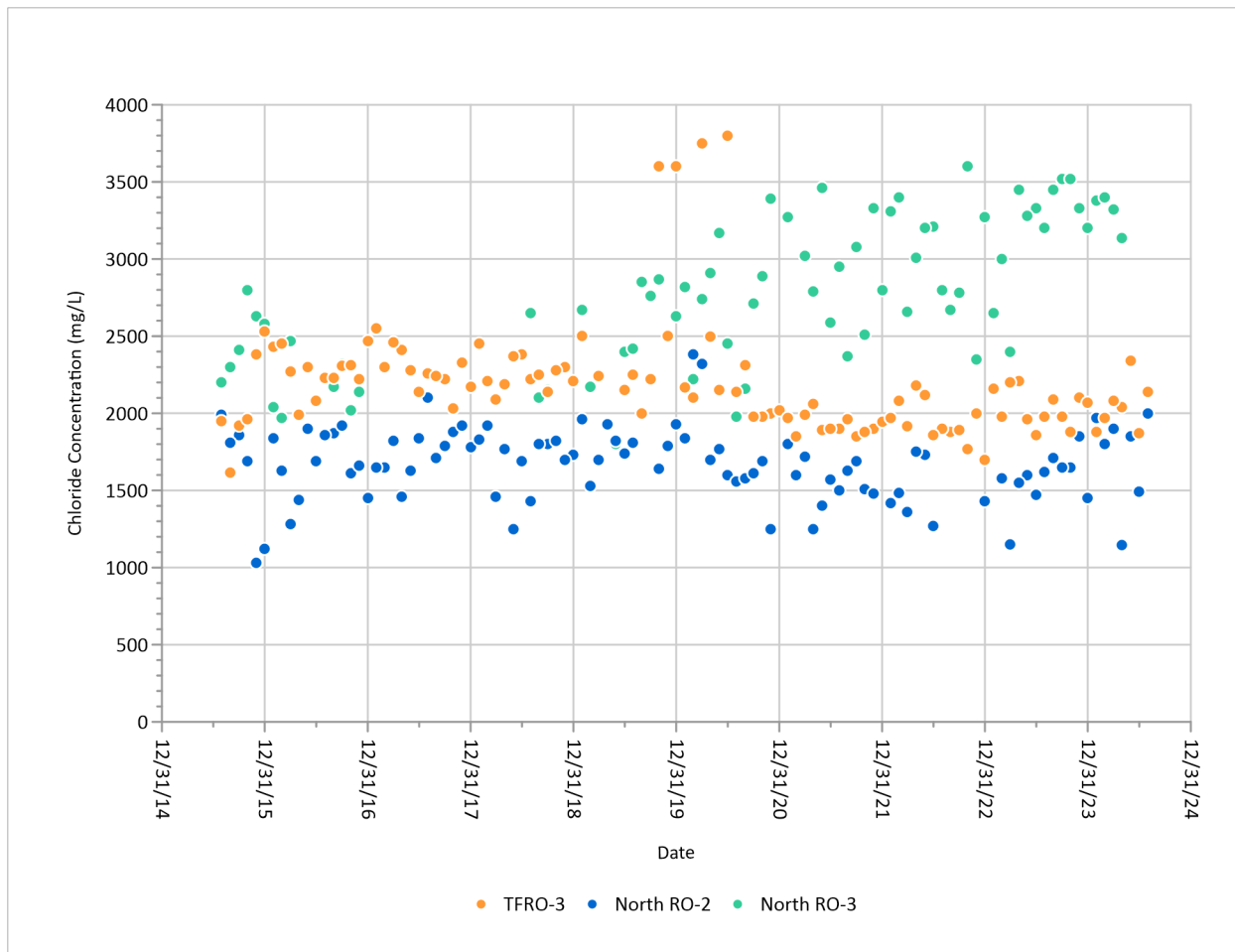


Figure 6-19. Chloride concentration trends at Floridan aquifer system wells TFRO-3, North RO-2, and North RO-3 (open to the UFA and APPZ), monitored by Martin County Utilities under permit 43-00102-W.

Fort Pierce Utilities Authority

Fort Pierce Utilities Authority has withdrawn groundwater from the FAS since the late 1980s. Chloride concentrations have been stable since 2009, with normal seasonal fluctuations (**Figure 6-20**). From 2008 to 2014, chloride concentrations in all wells remained stable and less than 400 mg/L. Between 2014 and 2016, chloride concentrations in all wells decreased, followed by a period between late 2017 and late 2018 where the highest chloride concentrations were reported in all wells. Between 2019 and mid-2021, chloride concentrations generally decreased to less than 400 mg/L in all wells, followed by another overall drop in concentrations starting in mid-2021 and then continuing along a stable trend into 2024.

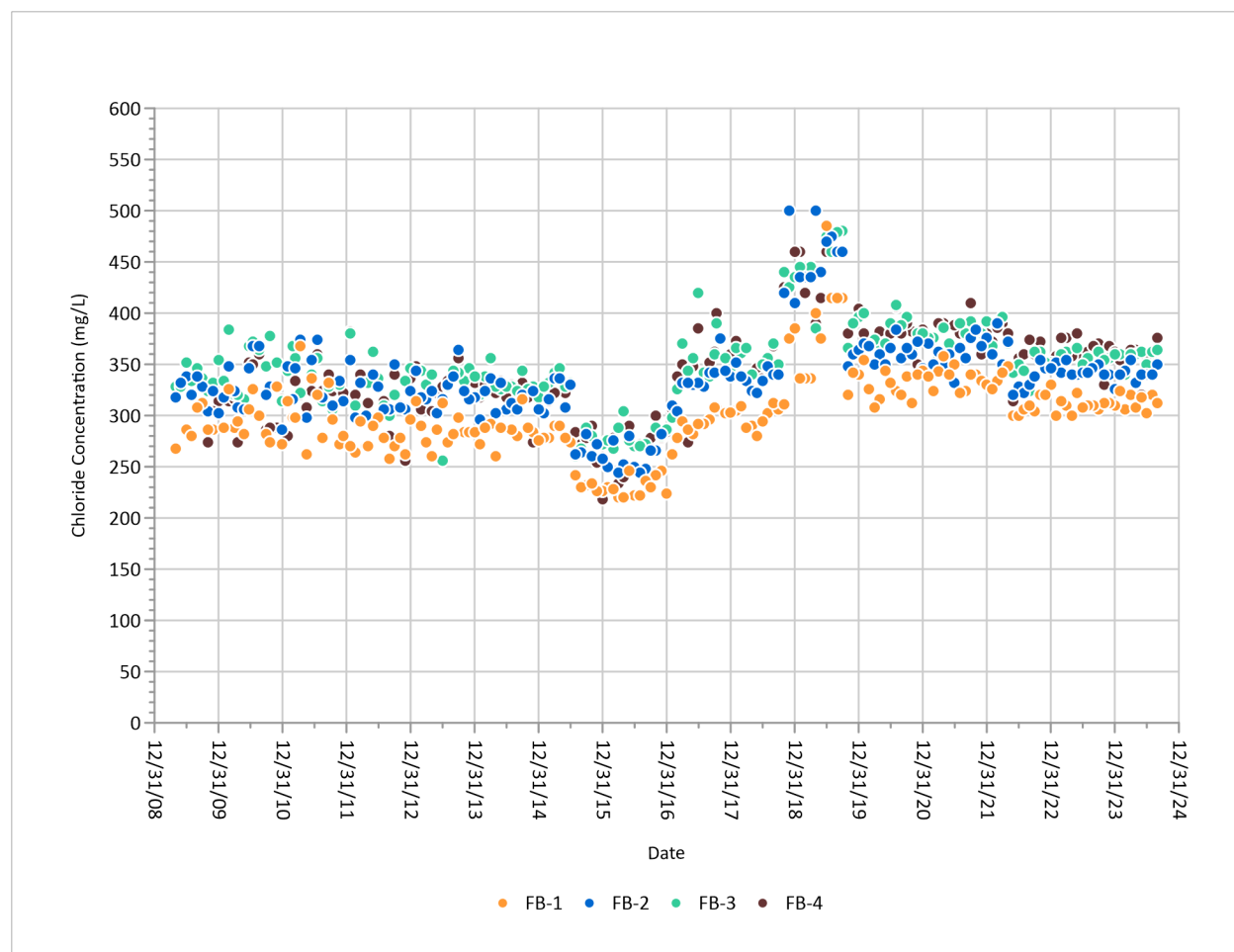


Figure 6-20. Chloride concentration trends at Floridan aquifer system wells FB-1 (open to the UFA) and FB-2 through FB-4 (open to the UFA and APPZ) monitored by Fort Pierce Utilities Authority under permit 56-00085-W.

Port St. Lucie

Port St. Lucie has withdrawn groundwater from the FAS since the early 2000s. Representative wells are shown in **Figure 6-21**. Chloride concentrations at wells F-1 through F-5 have remained stable at approximately 1,000 mg/L over the entire period of record. Chloride concentrations at wells F-9, F-13, F-16, and F-18 were between approximately 1,000 to 2,000 mg/L until 2016 when concentrations started increasing, reaching approximately 5,800 mg/L (well F-9) to 7,500 mg/L (well F-16); it appears that these wells were then taken offline. Chloride concentrations at wells F-13 and F-18 also started to increase around 2016 but have not exceeded 4,000 mg/L at F-13 and 2,300 mg/L at F-18. Chloride concentrations at wells F-6 through F-8 and F-10 through F-12 increased in all of these wells, with maximum concentrations at these wells reaching approximately 5,600 mg/L at well F-10. At various times between 2012 and 2023 (depending on the well), the chloride concentrations decreased significantly, with wells F-6 through F-8 and F-10 through F-12 reporting chloride concentrations less than approximately 2,500 mg/L by 2024, likely due to reduced pumpage at the wellfield.

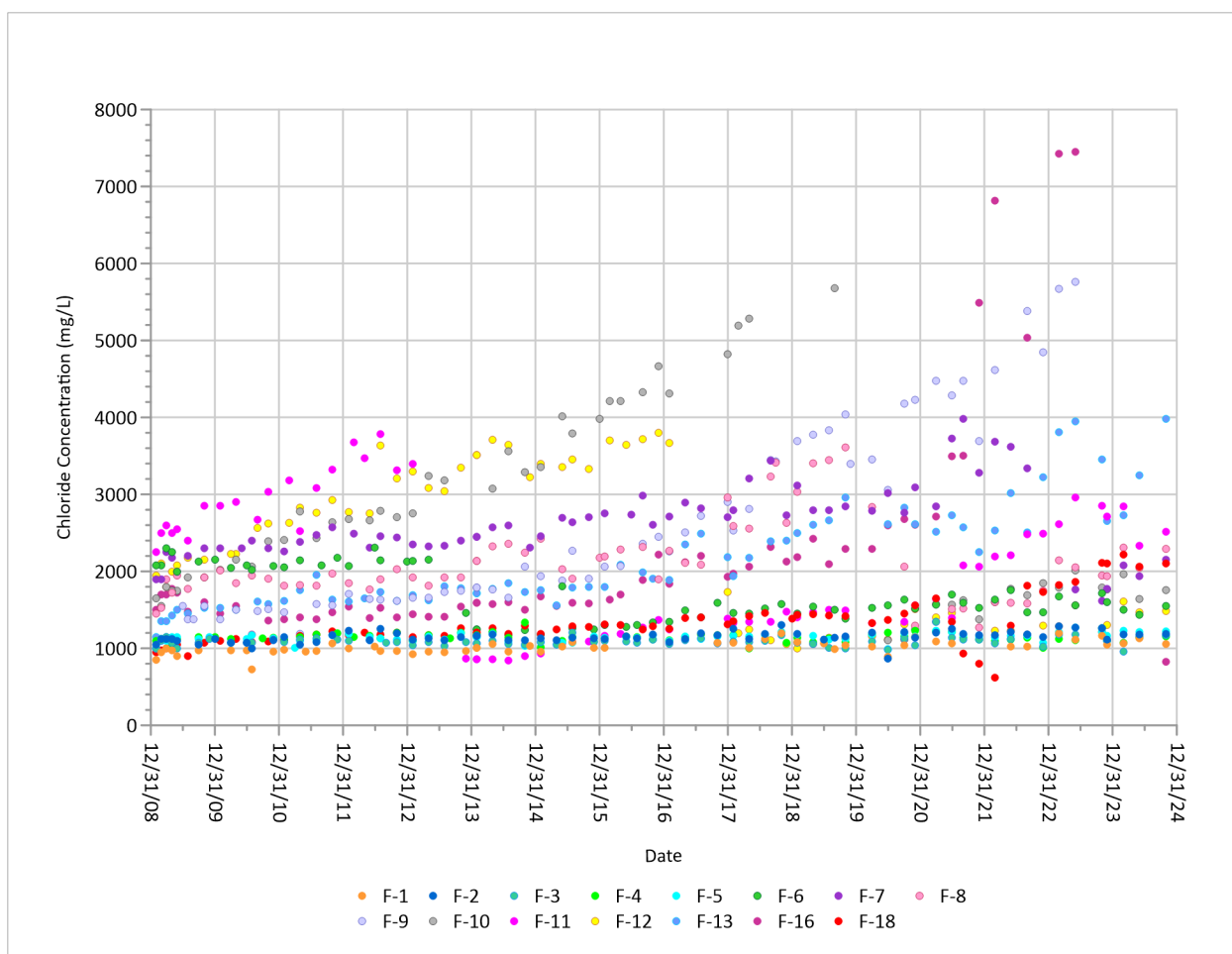
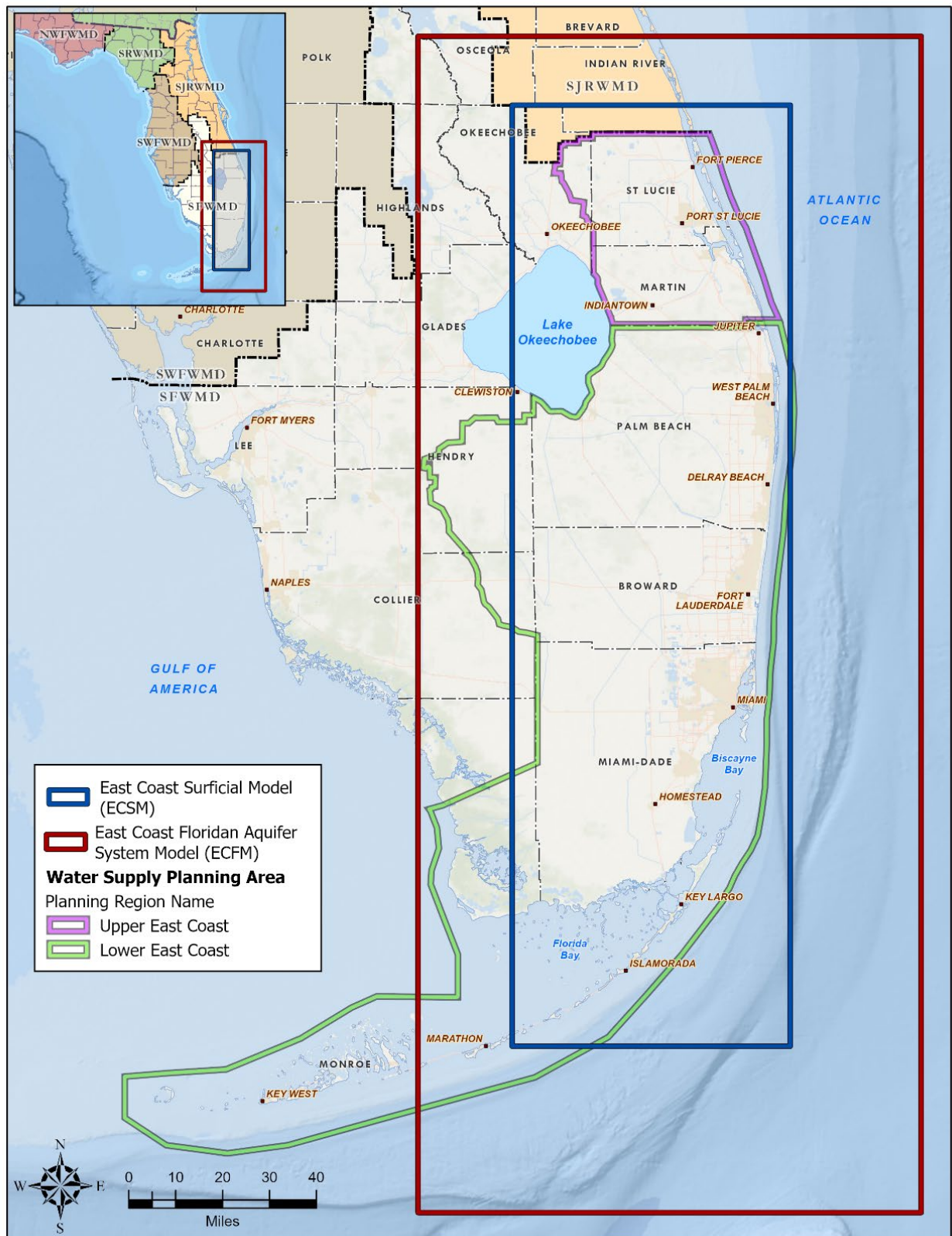


Figure 6-21. Chloride concentration trends at Floridan aquifer system wells F-6, F-9, and F-10 to F-12 (open to the UFA) and wells F-1 to F-5, F-7, F-8, F-13, F-16, and F-18 (open to the UFA and APPZ) monitored by Port St. Lucie under permit 56-00142-W.

GROUNDWATER MODELS

The SFWMD has two groundwater models that can be used in the UEC Planning Area: The ECSM and the ECFM (**Figure 6-22**). The ECSM and the ECFM are density-dependent groundwater flow and solute transport models of the SAS and FAS, respectively. The models simulate regional groundwater levels, flows, and water quality in the SAS and FAS in response to withdrawals. The models were developed for regional water supply planning purposes and use the best available data on aquifer characteristics and water quality.

Three scenarios were developed in support of the 2026 UEC Water Supply Plan Update. The first scenario represents the 2024 base condition, the second scenario represents the 2050 future condition, and the third scenario represents the 2050 future withdrawals with a tidal condition to represent NOAA Intermediate 2050 sea level rise (2050SLR). The 2024 base condition uses pumping demand based on actual or estimated water use data for all use classes except for agriculture irrigation, which is estimated using crop types and acres from the Florida Statewide Agricultural Irrigation Demand (FSAID) and the Agricultural Field-Scale Irrigation System (AFSIRS) model. The 2050 future condition uses projected demands as identified in **Chapter 2** and **Appendix B**, except for agriculture irrigation which uses projected crop types and acres for 2050 from FSAID and AFSIRS.



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Figure 6-22. Model boundaries for the East Coast Surficial Model and East Coast Floridan Model.

East Coast Surficial Model

The ECSM is a calibrated three-dimensional, density-dependent groundwater model of the SAS. The ECSM is based upon the SFWMD's SEAWAT2022 (Rodberg 2022) computer code. SEAWAT2022 represents enhancements to a merger of the USGS's SEAWAT-2000 (Langevin et al. 2003) and SEAWAT-2000WMD (Restrepo and Montoya 2008) to accommodate density-dependent transport simulation options or packages previous code did not support. The ECSM was calibrated to water levels and water quality (i.e., total dissolved solids [TDS] concentrations) over thousands of wells, gauges, and stations within the model domain. The ECSM will be used to evaluate the sustainability of existing and projected future demands from the SAS for UEC and Lower East Coast planning areas and to identify areas where cumulative water use withdrawals may harm existing groundwater resources and natural systems (e.g., wetlands). The modeling effort will also investigate the potential for increased risk of saltwater intrusion in the SAS from water withdrawals and sea level rise.

Figure 6-23 to Figure 6-27 show water level and water quality differences between either the 2024 and 2050 scenarios or the 2024 and 2050SLR scenarios. Based on the model results, localized changes in water level and quality in the SAS are expected. Results and graphics presented in this chapter focus on areas where the most impact is projected. Additional information and analysis on the model results is provided in **Appendix D**.

Figures 6-23 and 6-24 show water level differences between 2050 and 2024 scenarios for Layers 2 and 3, which contain the majority of the well withdrawals within the SAS. The difference maps show up to 9.2 ft of drawdown is observed in Layer 3 in the Fort Pierce Utility Authority wellfields due to a 1.5 mgd increase in demand. The Martin County Utilities SAS wellfields have up to 9.0 ft of drawdown in Layer 2. The drawdown is due to a 3.4 mgd increase in demand mgd. Rebounding occurs in the C-44 Reservoir in all layers.

East Coast Surficial Model – 2050 Sea Level Rise Scenario

In the 2050SLR and 2024 water level difference maps (**Figures 6-25 and 6-26**), drawdown in wellfields along the coast decreases slightly under sea level rise due to an increase in water level within the Indian River Lagoon, the St. Lucie Estuary, the Intracoastal Waterway, and Jupiter Sound. The simulated rise in these tidal waterbodies also increases lateral saltwater intrusion. Up to 8.9 ft of drawdown is observed in Layers 2 and 3 in Fort Pierce Utility Authority wellfields. The Martin County Utilities SAS wellfields have up to 8.8 ft of drawdown in Layer 2. Water levels in the tidal waterbodies increase between 0.5 – 1.5 ft. **Figure 6-27** shows the water quality difference in Layer 5 between 2050SLR and 2024. The ECSM scenarios show water quality degradation in Layer 5 at the base of the aquifer. TDS degradation up to 880 mg/L in Layer 5 is observed in the Fort Pierce Utility Authority wellfields. The Martin County Utilities North Jensen wellfield has projected water quality degradation of up to 1,600 mg/L in Layer 5 and the South Martin Regional Utility South wellfield shows a projected water quality degradation of up to 2,640 mg/L. Water quality degradation at the base of the aquifer is typically caused by lateral saltwater intrusion and can also result in additional degradation of the SAS as a result of upconing due to wells withdrawing water from shallower depths.

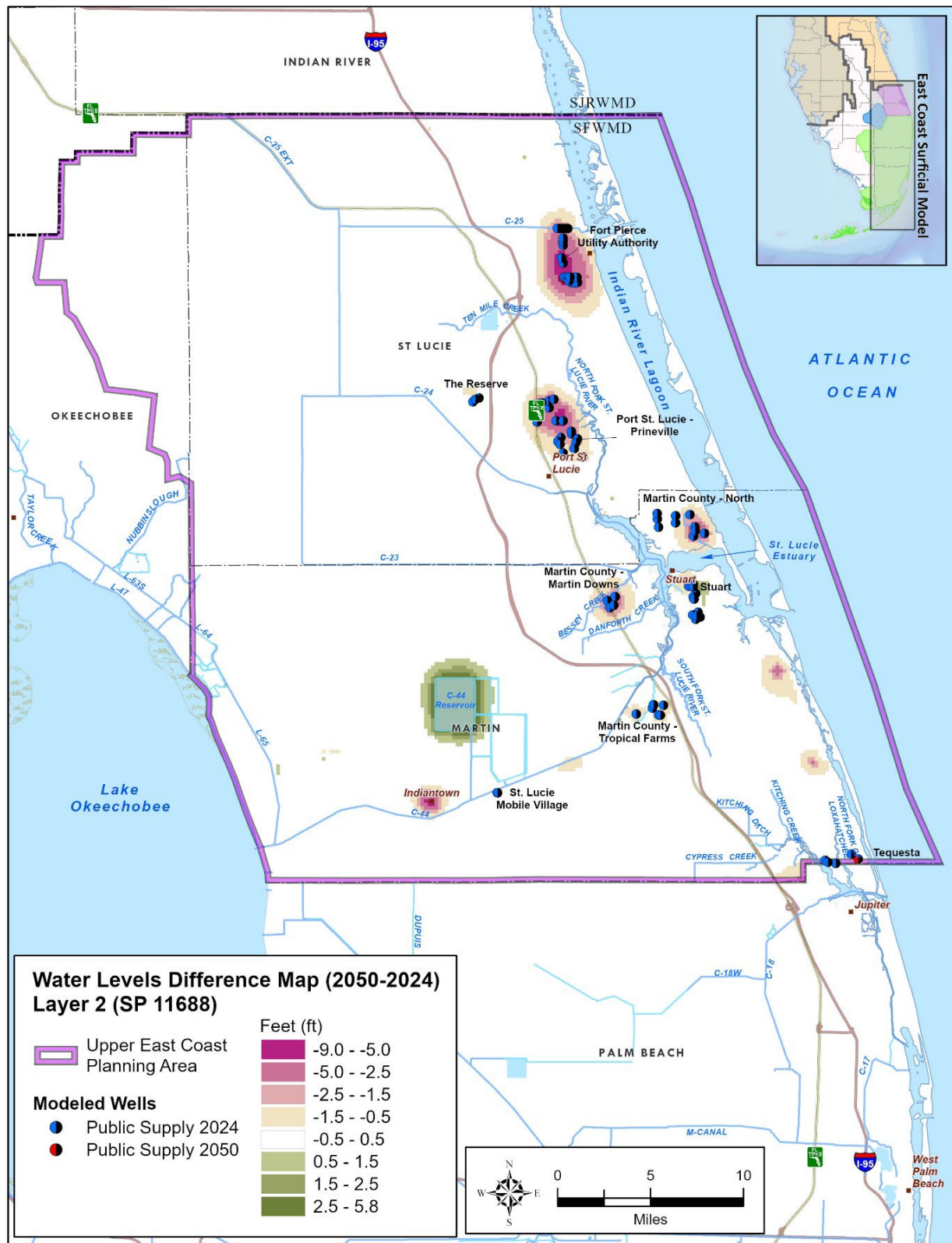


Figure 6-23. Water level changes (head difference) in the Surficial aquifer (Layer 2) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).



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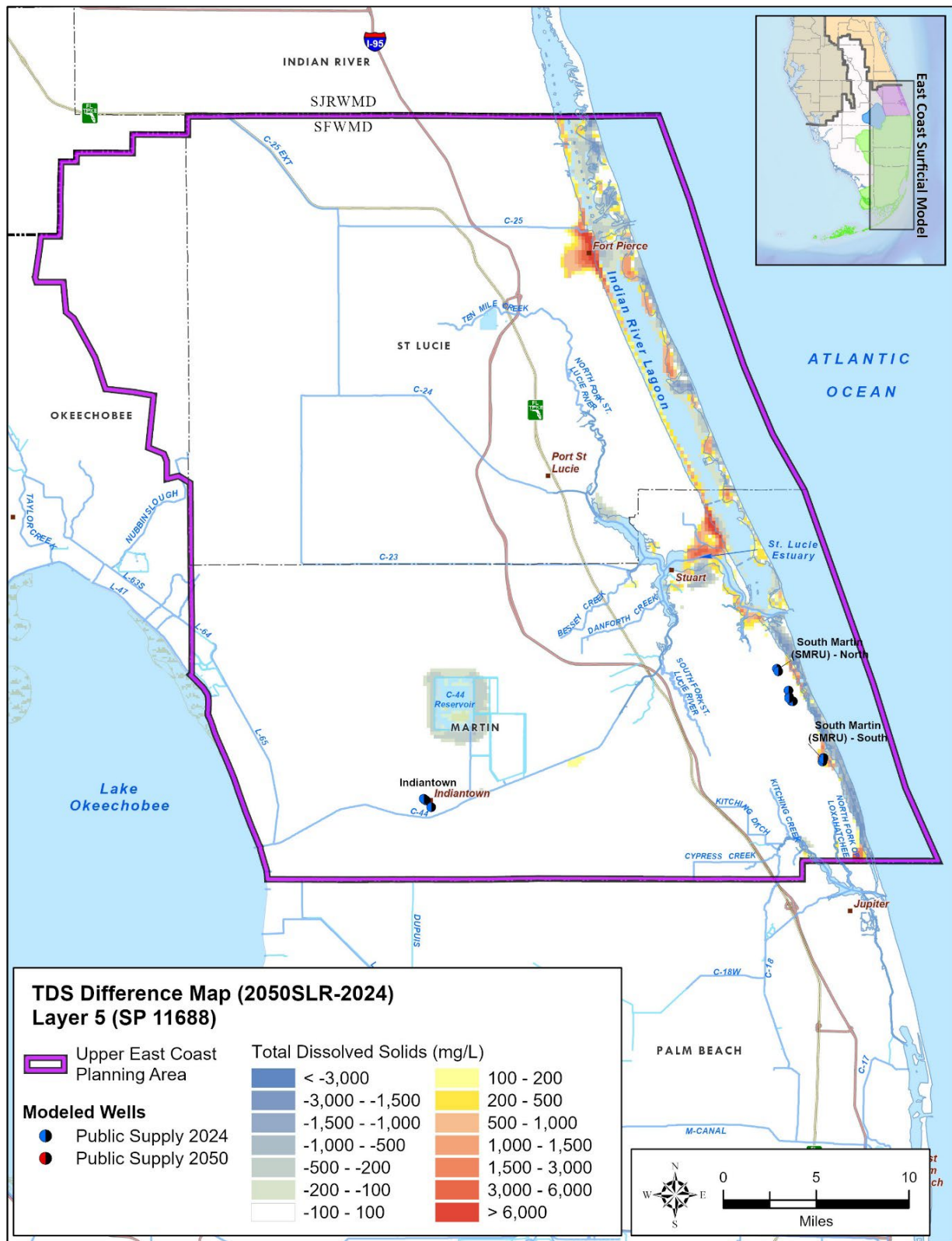


Figure 6-27. Water quality (total dissolved solids) changes in the Surficial aquifer (Layer 5) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

Surficial Aquifer System Conclusions

Review of historic and recent monitor data and the ECSM results indicated that properly managed SAS wellfields appear able to meet projected demands through 2050 in the UEC Planning Area. Monitor data indicates SAS water levels appear stable at current withdrawal rates while chloride concentration trends in some SAS wellfields have experienced water quality degradation after several years of pumping, which can be addressed by the wellfield management actions summarized below. Model results indicated localized decreases in water levels and water quality degradation may occur based on assumed wellfield configurations and 2050 pumping rates. The ECSM simulations and analyses conducted to support this plan update are considered conservative and provide insight into potential water level and water quality changes that may occur in the SAS if no additional wellfield operations are implemented to minimize the movement of poor-quality water. The SAS will continue to provide a portion of the water needed to meet the projected 2050 demand. However, most increases in demand are expected to be met with an increasing percentage of alternative water supplies, such as brackish water from the FAS and reclaimed water. Additional graphics and a detailed discussion of the ECSM results, conclusions, and recommendations are provided in **Appendix D**. Water level reductions and water quality degradation can be minimized by PS utilities through the following activities:

- ◆ Plugging and abandoning individual wells experiencing chloride concentration increases.
- ◆ Reducing pumping rates at individual wells to minimize the potential for poor-quality water to be pulled into the well's production zone from below or laterally from the coast.
- ◆ Rotating the operation of individual wells to reduce pumping stress and the potential influx of poor-quality water from below or laterally from the coast.
- ◆ Installing additional monitor wells at the base of the aquifer to provide early warning of lateral movement of poor-quality water.

As PS utilities continue to use the SAS, implementation of these wellfield management activities is important to minimize the effects of water level reductions and water quality degradation. If interference to existing legal users results from another user's withdrawals, the interference shall be mitigated as described in the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (SFWMD 2025).

East Coast Floridan Model

The ECFM simulates regional groundwater elevations, flows, and water quality (TDS) changes in the FAS in response to withdrawals. The SFWMD used the ECFM to simulate 2024 and 2050 demands from the FAS in the UEC Planning Area. Reported pumpage or estimated data were used for 2024 withdrawals, and 2050 withdrawals were obtained from the estimated demands identified in **Chapter 2** and **Appendix A**. Water level changes between 2024 and 2050 are shown in **Figures 6-28** and **6-29**. Water quality changes between 2024 and 2050 are shown in **Figures 6-30** and **6-31**.

Based on the model results, few changes in water level and quality in the UFA and APPZ are expected from the 2024 scenario to the 2050 scenario. There are some isolated areas with potential issues (e.g., decreases in water levels, increases in total dissolved solids) that may require further evaluation.

East Coast Floridan Model – Upper Floridan Aquifer

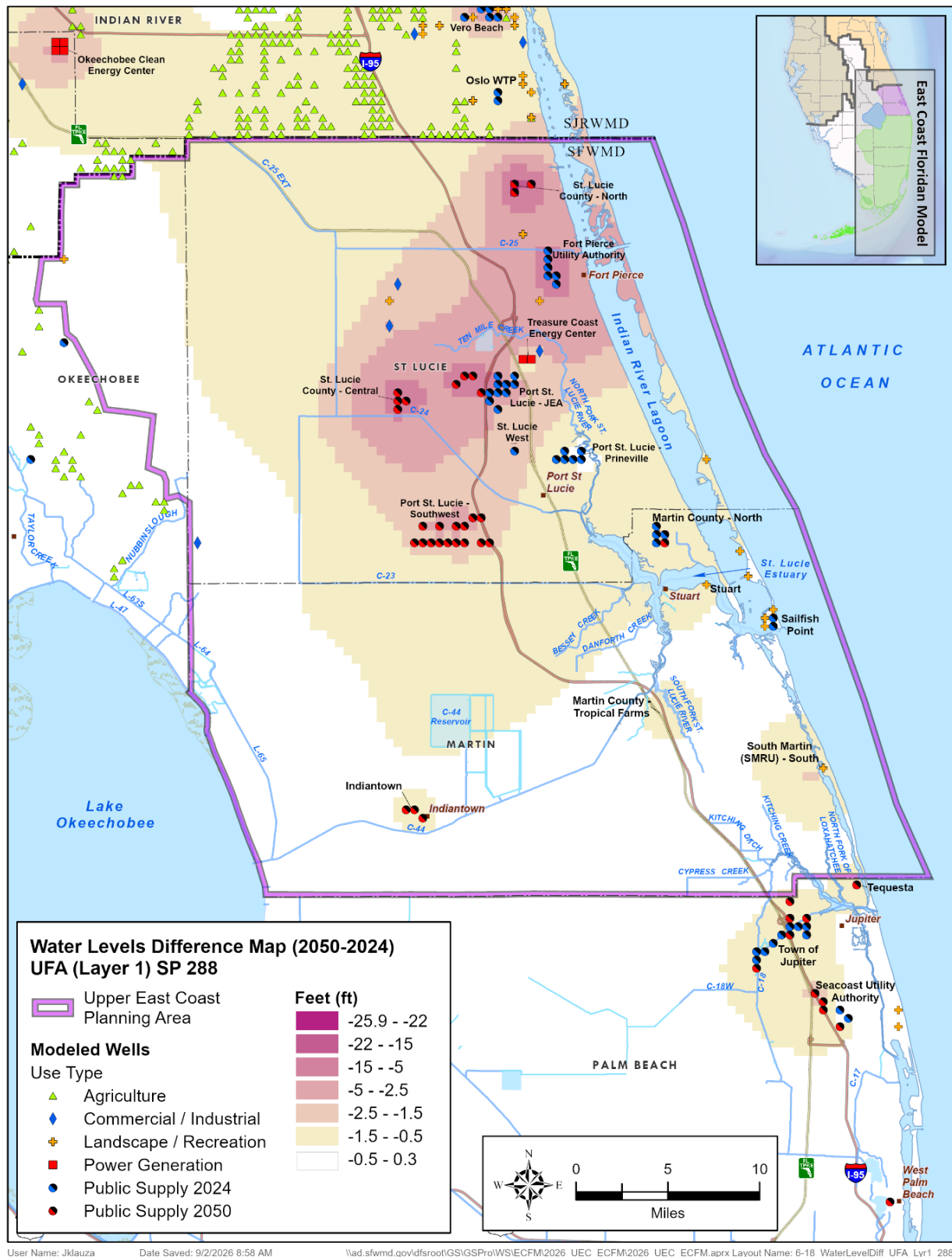
In the UFA, the difference of 2050 and 2024 modeling results indicated a change of up to 1.4 ft drawdown can be expected near the planned Indiantown wellfield in Martin County with no significant impact on TDS. Stuart and South Martin Regional Utility may experience up to 0.7 and 1.8 ft of drawdown respectively with no concerning TDS degradation. The 26-year simulation period difference results indicated the potential for significant water quality degradation in the planned North wellfield for St. Lucie County. Results indicate that a change of up to 25.9 ft of drawdown may be observed in the St. Lucie County Utilities North wellfield which may increase the TDS up to 3,200 mg/L in localized areas. The modeling results indicated a change of up to 8.9 ft of drawdown in the vicinity of the St. Lucie County Central wellfield without significant water quality changes. The simulated demand increase of 6.8 mgd may cause up to 6.1 ft of drawdown in the vicinity of the Ft. Pierce Utilities Authority wellfield. The simulated demand in 2050 for Port St. Lucie's- JEA RO, Prineville RO and Southwest RO wellfields may experience up to 8.0, 1.1 and 2.9 ft of drawdown, respectively. The 2050 demand simulated for St. Lucie West Services District, may result in up to 2.2 ft drawdown. Martin County Utilities may experience up to 0.7 ft of drawdown and no concerning TDS degradation in the Tropical Farms wellfield, and the North Jensen wellfield may experience up to 2.2 ft of drawdown and an increase in TDS of up to 100 mg/L. Sailfish Point may experience up to 0.6 ft of drawdown with a TDS increase of up to 100 mg/L.

East Coast Floridan Model – Avon Park Permeable Zone

In the APPZ, the simulated 2050 demands result in potential drawdown and water quality degradation in some areas of St. Lucie County. The planned North and Central wellfields for St. Lucie County Utilities may experience up to 4.0 ft of drawdown with an increase of up to 1,000 mg/L in TDS in the APPZ. New proposed wells with increased demand may increase the APPZ drawdown in Port St. Lucie's JEA RO, Prineville RO, and Southwest RO wellfields by up to 6.7 ft, 1.0ft, and 2.8 ft, respectively. 2050 demands simulated for Fort Pierce Utilities Authority may cause up to 4.8 ft of drawdown and increase TDS by 150 mg/L. The increased 2050 demands simulated for St. Lucie West Services District may result in up to 2.1 ft drawdown and a TDS increase of up to 460 mg/L.

Simulated 2050 demands also result in potential APPZ water level drawdown and water quality degradation in areas of Martin County. The difference of 2050 and 2024 modeling results indicated a change of up to 3.8 ft of APPZ drawdown can be expected near South Martin Regional Utility with an increase of up to 1,000 mg/L in TDS. Stuart and Indiantown may experience up to 1.4 ft and 0.6 ft of APPZ drawdown, respectively, with a potential TDS increase of up to 600 mg/L and 185 mg/L, respectively. In the 26-year simulation period, increased withdrawals and additional wells for Martin County Utilities, may result in a change of up to 1.2 ft of drawdown and a potential increase of 375 mg/L in TDS. Simulated 2050 demands result in APPZ water level drawdown of up to 0.5 feet at Sailfish Point with no concerning TDS degradation.

Review of historical data and the ECFM results concluded that properly designed and managed FAS wellfields appear able to meet projected demands through 2050 in the UEC Planning Area. The ECFM simulations and analyses conducted to support this plan update are considered conservative and provide insight into potential water level and water quality changes that may occur in the FAS if no wellfield design or operations plan is implemented to minimize the movement of poor-quality water. The FAS will continue to provide a substantial and increasing portion of the water needed to meet the projected 2050 demands. Water quality should remain adequate for all users with reverse osmosis treatment, as needed. Additional graphics and a detailed discussion of the ECFM results, conclusions, and recommendations are provided in **Appendix D**.



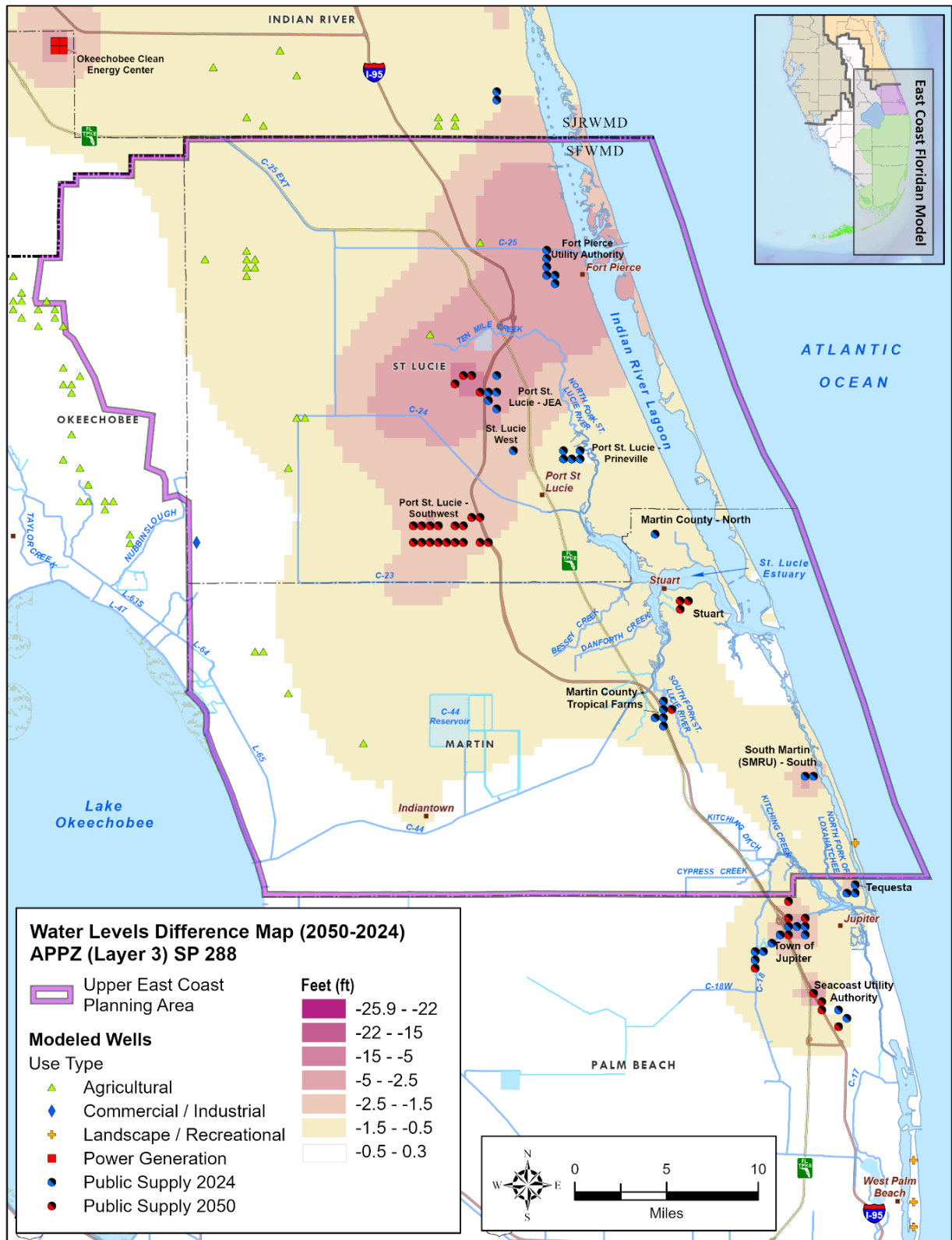


Figure 6-29. Water level changes (head difference) in the Avon Park permeable zone between 2050 and 2024.

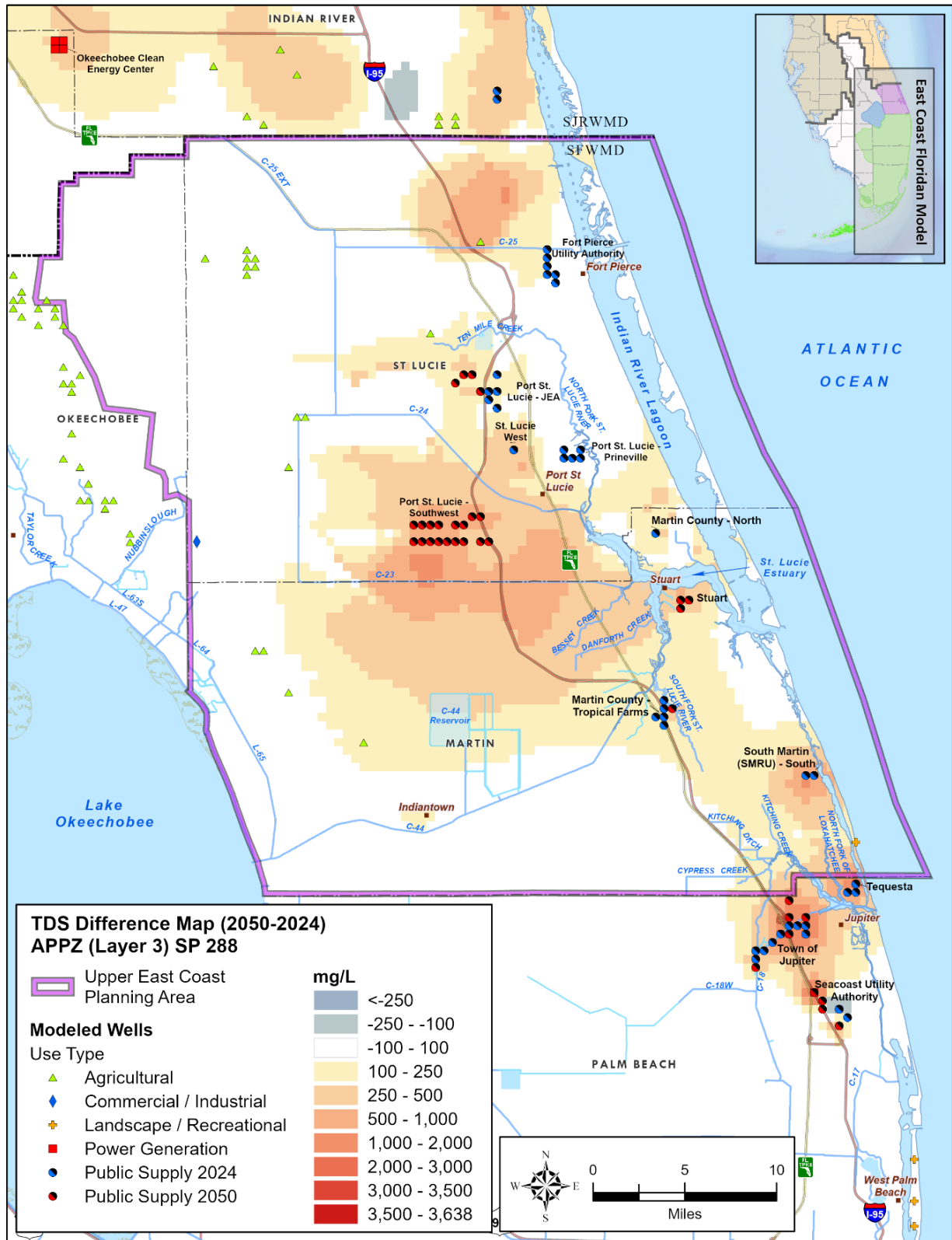


Figure 6-31. Water quality (total dissolved solids) changes in the Avon Park permeable zone between 2050 and 2024.

Floridan Aquifer System Conclusions

Review of historic and recent monitor data and the ECFM results indicated that properly designed and managed FAS wellfields appear able to meet projected demands through 2050 in the UEC Planning Area. Monitor data indicate FAS water levels appear stable at current withdrawal rates while chloride concentration trends in some FAS wellfields have experienced water quality degradation after several years of pumping, which can be addressed by the wellfield management actions summarized below. Model results indicated localized decreases in water levels and water quality degradation may occur based on assumed wellfield configurations and 2050 pumping rates. The ECFM simulations and analyses conducted to support this plan update are considered conservative and provide insight into potential water level and water quality changes that may occur in the FAS if no additional wellfield operations are implemented to minimize the movement of poor-quality water. The FAS will continue to provide a substantial and increasing portion of the water needed to meet the projected 2050 demands. Water quality should remain adequate for all users with reverse osmosis treatment, as needed. Additional graphics and a detailed discussion of the ECFM results, conclusions, and recommendations are provided in **Appendix D**. Water level reductions and water quality degradation can be minimized by PS utilities through the following activities:

- ◆ Maximizing well spacing to reduce interference effects and stress on the FAS.
- ◆ Plugging and abandoning individual wells experiencing chloride concentration increases and replacing them with new wells elsewhere in the wellfield area.
- ◆ Partially back-plugging individual wells to isolate deeper poor-quality layers from overlying higher-quality layers, thereby keeping the wells in operation.
- ◆ Reducing pumping rates at individual wells to minimize the potential for poor-quality water to be pulled into the well's production zone from below.
- ◆ Rotating the operation of individual wells to reduce pumping stress and the potential influx of poor quality water from below.
- ◆ Installing additional monitor wells to provide early warning of upconing or lateral movement of poor-quality water.

As PS utilities expand use of the FAS, implementation of these wellfield management activities is important to minimize the effects of water level reductions and water quality degradation. If interference to existing legal users results from another user's withdrawals, the interference shall be mitigated as described in the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (SFWMD 2025).

SEA LEVEL RISE AND OTHER CHANGING HYDROLOGIC AND CLIMATE CONDITIONS

Sea level rise and other changing hydrologic and climate conditions are issues of concern globally and especially in coastal regions such as South Florida. Because of its location, climate, hydrology, geology, topography, natural resources, and dense coastal populations, South Florida is particularly vulnerable to their potential effects. The nature and rate of change are highly uncertain, particularly at regional scales, but effects of sea level rise are already being experienced in South Florida. Visit the Resilience Metrics Hub (SFWMD 2021) to learn more about the data informing the District's resiliency planning efforts.

Sea level rise affects flood control operations at coastal structures and contributes to inland movement of salt water into aquifers. In addition, increased air temperatures and changes in precipitation regimes and storm frequency associated with changing hydrologic and climate conditions could result in greater evaporation, longer drought periods, and higher risk of flooding throughout South Florida. These changes could affect regional water resources and planning and thus need to be considered when evaluating the ability of water supplies to meet future demands.

The SFWMD is responsible for managing and protecting water resources in South Florida by balancing and improving flood control, water supply, water quality, and natural systems. Over the last decade, the SFWMD has implemented strategies to adapt its operations and infrastructure to ensure this mission continues to be met under changing hydrologic and climate conditions. The SFWMD's approach focuses on assessing how sea level rise and extreme events, including flood and drought events, are likely to happen under current and future hydrologic and climate conditions.

In addition, the SFWMD is working to ensure its resiliency planning is based on the best available science and data. To plan and prepare for regional sea level rise and other changing hydrologic and climate conditions, the SFWMD is conducting research and computer modeling to better predict and reduce uncertainties, analyzing vulnerabilities in the current water management system, and developing effective adaptation strategies for the future. Effective solutions and adaptations require action across multiple agencies and administrative boundaries, including local and tribal governments; other regional, state, and federal agencies; universities; nongovernmental entities; a wide array of stakeholders; and concerned citizens throughout South Florida. Coordination is vital to ensuring a common approach and shared information moving forward. Additional information regarding sea level rise and other changing hydrologic and climate conditions within the UEC Planning Area is provided in **Appendix D**.

Sea Level Rise and Saltwater Intrusion

For water supply, the primary concern of rising sea levels is the inland migration of salt water. In coastal South Florida, saltwater intrusion has been an issue since humans began draining lands for development and withdrawing groundwater for drinking and irrigation supplies. Sea level rise is anticipated to exacerbate the situation.

Most PS utilities in the UEC Planning Area use the SAS for all or part of their water needs, and several utilities have limited ability to desalinate water. Therefore, many utilities are required by their water use permit to maintain a network of SAS monitor wells to identify possible inland movement of the saltwater interface. The four largest utilities using SAS wellfields near tidal surface waters are Stuart, South Martin Regional Utility, Martin County Utilities, and Fort Pierce Utilities Authority. These utilities currently use the FAS and reverse osmosis treatment plants to meet a portion of their demands. Several utilities have proposed projects (**Chapter 8**) to install FAS wells and construct new or expanded reverse osmosis treatment facilities.

SUMMARY OF WATER RESOURCE ANALYSES

The evaluations and analyses associated with this 2026 UEC Plan Update support the findings and conclusions of the 2021 UEC Plan Update with the addition of the ECSM results. The following are updated findings regarding the availability of water resources in the UEC Planning Area to meet projected 2050 water demands:

- ◆ New or increased allocations of surface water from the C-23, C-24, and C-25 canal system and from Lake Okeechobee and LOSA, including the C-44 Canal, are limited in accordance with RAA criteria.
- ◆ Surface water will remain the primary source for agricultural irrigation, with the UFA as a supplemental source. Due to the continued anticipated decline in irrigated agriculture acreage, surface water demands will likely decrease over time.
- ◆ The SAS historically has served as the primary source of water for urban demands in the UEC Planning Area. However, expansion of SAS withdrawals is limited due to low aquifer productivity, rate of recharge, potential impacts to wetlands and the increased potential for saltwater intrusion, and proximity to contamination sources. New or increased allocations of water from the SAS in coastal areas beyond those currently permitted will require evaluation on an application-by-application basis.
- ◆ Monitoring well networks have been established for the SAS and FAS and provide valuable data for evaluation of saltwater intrusion, aquifer assessment, and groundwater modeling.
- ◆ Most PS utilities in the UEC Planning Area use the FAS to meet some or all of their demands and plan to increase their use of the FAS to meet increased future demands.
- ◆ Analysis of the results from the ECSM scenarios indicated that localized changes in water levels and water quality are projected to occur in the SAS. Increased withdrawals in the SAS at projected future rates (2050) may cause drawdown in wellfields and water quality degradation, especially at the base of the aquifer. Sea level rise may increase water levels within the aquifer but result in both upconing of poor-quality water and additional lateral saltwater intrusion.
- ◆ The results of the ECFM simulations indicated water level and water quality impacts are projected to occur in the FAS. Increased withdrawals at projected future rates (2050) may have a greater effect on water levels and water quality in the UFA, primarily in northeastern St. Lucie County.

- ◆ Saltwater intrusion monitoring and mapping indicated little movement of the saltwater interface in the SAS from 2019 to 2024. Local-scale investigation of the interface position could be warranted in some areas.

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Water Resource Development Projects

This chapter addresses the roles of the South Florida Water Management District (SFWMD or District) and other parties in implementing water resource development projects and provides a summary of projects in the Upper East Coast (UEC) Planning Area. The water resource development efforts presented in this chapter reflect the current budget categories the SFWMD uses for funding new and ongoing water resource development projects. The project summaries serve as an overview of water resource-related activities in the region. This chapter was created using the Fiscal Year (FY) 2026 Districtwide water resource budget and includes schedules and costs for FY2026 to FY2030. Additional details on the status of these projects can be found in Chapter 5A (Payseno and Setegn 2026) of the *2026 South Florida Environmental Report – Volume II* (<https://www.sfwmd.gov/sfer>).

TOPICS

- ◆ Regional Groundwater Modeling
- ◆ Districtwide Water Resource Development Projects
- ◆ Comprehensive Everglades Restoration Plan
- ◆ Additional Resource Development Efforts
- ◆ Summary of Water Resource Development Projects

Florida water law identifies two types of projects to meet water needs: water resource development projects (subject of this chapter) and water supply development projects (**Chapter 8**). Water resource development is defined in Section 373.019(24), Florida Statutes (F.S.), as follows:

...the formulation and implementation of regional water resource management strategies, including the collection and evaluation of surface water and groundwater data; structural and nonstructural programs to protect and manage water resources; the development of regional water resource implementation programs; the construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation; and related technical assistance to local governments, government-owned and privately owned water utilities, and self-suppliers to the extent assistance to self-suppliers promotes the policies as set forth in s. 373.016.

Most water resource development activities in the SFWMD support and enhance water supply development but do not directly yield specific quantities of water. Instead, these projects are intended to assess the availability of an adequate water supply for existing and future uses, including maintaining the functions of natural systems and enhancing resiliency. For example, project-related hydrologic investigations as well as groundwater monitoring and modeling provide important information about aquifer characteristics (e.g., hydraulic properties, water quality), which are useful for designing appropriate facilities, identifying safe aquifer yields, and evaluating the economic viability of projects, but do not increase water availability.

Water supply development projects (**Chapter 8**) generally are the responsibility of water users (e.g., utilities) and involve the water source options described in **Chapter 5** to meet specific needs. These projects often include construction of wellfields, water treatment plants, distribution lines, reclaimed water facilities, and storage systems.

Water resource development in the UEC Planning Area is influenced by the Comprehensive Everglades Restoration Plan (CERP). CERP is a joint federal-state effort authorized by the United States Congress in 2000 as a framework for modifications and operational changes to the Central and Southern Florida Project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. CERP builds on and complements other federal and state initiatives to revitalize South Florida's ecosystems. These efforts have multiple implementation phases, which are supported by water resource development activities, such as planning; land acquisition; design, including modeling; construction; and long-term operations and maintenance. CERP efforts are described in this chapter and in the annual updates of the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>).

REGIONAL GROUNDWATER MODELING

The SFWMD funds development, calibration, and application of numerical models for evaluation of groundwater and surface water resources in the District's five planning areas. The models support development of regional water supply plans, minimum flows and minimum water levels (MFLs), water reservations, restricted allocation areas (RAAs), and other projects benefiting water resources. Regional groundwater flow models simulate the rate and direction of water movement through the subsurface. Such models include the major components of the hydrologic cycle and are used in water supply planning to understand the effects of current and future water use. More recently, advances in groundwater modeling to incorporate density-dependency and solute transport have been incorporated to better analyze the effects of sea level rise and other changing hydrologic and climate conditions on the surficial aquifer system (SAS) and brackish aquifers, such as the Floridan aquifer system (FAS).

East Coast Surficial Model

The East Coast Surficial Model (ECSM) is a regional groundwater model (Obeysekera et al. 2026) developed to evaluate changes in water levels and water quality in the SAS for the 2024 and 2050 withdrawal scenarios (**Chapter 6**). It is a three-dimensional, density-dependent groundwater flow and transport model that simulates changes in SAS and wetland water levels, canal flows, and water quality (i.e., total dissolved solids [TDS]) along the east coast of

the District. Developed to evaluate potential impacts of additional SAS demands, the ECSM can simulate the response of the aquifer to the projected demands through wellfield pumpage, changes in recharge and return flow, sea level rise, and other changing hydrologic and climate conditions. Results of the model simulations can provide guidance to develop water management strategies, support periodic updates to the regional water supply plans, evaluate resiliency, and be used in regulatory applications.

The ECSM domain extends from Indian River County to the Florida Keys and from the approximate center line of the Florida peninsula to just offshore of the east coast (**Figure 7-1**). The model has five primary layers that represent the permeable and semiconfining layers that constitute the SAS.

The current version of the model was manually calibrated to water level and water quality (TDS) observations for transient conditions. The transient model was applied to the period from 1985 through 2014, with verification from 2015 to 2016. There are more than 1,000 water level and water quality targets, and the model was deemed calibrated when simulated versus observed data met pre-established calibration criteria, in addition to the model simulating known general groundwater flow patterns and the position of the mapped saltwater interface.

Following completion of model calibration and verification, the ECSM was applied through the development of the planning demands for 2024 and 2050 model scenarios. The effects of these future demands on the SAS were evaluated in support of this *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update). For further information on the ECSM update and results, please see **Chapter 6** and **Appendix D**.

East Coast Floridan Model

Groundwater withdrawals, particularly from the Floridan aquifer system (FAS), are anticipated to increase with growing demand for water and limited availability of surface water sources throughout South Florida. The East Coast Floridan Model (ECFM; Billah et al. 2021) was updated for this plan update to identify potential changes in water quality, flows, and water levels in the FAS for the 2024 and 2050 withdrawal scenarios. The effects of these future demands on the FAS were evaluated in support of this 2026 UEC Plan Update. The ECFM boundary extends from Indian River County (within the St. Johns River Water Management District) to the Florida Keys (**Figure 7-1**). For the 2021 UEC Plan Update, the ECFM was 1) recalibrated with additional hydrogeologic and hydrostratigraphic (layer) data collected since the previous calibration, and 2) updated with 2019 to 2045 demands to provide a planning-level evaluation of regional conditions in the FAS. **Chapter 6** and **Appendix D** provide further information about the ECFM updates and simulation results.

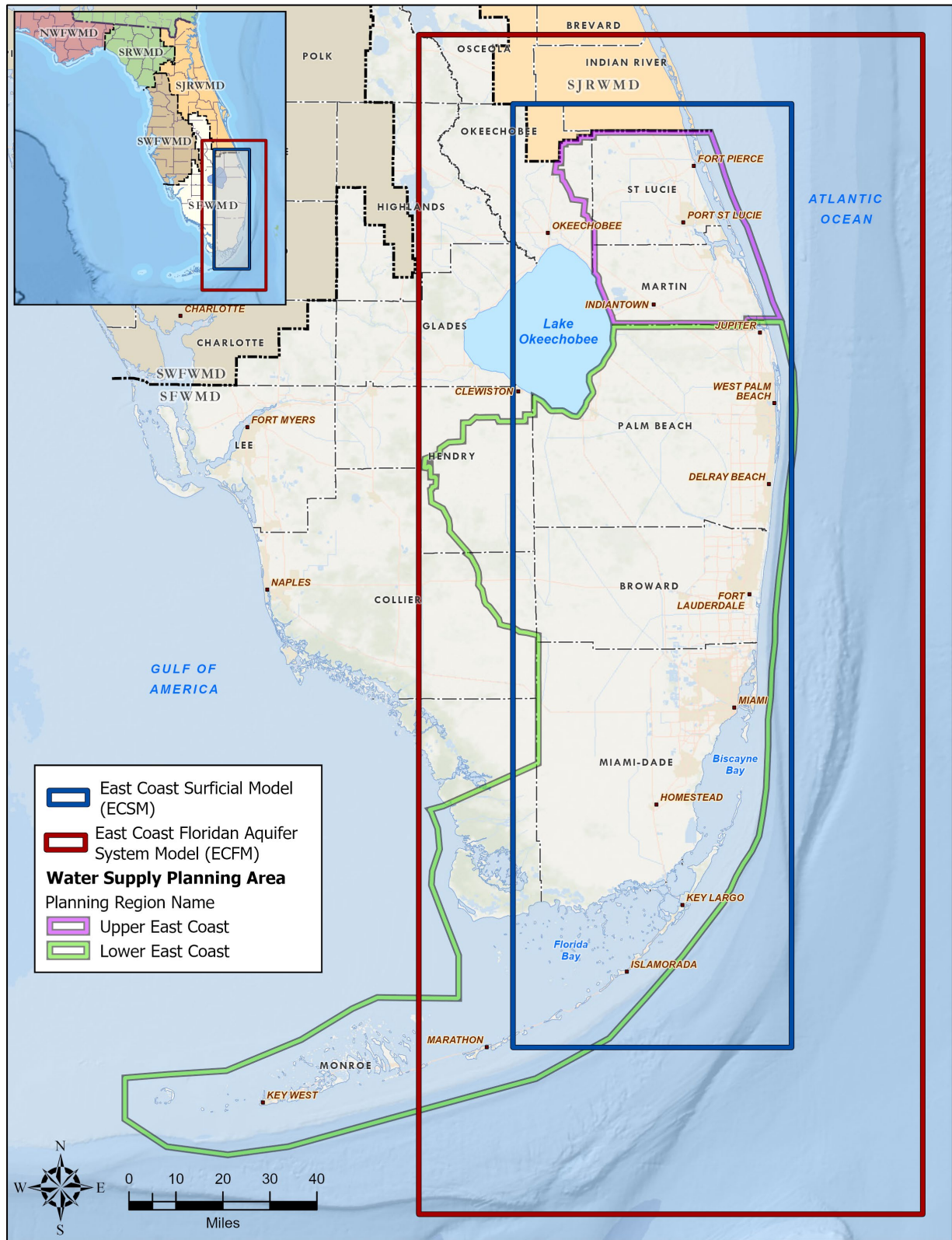


Figure 7-1. East Coast Surficial Model and East Coast Floridan Model boundaries.

DISTRICTWIDE WATER RESOURCE DEVELOPMENT PROJECTS

Water resource development projects encompassing more than one planning area generally are considered Districtwide projects. The SFWMD is the implementing agency for the projects described in this section. **Table 7-1** summarizes the estimated costs through 2030 of Districtwide water resource development projects and regional projects that benefit water supply. The following categories are types of ongoing Districtwide water resource development projects:

- ◆ Resource evaluations to develop MFL, water reservation, and RAA rules
- ◆ Comprehensive Water Conservation Program
- ◆ Cooperative Funding Program
- ◆ Evaluation of groundwater resources
- ◆ Groundwater assessment through data collection and modeling
- ◆ Groundwater, surface water, and wetland monitoring

MFL, Water Reservation, and RAA Rule Activities

Development of MFLs, water reservations, and RAA rules as well as other resource protection measures need to be supported with scientifically sound evaluations that may include water flows, water elevations, biological, and water quality data, which are analyzed and described in technical documents. These rules and resource protection measures have been developed to ensure the sustainability of water resources within the District. **Chapter 4** and **Appendix C** provide information on MFLs, water reservations, and RAAs in the UEC Planning Area. Additional information about water resource protection can be found in the *2026–2029 Support Document for the Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026).

Comprehensive Water Conservation Program

The long-standing conservation goal of the SFWMD is to prevent and reduce wasteful, uneconomical, impractical, or unreasonable uses of water resources. This goal is addressed through planning; regulation; use of alternative sources, including reclaimed water; public education; demand reduction through conservation technology; best management practices; and water-saving programs. The SFWMD's regional water supply plans identify sufficient traditional and alternative water supply (AWS) projects, together with conservation elements, to meet or exceed projected water demands over the 20-year planning horizon. Conservation potential for all water use categories is estimated by the SFWMD during the regional planning process as described in **Chapter 3**.

The District implements conservation through a coordinated series of regulatory, educational, incentive based, and outreach initiatives designed to promote long-term water use efficiency and create a sustained and effective conservation ethic. More detailed information is provided on the SFWMD webpage (<https://www.sfwmd.gov/community-residents/water-conservation>) and in the 2026–2029 Support Document (SFWMD 2026).

Cooperative Funding Program

AWS projects and source diversification are important supplements and replacements to traditional water sources in order to meet current and future water needs Districtwide. The SFWMD has provided cost-share funding for AWS development for more than two decades. AWS funding helps water users develop reclaimed water projects, water reclamation facilities, brackish water wellfields, reverse osmosis treatment facilities, stormwater capture systems, and aquifer storage and recovery (ASR) well systems.



Newly Constructed Floridan Aquifer System Well

A full description of AWS related projects and associated funding is contained in the SFWMD's Alternative Water Supply Annual Reports, prepared pursuant to Section 373.707(8)(n), F.S., and published in annual updates of the *South Florida Environmental Report*. Further information about AWS options (e.g., reservoirs, ASR systems) is provided in **Chapter 5**.

Table 7-1. FY2026–FY2030 implementation schedule and projected expenditures (including salaries, benefits, and operating expenses) for water resource development activities within the SFWMD. All activities are ongoing unless noted otherwise (Modified from Payseno and Setegn 2026).

Regional Water Activities	Plan Implementation Costs (\$ thousands)					Total
	2026	2027	2028	2029	2030	
Water Supply Planning	985	985	985	985	985	4,925
CFWI Water Supply Planning Project	655	676	676	676	676	3,359
Comprehensive Plan, Documents Review, and Technical Assistance to Local Governments	188	188	188	188	188	940
Water Supply Implementation	295	295	295	295	295	1,475
MFL, Water Reservation, and RAA Rule Activities	16	16	16	16	16	80
Comprehensive Water Conservation Program	428	428	428	428	428	2,140
Cooperative Funding Program	14,129	0 ^a	0 ^a	0 ^a	0 ^a	14,129
Groundwater Monitoring	2,068	2,068	2,068	2,068	2,068	10,340
Groundwater Modeling	1,207	1,207	1,207	1,207	1,207	6,035
Estimated Portion of C&SF Project Operation and Maintenance Budget Allocated to Water Supply ^b	135,330	135,330	135,330	135,330	135,330	676,650
Subtotal	155,301	141,193	141,193	141,193	141,193	720,073

Table 7-1. Continued.

Regional Water Activities	Plan Implementation Costs (\$ thousands)					Total
	2026	2027	2028	2029	2030	
Regional Projects Benefiting Water Supply						
Lake Okeechobee Watershed Restoration ^c	50,000 ^d	50,000 ^d	50,000 ^d	50,000 ^d	50,000 ^d	250,000
EAA Storage Reservoir Conveyance Improvements and Stormwater Treatment Area ^{c,e}	107,076	465,959	164,051	121,538	0	858,623
Other Projects Associated with MFL Recovery/Prevention Strategies ^f	391,978	143,732	212,321	324,334	412,490	1,484,854
C-25 Reservoir and STA	19,846	0	0	0	0	19,846
Lake Okeechobee Component A Reservoir (LOCAR)	0	0	253,025	164,550	17,575	435,150
Subtotal	568,900	659,691	679,396	660,421	480,065	3,048,474
Total	724,201	800,884	820,589	801,614	621,258	3,768,547

C&SF Project = Central and Southern Florida Project; CFWI = Central Florida Water Initiative; EAA = Everglades Agricultural Area; LOCAR = Lake Okeechobee Component A Storage Reservoir; MFL = minimum flow and minimum water level; RAA = restricted allocation area; STA = stormwater treatment area.

^a The Governing Board will determine what funds, if any, will be allocated for CFP projects during the fiscal year budget development process.

^b Approximated based on 50% of the FY2026 operation and maintenance budget.

^c Project cost based on information contained in the FY2026–2030 SFWMD Five-Year Capital Improvement Plan. Subject to future state appropriations and federal funds.

^d Funding contingent upon future state appropriations.

^e Includes Reservoir Inflow S-623 Pump Station, S-636 Seepage Pump Station, Inflow Canal Reservoir/STA, A-2 STA, North New River and Miami Canal Phase 1 and Phase 2 Improvements, and US-27 Bridges. The amounts include the S-636 Pump Station funded with potential federal funding.

^f Totals from Table 5A-6 (Payseno and Setegn 2026), less the funding for the Lake Okeechobee Watershed Restoration and EAA Storage Reservoir Conveyance Improvements and STA.

Evaluation of Groundwater Resources

Evaluation of groundwater resources involves the installation of wells for short- and long-term monitoring of groundwater elevations and water quality. This work includes drilling and well construction, geophysical logging, aquifer tests, sediment analysis, lithologic descriptions, and water quality sampling to determine if the water is fresh or brackish. Knowledge of South Florida hydrogeology is enhanced through exploratory drilling and well installation and has improved the accuracy of the SFWMD's groundwater modeling and decision making regarding water use permits.

Groundwater Assessment

Groundwater assessment uses the results of drilling and testing programs, groundwater sampling and analysis, as well as the development and refinement of the hydrostratigraphic framework of each planning area. An important component of this assessment is the production of Districtwide saltwater interface maps every 5 years. A variety of technical publications related to hydrogeology, groundwater quality, project investigations, and saltwater interface mapping have been completed in the UEC Planning Area since the 2021 UEC Plan Update as summarized below:

- ◆ **Saltwater Interface Monitoring and Mapping Program** – The saltwater interface monitoring program was established to evaluate the extent of saltwater encroachment into aquifers along the coastal borders of the District. Groundwater samples from monitor wells located across the District are collected and analyzed every 5 years in order to map the location of the saltwater interface within the SAS (Zumbro and Coonts 2025).
- ◆ **Hydrostratigraphic Mapping of the SAS** – The hydrostratigraphy of the SAS was mapped for the Upper East Coast and Lower East Coast planning areas in support of the ECSM. The report includes hydrostratigraphic surface and thicknesses maps and cross sections of the regional hydrostratigraphy of the SAS based on these surfaces (Coonts 2024).
- ◆ **Upper East Coast FAS Groundwater Monitoring Network** – In response to the recommendations of a diverse committee of stakeholders involved in the public planning process for the 1998 *Upper East Coast Water Supply Plan* (SFWMD 1998), the District established the Upper East Coast Floridan aquifer system (UECFAS) groundwater monitoring network. The purpose of the UECFAS groundwater monitoring network was to collect information to develop the relationships between water levels, water quality, and water use in the UEC Planning Area. Data collection for the project began in January 1999 and ended in 2007. The primary aim of this report is to present the data collected from the UECFAS groundwater monitoring network in a tabular and graphical format for future reference (Zumbro and Sunderland 2022).
- ◆ **Groundwater Modeling** – The ECSM, a density dependent groundwater model (Obeysekera et al. 2026), was updated to evaluate changes in water levels and water quality in the SAS for the 2024 and 2050 withdrawal scenarios. The ECFM (Billah et al. 2021) was updated to identify potential changes in water quality, flows, and water levels in the FAS for the 2024 and 2050 withdrawal scenarios. **Chapter 6** provides information about the modeling effort for this 2026 UEC Plan Update.

Groundwater, Surface Water, and Wetland Monitoring

Groundwater elevations, surface water stages, and water quality monitoring provide critical information used for developing groundwater models, assessing groundwater conditions, and managing groundwater resources. The SFWMD maintains an extensive groundwater monitoring network and partners with the United States Geological Survey (USGS) to provide additional support for ongoing monitoring. These data are archived in the SFWMD's corporate environmental database, DBHYDRO Insights, which stores hydrologic, meteorologic, hydrogeologic, and water quality data. Data are available on the SFWMD webpage at <https://insights.sfwmd.gov>.

The USGS also monitors, archives, and publishes groundwater data annually. Districtwide groundwater monitoring activities include the following:

- ◆ **Groundwater Level Monitoring** – As of 2024, Districtwide monitoring includes 873 active groundwater stations for the SAS, intermediate aquifer system (where present), and 180 FAS stations. Data are collected, analyzed, validated, and archived in DBHYDRO Insights.

- ◆ **USGS Cooperative Agreement for Groundwater Level Monitoring** – As part of an ongoing cooperative agreement between the District and the USGS, 88 of the 260 wells previously monitored continue to be monitored by the USGS. Groundwater elevations at 168 wells are currently monitored by subcontractors and hydrogeologists with the District’s Hydrogeology Unit. The monitored wells are located across the entire District. The project includes maintenance of monitor wells and instrumentation as well as archiving data in a USGS database for sites throughout the District.
- ◆ **Saltwater Interface Monitoring and Mapping** – Chloride concentration data from 183 SAS groundwater samples and 30 surface water samples were used to develop the 2024 saltwater interface in St. Lucie and Martin counties. SAS wells are sampled for major ions and field parameters on a 5-year rotating basis based on upcoming water supply plan updates. Samples are analyzed and validated by the SFWMD Laboratory and archived in DBHYDRO Insights. In addition, water quality data collected and reported by public supply utilities and other water use permittees are utilized to update the saltwater interface maps. Groundwater quality data are used for mapping the location of the saltwater interface and in support of density-dependent groundwater modeling. The saltwater interface maps are updated every 5 years for each of the District’s coastal planning regions and show the current and previous locations of the saltwater interface. These maps are available online at <https://www.sfwmd.gov/documents-by-tag/saltwaterinterface>.
- ◆ **Regional Floridan Groundwater (RFGW) Well Network** – Groundwater elevation and water quality sampling is conducted at 113 FAS monitor well sites in the District as of 2024. Well maintenance is conducted as needed.
- ◆ **Hydrogeologic Database Improvements** – A “data lens” feature, now available in DBHYDRO Insights, is a map-based application that allows easy access to a wide array of hydrogeologic data by the public and stakeholders. The data lens can be accessed at <https://insights.sfwmd.gov>.
- ◆ **MFL-Required Monitoring** – In support of adopted MFL prevention and recovery strategies, the SFWMD monitors changes in surface water stages and flows, groundwater elevations, and specific MFL-related constituents, such as the location of the saltwater interface and the floral and faunal populations. For further information on monitoring MFL prevention and recovery strategies, please see **Chapter 4** and **Appendix C**.

COMPREHENSIVE EVERGLADES RESTORATION PLAN

CERP provides a framework to restore, protect, and preserve the greater Everglades system. The United States Congress approved the restoration plan in the Water Resources Development Act (WRDA) of 2000. The lead federal agency is the United States Army Corps of Engineers (USACE), and the SFWMD is the local non-federal sponsor. CERP projects located in the UEC Planning Area are summarized in this section and shown in **Figure 7-2**. CERP projects located outside of the UEC Planning Area, but still providing benefits to the planning area, are summarized below in the subsection Additional CERP Projects. More information on CERP projects is included for each of the projects on the CERP website at <https://www.evergladesrestoration.gov/> and updated annually in the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>).

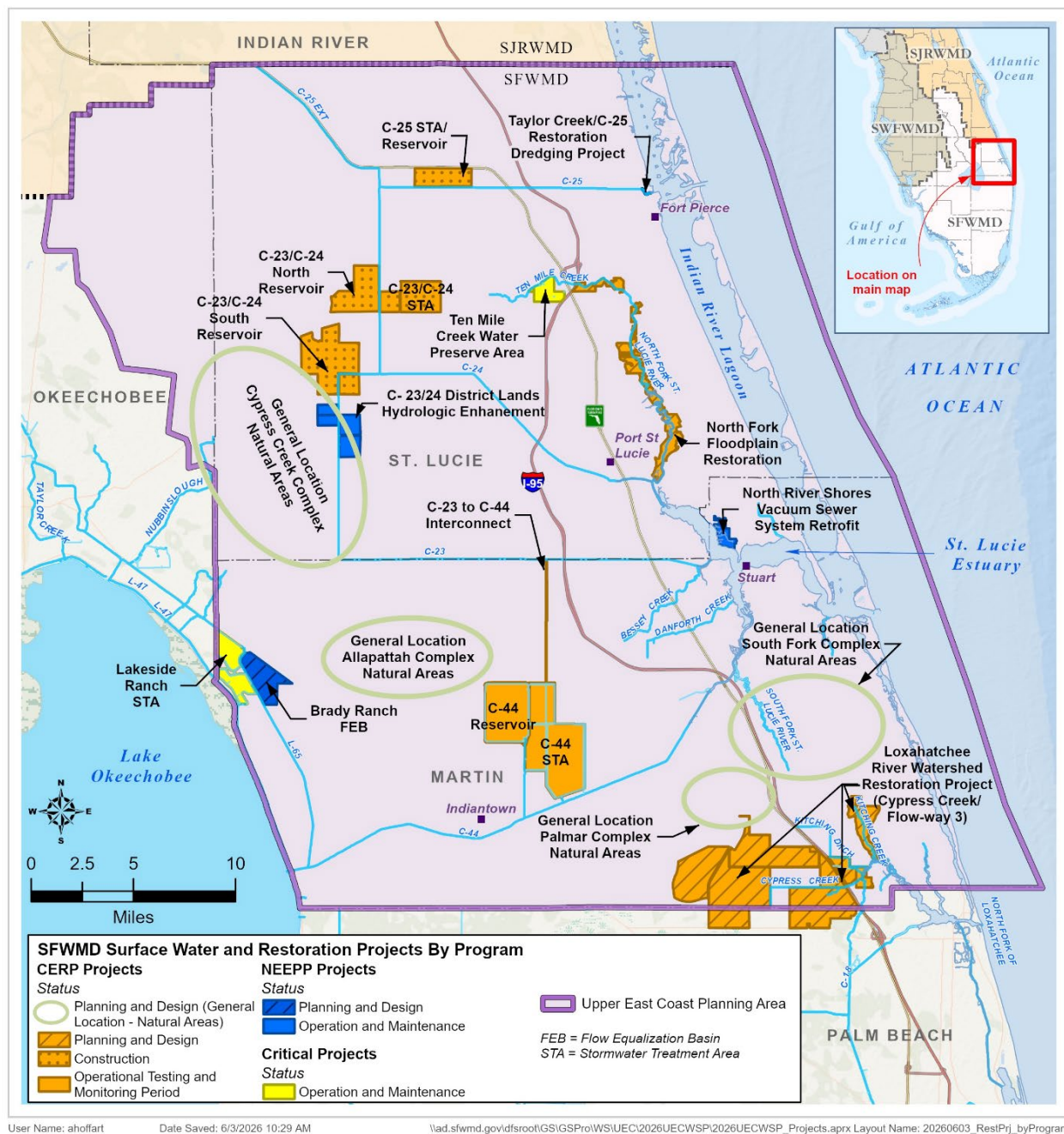


Figure 7-2. Comprehensive Everglades Restoration Plan (CERP) and other projects planned for construction over the next 20 years in the UEC Planning Area.

CERP Indian River Lagoon – South Project

The CERP Indian River Lagoon – South (IRL-S) Project is designed to improve water quality within the St. Lucie Estuary and Indian River Lagoon by reducing the damaging effects of watershed runoff; decreasing peak freshwater discharges to maintain salinity levels in the estuary; and reducing nutrient loads, pesticides, and other pollutants. The IRL-S Project includes many project components throughout the St. Lucie watershed as discussed below and shown in **Figure 7-3**.

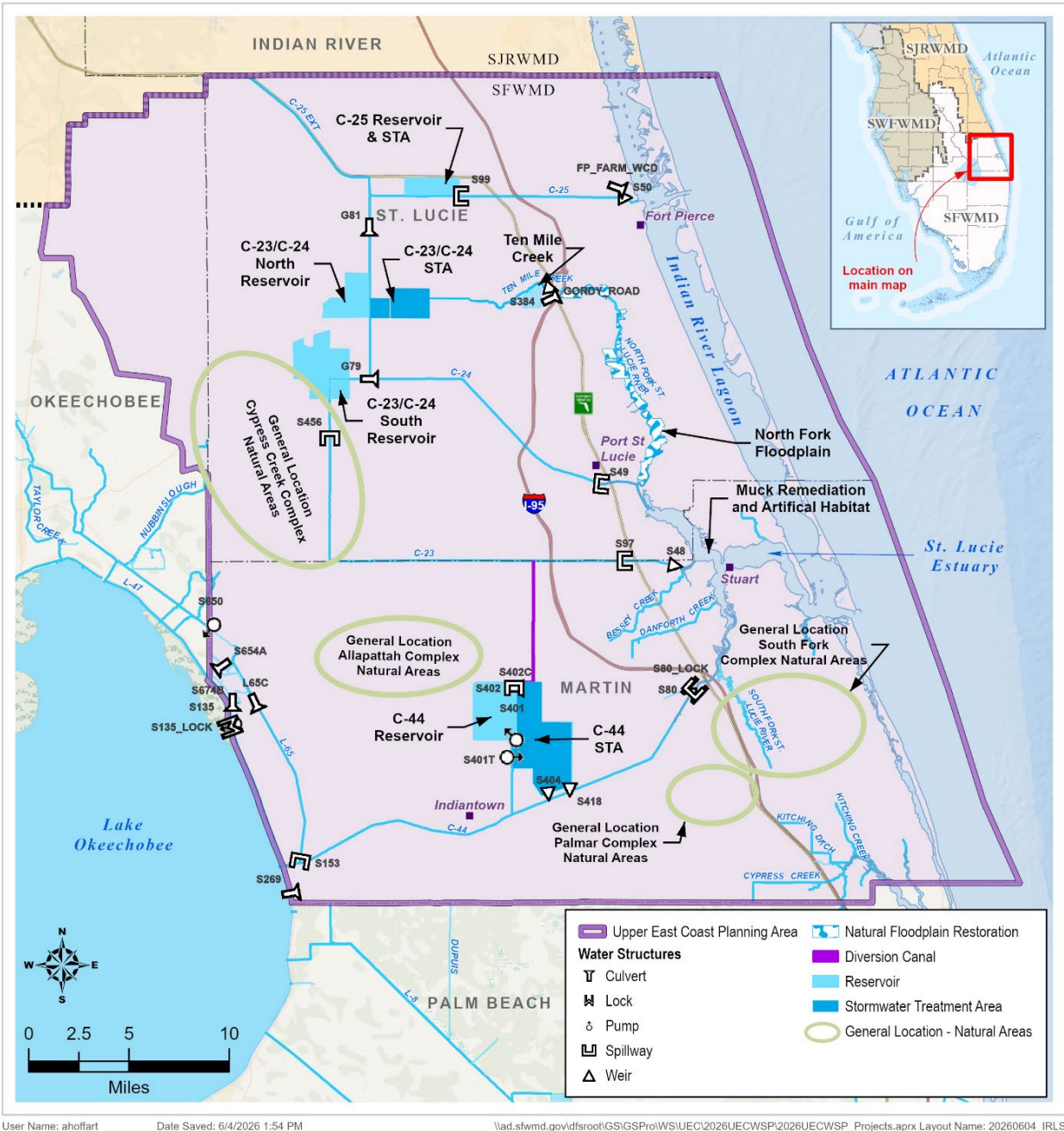


Figure 7-3. Indian River Lagoon – South Project components within the St. Lucie watershed.

Proposed structural changes are designed to provide additional retention basins (i.e., aboveground reservoirs), improved water conveyance facilities, and new operational strategies within the watershed. The changes are expected to capture, store, and attenuate excess water previously discharged to tide and redistribute the water north and south via historical flow pathways. Flows will be discharged down the North and South Forks of the St. Lucie River. The retention basins are designed to reduce the volume and frequency of damaging freshwater discharges to the St. Lucie Estuary and to restore a more natural volume, timing, and distribution of freshwater flows to the estuary, enhancing the opportunity for recovery of estuarine biota. The project may increase surface water availability, which will enhance water supply for agriculture and offset reliance on the FAS.

The IRL-S Integrated Project Implementation Report and Environmental Impact Statement (USACE and SFWMD 2004) details the following features and operational modifications that are expected to achieve the stated objectives of the project:

- ◆ Reservoirs
- ◆ Stormwater treatment areas (STAs)
- ◆ Natural lands, including restoration within the North Fork floodplain
- ◆ Diversions
- ◆ Muck removal and the creation of artificial habitat within the estuary

Once constructed and in operation, the project features (summarized below) will convey water to the St. Lucie Estuary to restore more natural volume, timing, and distribution of water, which will help meet the estuary's MFL criteria (**Appendix C**). The status and estimated completion dates of the current activities for the structural components of the IRL-S Project features are provided in **Table 7-2**.

Table 7-2. Status and estimated completion dates of current activities for the structural components of the Indian River Lagoon – South Project.

Indian River Lagoon – South Structural Components	Acres	Current Status	Estimated Completion Date
C-44 Reservoir	3,400	Construction complete and operational testing commenced	November 2021
C-44 STA	6,400	Construction complete and operational testing commenced	August 2021
C-23 Estuary Discharge Diversion	N/A	Construction complete and operational testing commenced	July 2026
C-23/C-24 Reservoir North	2,000	TBD	Construction 2024 to 2035
C-23/C-24 Reservoir South	3,500	TBD	Construction 2024 to 2032
C-23/C-24 STA	1,970	Construction contract	November 2027
C-25 Reservoir and STA	1,330	TBD	2027 to 2030

STA = stormwater treatment area; TBD = to be determined.

1. **C-44 Reservoir and STA** – These features are located on the north side of the C-44 Canal in central Martin County. The reservoir and STA are intended to capture, store, and treat flood runoff from the C-44 basin prior to its discharge back to the C-44 Canal and, ultimately, the St. Lucie Estuary. This component of the IRL-S Project consists of a 3,400-acre aboveground reservoir, capable of storing 50,600 acre-feet of water, and a 6,400-acre STA, divided into six cells that operate independently of each other (**Figure 7-4**). Implementation of this component is expected to improve water quality within the St. Lucie Estuary and Indian River Lagoon by reducing the effects of watershed runoff; decreasing peak freshwater discharges to maintain desirable salinity regimes in the estuary; and reducing nutrient loads, pesticides, and other pollutants. Construction was completed in June 2021 and currently the project is in an operational testing and monitoring period.



C-44 Reservoir and STA

2. **Diversions** – The diversion of existing flows via a canal connection and operating rules for new reservoirs and STAs will reduce the negative impacts of flows to the mid-estuary and provide for a more natural freshwater flow pattern to the North Fork of the St. Lucie River. Discharges from the C-24 outlet (S-49 Structure) will shift to the North Fork through the associated C-23/C-24 STA outlet. This northerly diversion will direct approximately 64,500 acre-feet of water from the C-23 and C-24 basins into the North Fork. The redirected water will provide increased dry season flows to the St. Lucie River. Residual C-23 flows greater than natural system flows through Basin 4 will be directed through the C-23 Estuary Discharge Diversion Canal to the C-44 Reservoir and STA.



C-23 Estuary Discharge Diversion Pump Station

3. C-23/C-24 North and South Reservoirs and STA –

These reservoirs will capture excess water from the C-23 and C-24 basins, reducing the extreme peaks of freshwater discharge to the St. Lucie Estuary, and deliver water to meet fish and wildlife needs. Excess water stored in the reservoirs may be available to release back to the canals for dry season agricultural use, which would reduce dependency on groundwater from the FAS (USACE and SFWMD 2004). An STA will be built to treat water from the

C-23/C-24 North and South Reservoirs. Operation of the C-23/C-24 STA is expected to reduce sediment, phosphorus, and nitrogen deliveries to the St. Lucie Estuary and allow for restoration of estuarine water quality. Construction and operation of the STA, in conjunction with the reservoirs, are essential for delivering water of adequate quality for the restoration of this portion of the Greater Everglades ecosystem.



C-23/C-24 South Reservoir – Construction in Progress as of December 2025

- 4. C-25 Reservoir and STA** – An aboveground reservoir capable of storing approximately 5,176 acre-feet of water on 810 acres, as well as a 520-acre STA, are planned and designed to capture and treat runoff from the C-25 basin. The reservoir will be located on the north side of the C-25 Canal, adjacent to the S-99 Structure. Water captured in the reservoir will be treated and delivered to the Indian River Lagoon at the Fort Pierce Inlet or upstream to augment canal water levels that could be made available to enhance water supply.



C-25 Reservoir and STA – Construction in Progress as of February 2026

5. Natural Lands, North Fork Floodplain Restoration

– The IRL-S Project also includes North Fork natural floodplain restoration activities, muck remediation and removal projects, and other habitat improvement efforts. Approximately 92,130 acres that had been disturbed by land use practices were identified for acquisition and restoration within the C-23, C-24, and C-44 basins. By restoring hydrologic conditions through the modification of on-site drainage features, these

natural lands are expected to provide approximately 30,000 acre-feet of storage within the watershed via retention in natural wetland systems. The lands also are expected to improve water quality by reducing nutrient loading currently caused by large amounts of runoff. Additionally, the project includes restoring and preserving approximately 3,100 acres of floodplain wetlands and low salinity habitat within the North Fork of the St. Lucie River. Restoring this portion of the river will provide additional water storage, maintain wading bird habitat, improve water quality, and protect nursery areas for larval and juvenile fishes. The natural lands component of the IRL-S Project will provide additional water storage and water quality treatment through restoration of the Pal-Mar, Allapattah, and Cypress Creek/Trail Ridge natural lands complexes. Construction of the Allapattah complex was completed in 2021, restoring more than 13,000 acres of land, including approximately 6,621 acres of wetlands that will provide 13,300 acre-feet per year of storage.



Allapattah Flats

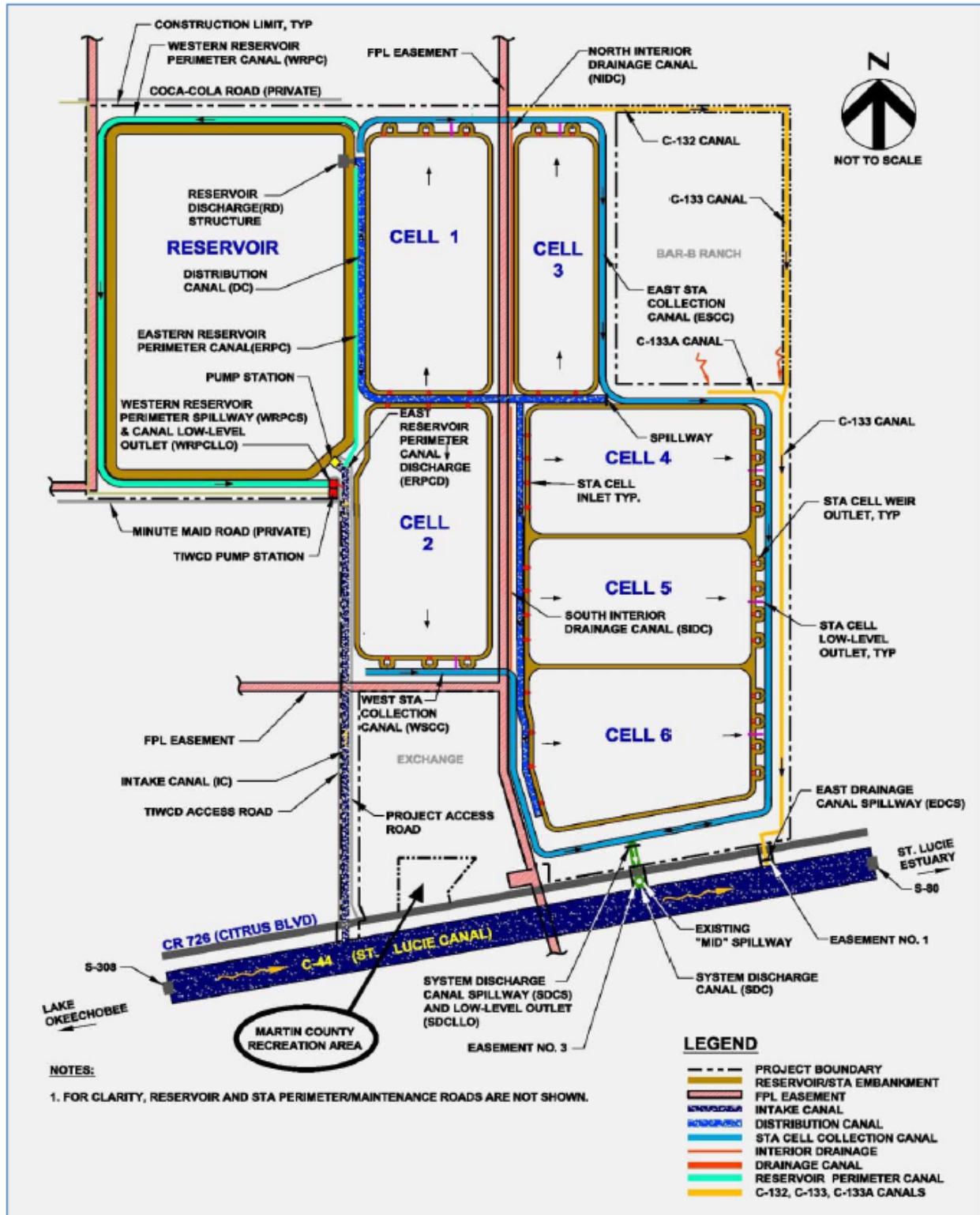


Figure 7-4. C-44 Reservoir and Stormwater Treatment Area cells.

CERP Loxahatchee River Watershed Restoration Project

The CERP Loxahatchee River Watershed Restoration Project (formerly known as the North Palm Beach County Project – Part 1) encompasses 481,000 acres, in both the UEC and Lower East Coast planning areas, between the C-44 and C-51 canals, from Lake Okeechobee to the Atlantic Coast. The project area includes extensive urban areas, limited agricultural areas, and large natural areas, such as J.W. Corbett Wildlife Management Area, DuPuis Reserve, Jonathan Dickinson State Park, Grassy Waters Preserve, and Loxahatchee Slough and River (**Figure 7-5**). Management measures (e.g., storage impoundments, wetland restoration, reconnecting historical flow paths) to meet planning objectives were incorporated into the USACE Tentatively Selected Plan, which was identified in July 2018, and the Recommended Plan was approved in 2020.

The purpose of the Loxahatchee River Watershed Restoration Project is to improve water flows to the Northwest Fork of the Loxahatchee River (NWFLR) and to restore the connectivity of wetlands and watersheds that form the headwaters of the river. The Loxahatchee River is subject to an RAA, which is a component of the MFL recovery strategy (**Chapter 4**). Additional information on this RAA and the MFL can be found in the Lower East Coast water supply plan updates. SFWMD will begin MFL reevaluations of the NWFLR in 2026. Water made available by the storage features of the project is anticipated to be reserved by rule to improve water flows to the NWFLR. However, additional ancillary benefits to water supplies are expected, including reduced saline water intrusion and recharge of the SAS from some project components, such as storage impoundments and hydrologic restoration.

Additional CERP Projects

The water resource development projects summarized in this section are located outside of the UEC Planning Area with anticipated benefits to water resources, including ancillary water supply benefits within the UEC Planning Area. More information on the Districtwide CERP projects summarized in **Table 7-3** is included for each of the projects on the CERP website at <https://www.evergladesrestoration.gov/> and updated annually in the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>).

Table 7-3. Summary of Districtwide Comprehensive Everglades Restoration Plan Projects.

Project	Status (2024–2036)	Regional Water Supply Plan
Central Everglades Planning Project (North, South, New Water, EAA)	Design/Construction/O&M	Lower East Coast
Loxahatchee River Watershed Project	Design/Construction/O&M	Lower East Coast
Western Everglades Restoration Project	Design/Construction/O&M	Lower East Coast
Biscayne Bay Southeastern Everglades Restoration (BBSEER)	Project Implementation Report ^a	Lower East Coast
Southern Everglades	Project Implementation Report ^a	Lower East Coast
Biscayne Bay Coastal Wetlands	Construction/O&M	Lower East Coast
Broward County Water Preserve Areas	Design/Construction/O&M	Lower East Coast
Lake Okeechobee Component A Reservoir (LOCAR)	Design	Lower Kissimmee Basin
Lake Okeechobee Watershed Restoration Project (LOWRP)	On Hold	Lower Kissimmee Basin
Caloosahatchee River (C-43) West Basin Storage	Design/Construction/O&M	Lower West Coast
Picayune Strand Restoration	Construction/O&M	Lower West Coast
Indian River Lagoon South	Design/Construction/O&M	Upper East Coast

EAA = Everglades Agricultural Area; O&M = operation and maintenance.

^a A Project Implementation Report is required as part of the final planning phases before construction begins.

Note: Bolded projects are located within the Upper East Coast Planning Area and discussed in detail in this plan update. All information was obtained from the Integrated Delivery Schedule (USACE 2026).

Lake Okeechobee Watershed Restoration Project

The CERP Lake Okeechobee Watershed Restoration Project (LOWRP) study area covers approximately 920,000 acres, including the four major drainage basins that supply water to Lake Okeechobee: Fisheating Creek, Indian Prairie, Taylor Creek/Nubbin Slough, and Lower Kissimmee (S-65D and S-65E). The LOWRP covers a large portion of the Lake Okeechobee watershed north of the lake and within the LKB Planning Area. In 2016, the USACE and SFWMD began planning efforts for the LOWRP, with the following goals and objectives:

- ◆ Improve the quantity, quality, timing, and distribution of water in the Northern Everglades, and to provide the capability to better manage water levels in Lake Okeechobee.
- ◆ Improve the quantity and timing of releases to the St. Lucie and Caloosahatchee estuaries (northern estuaries).

- ◆ Increase the extent and functionality of aquatic and wildlife habitat within Lake Okeechobee and the surrounding watershed.
- ◆ Increase the availability of water supply to existing legal water users in the Lake Okeechobee Service Area.

While the LOWRP planning effort has been terminated and is pending further direction from the USACE, the State of Florida continues to advance and implement the ASR well program component. The ASR project team has initiated or completed the following activities:

- ◆ Continuous cores, construction, and testing of test/exploratory wells
- ◆ Treatment technology evaluation and proof-of-concept testing
- ◆ Permitting and design at multiple potential well cluster locations along the canals entering Lake Okeechobee
- ◆ Programmatic quality assurance project plan
- ◆ Long-term pre-operational environmental monitoring along the C-38 Canal and northern Lake Okeechobee
- ◆ Design of mobile laboratory for bench-scale chronic toxicity and bioaccumulation studies
- ◆ Quantitative ecological risk assessment work plan

Although ASR technology has been used successfully in Florida since 1983, concerns have been raised about regional-scale application of ASR as envisioned in CERP. To reduce critical scientific uncertainties, the SFWMD and USACE developed the ASR Science Plan, which outlines potential studies to be conducted as additional ASR wells are implemented in a phased manner. The SFWMD and USACE update the ASR Science Plan with research findings, including additional studies proposed by the U.S. Army Engineer Research and Development Center (ERDC). The ERDC studies are ongoing and are anticipated to be completed in 2026.

Lake Okeechobee Component A Storage Reservoir

To achieve the CERP project goals and objectives discussed above, the SFWMD evaluated various management measures, such as water storage features (e.g., aboveground reservoirs, ASR wells) and wetland restoration/attenuation components. Since the reservoir and wetland attenuation feature were removed from the original LOWRP project design, to maintain the planned aboveground storage in the basin, the SFWMD began a Feasibility Study pursuant to Section 203 of the WRDA of 1986, as amended, for the Lake Okeechobee Component A Storage Reservoir (LOCAR). The LOCAR Section 203 Feasibility Study and Environmental Impact Statement were submitted on February 28, 2024 to the Assistant Secretary of the Army for Civil Works for consideration by Congress in the WRDA of 2024. The Feasibility Study and Environmental Impact Statement explored opportunities for 200,000 acre-feet of aboveground water storage north of Lake Okeechobee to maintain the basin storage in the original Recommended Plan for LOWRP.

LOCAR is a distinctly separate project from the LOWRP and was authorized in the WRDA of 2024 as part of CERP. The project benefits Lake Okeechobee and water users within the Lake Okeechobee Service Area, including portions of the UEC Planning Area, by storing water in the wet season to reduce high lake levels and returning water in the dry season to improve

low lake levels, helping to keep the lake within the ecological envelope, and providing reliability to all water users. In addition, storage north of Lake Okeechobee reduces discharges to both the Caloosahatchee and St. Lucie estuaries and improves the downstream estuary ecosystems. LOCAR is currently in the Preliminary Design Phase.

By creating additional water storage north of Lake Okeechobee, the LOWRP ASR systems, in addition to LOCAR, can improve flexibility in the timing and distribution of water in the lake to the estuaries and throughout the watershed. Water can be stored during wet times to reduce damaging high lake levels and can be released into the lake during dry times providing water supply benefits.

ADDITIONAL RESOURCE DEVELOPMENT EFFORTS

Water resource development and restoration efforts are under way throughout the UEC Planning Area. Shallow-water retention projects provide local groundwater recharge, opportunities for water quality improvement, storage for excess flows, and rehydration of drained systems. While these projects are not constructed specifically for water supply development, there are potential benefits towards offsetting seasonal impacts to water sources. The following project descriptions provide an overview of additional water resource development activities in and around the UEC Planning Area.

SFWMD Ten Mile Creek Project

The Ten Mile Creek Project, located near Fort Pierce in St. Lucie County, consists of a 526-acre water preserve area and 132-acre STA (**Figure 7-6**). The Ten Mile Creek Project is designed to help control the quantity, quality, and timing of water deliveries to the St. Lucie River and Estuary. Water that would otherwise go over the Gordy Road Structure is captured in the reservoir and routed through the STA to improve water quality before being released back to Ten Mile Creek, which flows to the North Fork of the St. Lucie River. At full operation, 2,200 acre-feet of water (716 million gallons) can be stored and sent through the project's wetlands before flowing back to Ten Mile Creek.

The USACE completed project construction in April 2006. Structural and operational concerns were identified after project construction, and the project remained in passive or limited operation until the USACE transferred the project to the SFWMD in May 2016. Subsequent rehabilitation of the project reservoir was completed, and routine operation at a 4-foot maximum depth commenced in August 2017. Additional benefits anticipated from the project include reduction of sediment and nutrient load to the St. Lucie River, increased freshwater recharge into the SAS, and the ability to make minor water supply releases back to Ten Mile Creek when needed.

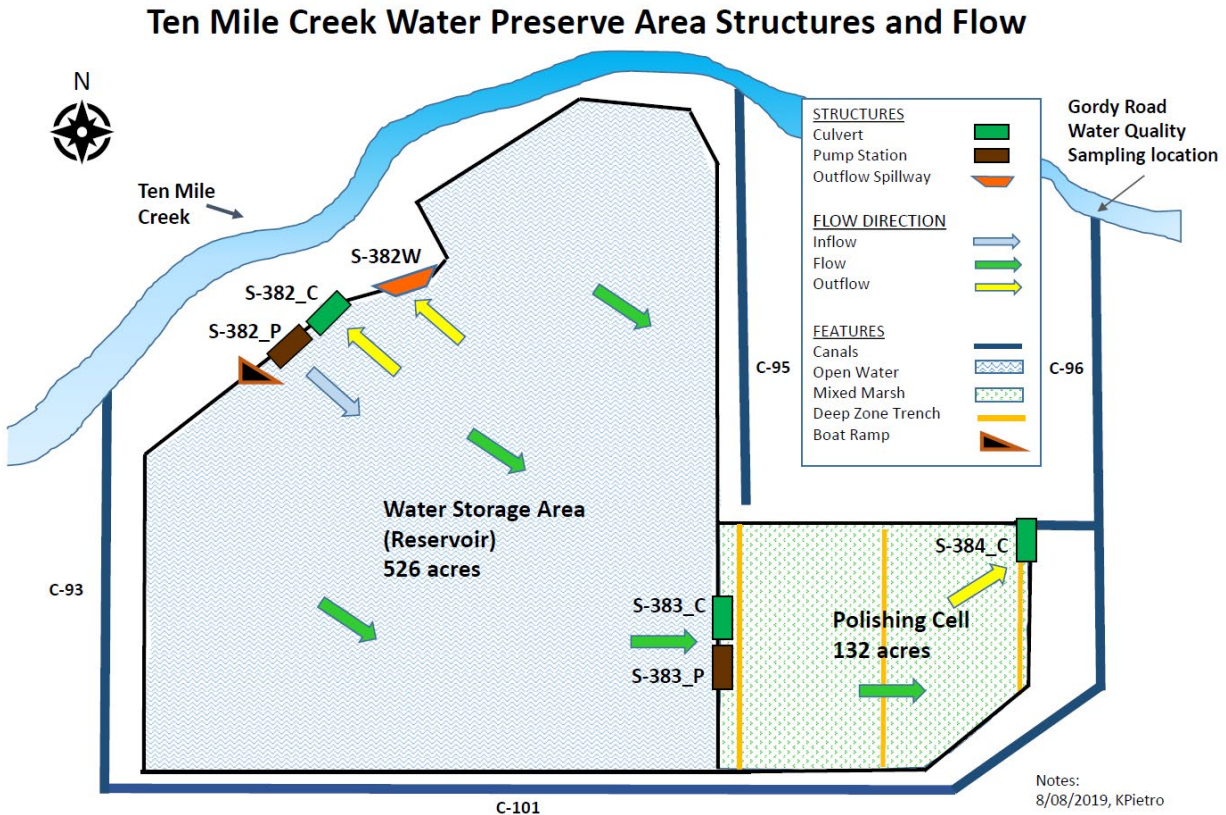


Figure 7-6. Ten Mile Creek Project components.

Lakeside Ranch Stormwater Treatment Area

Located in western Martin County bordering Lake Okeechobee, the Lakeside Ranch STA plays a crucial role in restoring the Lake Okeechobee watershed by improving the quality of water flowing into the lake. The wetland area treats stormwater runoff from the Taylor Creek and Nubbin Slough basins to the north before that runoff enters Lake Okeechobee. The 2,700-acre STA with an effective treatment area of 1,707 acres is a key component of the Lake Okeechobee Watershed Construction Project authorized under the Northern Everglades and Estuaries Protection Program (NEEPP). The Lakeside Ranch STA is designed to reduce total phosphorus loads to Lake Okeechobee. Phase I (cells 1 to 3; **Figure 7-7**) became operational in 2013. Phase II (cells 4 to 8; **Figure 7-7**) included construction of the S-191A Pump Station to assist with flood control and recirculation in response to reduced inflow volumes that resulted in treatment cell dryout, vegetation decline, and performance issues. The project was completed in August 2021.



Figure 7-7. Lakeside Ranch Stormwater Treatment Area components.

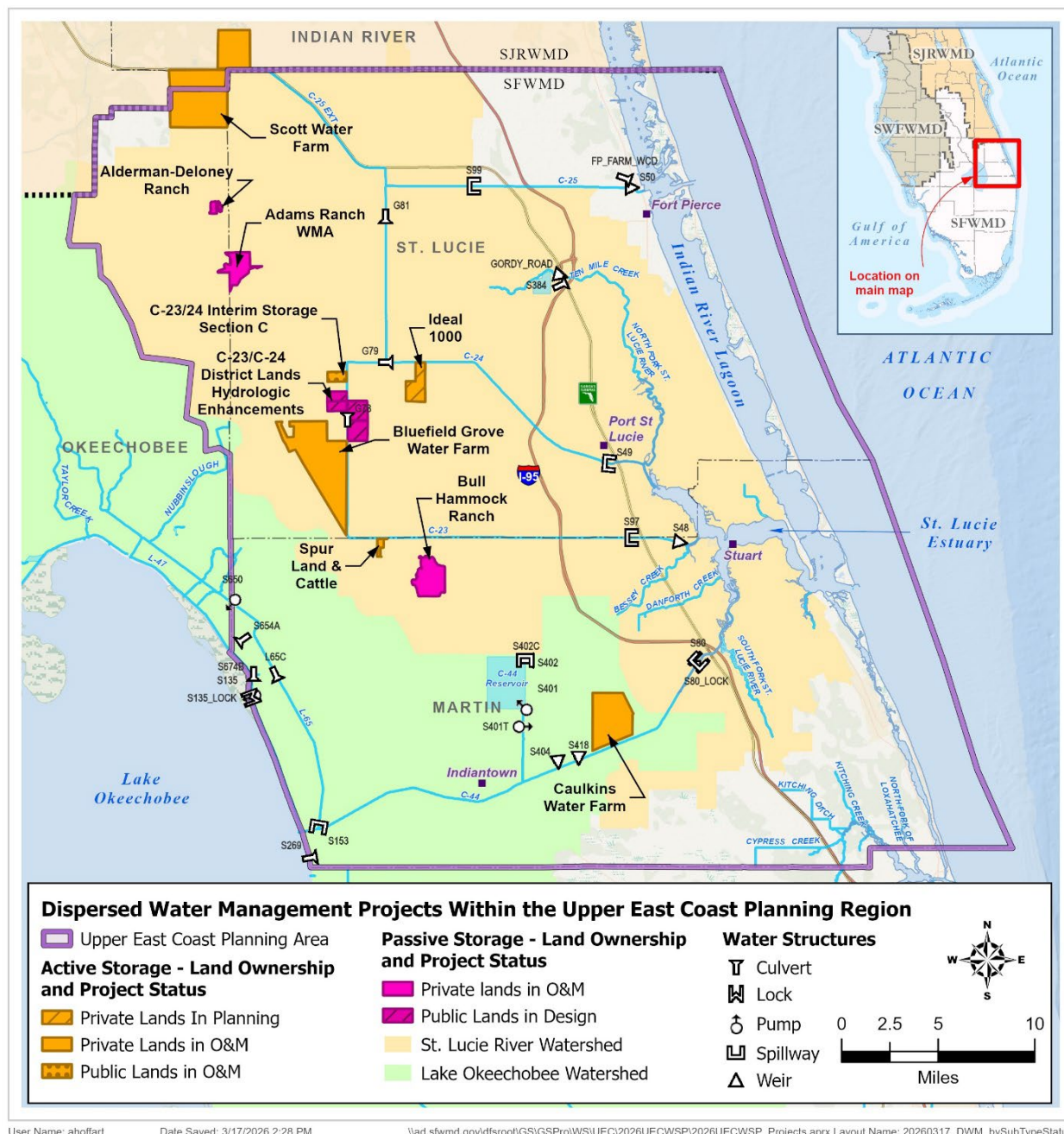
Northern Everglades and Estuaries Protection Program

The 2016 NEEPP (Section 373.4595, F.S.) expands the existing Lake Okeechobee Protection Act with the intent to protect and restore surface water resources as well as achieve and maintain compliance with water quality standards in the Northern Everglades through a phased, comprehensive, and innovative protection program. Legislation requires the completion of protection plans for the Lake Okeechobee watershed, Caloosahatchee River, and St. Lucie River watersheds and estuaries as part of NEEPP. The watershed protection plans build on existing approaches and consolidate restoration efforts throughout the Northern Everglades system. NEEPP requires watershed protection programs to improve the quality, quantity, timing, and distribution of water in the Northern Everglades ecosystem. These measures include reservoirs, Dispersed Water Management Program (DWM) projects, and ASR systems, which primarily benefit stormwater attenuation and water quality while providing ancillary water supply benefits.

More details about specific projects and activities under the watershed protection plans are included in annual updates of the SFER (<https://www.sfwmd.gov/sfer>). Further information about NEEPP can be found on the SFWMD webpage <https://www.sfwmd.gov/our-work/wpps>.

Dispersed Water Management Program

Since 2005, the SFWMD has been working with a coalition of government agencies, nongovernmental organizations, farmers, ranchers, and researchers to enhance opportunities for storing excess surface water on private and public lands, collectively known as the DWM, under NEEPP. DWM projects are constructed and managed primarily to attenuate wet season water releases and improve water quality entering Lake Okeechobee and the coastal estuaries, with ancillary benefits including increased opportunities for groundwater recharge, hydrological enhancement, nutrient reduction, and habitat improvement. In some cases, DWM projects with storage features are constructed and operated to offset irrigation demands and other water-related needs of the system. However, because this is shallow storage, the volume of water is insufficient to be considered a reliable water source during the dry season. During Water Year 2025, 28 projects were operational in the Northern Everglades watersheds, including both DWM and other regional restoration projects that provide water storage benefits. Collectively, these projects provided an estimated storage volume of approximately 192,521 acre-feet across the Northern Everglades region (Ollis et al. 2026). There are several DWM projects in the UEC Planning Area (**Figure 7-8**).



SUMMARY OF WATER RESOURCE DEVELOPMENT PROJECTS

Water resource development projects serve various purposes in support of managing, protecting, restoring, and enhancing the resiliency of water resources. Benefits of the water resource development projects discussed in this chapter include the following:

- ◆ Restoration of natural resources and prevention of further loss
- ◆ Support for development of MFL prevention or recovery strategies
- ◆ Protection of existing water supplies through better resource management and continued implementation of regional resource monitoring
- ◆ Water conservation as a demand management tool to expand current water supplies
- ◆ Improved understanding of the hydrogeologic system that provides traditional and alternative water supplies for the UEC Planning Area
- ◆ Increased future supply availability

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Water Supply Development Projects

This chapter summarizes the proposed water supply development projects anticipated to meet water needs in the Upper East Coast (UEC) Planning Area of the South Florida Water Management District (SFWMD or District) for the 2024 to 2050 planning period. Water supply development projects include the planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use and are proposed by water users to meet existing and future demands. Water users, such as Public Supply (PS) utilities, local and tribal governments, and self-suppliers as well as Commercial/Industrial/Institutional (CII) and Agriculture (AG) users are primarily responsible for water supply development projects. For this *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update), alternative water supply (AWS) development projects have been proposed by PS utilities that rely on nontraditional water sources.

TOPICS

- ◆ Projects Identified for This Plan Update
- ◆ Cooperative Funding Program
- ◆ Summary of Water Supply Development Projects

Water use permits typically are required for most water supply development projects. Each proposed use of water must meet the conditions for permit issuance found in Section 373.223, Florida Statutes (F.S.), and the implementing criteria found in Chapter 40E-2, Florida Administrative Code (F.A.C.). Further information is provided in the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026). Local economic conditions and population growth may affect when water supply development projects are required and whether water use permits need to be obtained or modified to accommodate growing demand.

PROJECTS IDENTIFIED FOR THIS PLAN UPDATE

Projects proposed for inclusion in this plan update were evaluated based on factors discussed in the previous section, the level of detail (e.g., project scope, cost, schedule) provided by the water users, and whether the project is expected to create new water supply, possibly increasing permit allocation(s).

Users are not required to select a project included in this 2026 UEC Plan Update. In accordance with Section 373.709(7), F.S., nothing contained in the water supply development component of a regional water supply plan should be construed to require local governments, government-owned or privately owned water utilities, special districts, self-suppliers, multijurisdictional water supply entities, or other water suppliers to select an identified project. In addition, an anticipated project may not be implemented or may be deferred if there is insufficient need. The proposed water supply development projects included in the plan are considered feasible and likely to be implemented and are incorporated in the water resource evaluations that help guide regional strategies through the 2050 planning horizon.



Public Supply

PS demand includes all potable uses served by public and private utilities with an allocation of 0.10 million gallons per day (mgd) or greater. In 2024, PS demand in the UEC Planning Area was met by fresh groundwater from the surficial aquifer system (SAS) (27%) and brackish groundwater from the Floridan aquifer system (FAS) (73%) as shown in **Figure 5-2**. The PS average net (finished) water demand is projected to grow from 68.83 mgd in 2024 to 99.83 mgd by 2050, a 45% increase. A combination of existing and additional capacity created by water supply development projects will be used to meet the increased demand.

In addition to meeting demands, utilities may propose water supply development projects to address specific situations, such as accommodating a change in treatment process or source or optimizing distribution systems to match future demand locations. Although reclaimed water for irrigation and conservation of water do not produce potable water, they are demand management options to meet nonpotable demand or extend existing potable supplies to meet future demand. Proposed projects are listed in the utility profiles contained in **Appendix B** and summarized at the end of this chapter. In addition to proposed water supply development projects, each profile includes population and demand projections (**Chapter 2, Appendix A**), permitted water allocations, and permitted treatment capacities for potable water and reclaimed water. Based on planning-level screening, water supply projects are identified in this plan update to meet 2050 projected demands and generally have a likelihood of being permittable. However, each proposed use of water must meet the conditions for permit issuance found in Section 373.223, F.S., and the implementing criteria found in Chapter 40E-2, F.A.C., and will be reviewed on an application-by-application basis.

In the UEC Planning Area, 8 PS utilities have proposed 14 new potable projects. Some of these projects are proposed for the purpose of source diversification or to implement changes in treatment technology, and some are proposed by utilities that require additional treatment capacity to meet future demands as discussed further below. In total, the proposed PS projects could create 45.50 mgd of additional potable water treatment capacity (**Table 8-1**). Combined with existing capacity (107.72 mgd), the total treatment capacity, including the proposed projects, will exceed the projected 2050 PS total net (finished) demand of 99.83 mgd.

Table 8-1. Number and treatment capacity of potable and nonpotable water supply development projects proposed by utilities for construction/implementation between 2024 and 2050.

Water Source	Number of Projects ^{a,b}	Capacity (mgd)	Cost (\$ million)
Potable Projects			
Surface Water/Stormwater	1	10.00	\$172.60
Floridan Aquifer System	12	33.00	\$394.30
Potable Reuse	1	2.50	\$5.00
Potable Total	14	45.50	\$571.90
Nonpotable Projects			
Reclaimed Water	9	24.85	\$539.56
Surface Water/Stormwater Storage	3	10.00 ^c	\$27.22
Aquifer Storage and Recovery	1	10.00 ^c	\$14.00
Nonpotable Total	13	24.85	\$580.78
UEC Planning Area Total	27	70.35	\$1,152.68

mgd = million gallons per day.

^a Based on planning-level screening, water supply projects are identified in this plan update to meet 2050 projected demands and have a likelihood of being permitted. However, each proposed use of water must meet the conditions for permit issuance found in Section 373.223, F.S., and the implementing criteria found in Chapter 40E-2, F.A.C., and will be reviewed on an application-by-application basis.

^b Projects designed to expand distribution or storage of water and projects to repair or replace existing facilities are not included because they do not generate new water treatment capacity. Wellfield expansion projects are not included if they do not increase the capacity for production.

^c This is the estimated recoverable storage capacity, not new water supply treatment capacity.

In order to meet the projected 2050 demands, 5 of the 15 PS utilities in the UEC Planning Area need to modify their permitted allocations, construct projects, and/or establish bulk agreements with nearby utilities: Indiantown (0.34 mgd), Harbour Ridge (0.06 mgd), Port St. Lucie (2.23 mgd), Spanish Lakes Fairways (0.07 mgd), and St. Lucie County Utilities (8.62 mgd). The minimum amount of water needed by these utilities to meet their shortfall totals is 11.32 mgd.

Two PS utilities will need to modify their permitted allocations to meet the projected 2050 demands. Harbour Ridge will need to request an increase in the permitted allocation from the SAS prior to renewing its water use permit in 2029, and Spanish Lakes Fairways will need to request an increase in the permitted allocation from the SAS prior to renewing its water use permit in 2044 as projected demands exceed the permitted allocation.

For the three utilities that need water supply development projects to create additional treatment capacity to meet their 2050 demands, the following projects have been proposed:

- ◆ Indiantown plans to construct a reverse osmosis (RO) water treatment plant (WTP) that will provide up to 4.00 mgd of additional water from the FAS and will be expandable to 6.00 mgd.
- ◆ Port St. Lucie plans to construct two RO WTPs that will provide a total of 20.00 mgd of additional water from the FAS and stormwater.
- ◆ St. Lucie County Utilities plans to construct two RO WTPs that will provide up to 8.00 mgd of additional water from the FAS.

The following potable water supply projects have been proposed by utilities that can meet their 2050 demand but want to diversify their water sources or improve current treatment methods to increase capacity:

- ◆ Martin County Utilities plans to construct FAS wells and rehabilitate and expand two RO WTPs adding 3.60 mgd of treatment capacity and has proposed one potable reuse pilot project.
- ◆ South Martin Regional Utility plans to construct an FAS well and expand its RO WTP adding 2.20 mgd of treatment capacity.
- ◆ Stuart plans to construct an FAS well and expand its RO WTP adding 0.50 mgd of treatment capacity.
- ◆ St. Lucie West Services District plans to construct a new FAS well and expand its RO WTP adding 1.20 mgd of treatment capacity.
- ◆ Fort Pierce Utility Authority plans to construct 2.50 mgd of RO treatment capacity for potable reuse.



Aquifer Storage and Recovery

In addition, PS and wastewater utilities have proposed 13 nonpotable water supply development projects using reclaimed water, surface water, stormwater, and aquifer storage and recovery (ASR) that could contribute up to 24.85 mgd of additional water supply treatment capacity (**Table 8-1**). The proposed nonpotable water projects include new construction and expansion of reclaimed water production facilities, new ASR wells, and stormwater storage projects. Although projects involving new nonpotable water distribution lines and other

infrastructure may qualify for the Cooperative Funding Program (described later in this chapter), they are not included as projects generating new water supply capacity. The individual reuse inventory reports submitted to the Florida Department of Environmental Protection (FDEP) for the year 2024 (FDEP 2024) indicated 56% of wastewater generated in Martin County and 24% in St. Lucie County was reused for irrigation, industrial applications, and groundwater recharge.

Table 8-2. Proposed potable and nonpotable water supply development projects in the UEC Planning Area (2024 to 2050).

County	Potable Utility Name	Project Name ^a	Project Description	Project Capacity (mgd)	Total Capital (\$M)	Estimated Completion Date
Potable – Surface Water						
St. Lucie	Port St. Lucie	New Discovery 10.00 mgd Excess Stormwater RO WTP	Construct new 10.00 mgd RO WTP for treatment of excess stormwater from the C-23 Canal via McCarty Ranch aboveground impoundments for potable water use.	10.00	\$172.60	2037
Potable – SAS						
Martin	Indiantown	Indiantown SAS Wellfield Improvements	Rehabilitate and replace existing SAS wells.	0.00 ^b	\$3.00	2026
Potable – FAS						
Martin	Indiantown	New Indiantown Deep Injection Well	Construct 18.65 mgd dual purpose deep injection well for new FAS RO WTP and WWTF.	0.00 ^b	\$20.00	2026
	Indiantown	New Indiantown 4.00 mgd FAS RO WTP and FAS Wellfield	Construct new 4.00 mgd RO WTP (expandable to 6.00 mgd) at Indiantown WTP site and construct four FAS wells.	4.00	\$60.00	2028
	Indiantown	Indiantown RO WTP 2.00 mgd Expansion	Expand Indiantown RO WTP from 4.00 to 6.00 mgd.	2.00	\$15.00	2035
	Martin County Utilities	North Jensen Beach FAS Well NRO-5 and Raw Water Main	Construct one FAS well and raw water main.	0.00 ^b	\$6.60	2028
	Martin County Utilities	North Jensen 0.50 mgd RO WTP Expansion	Rehabilitate and expand RO WTP to increase treatment capacity by 0.50 mgd to a total of 9.30 mgd.	0.50	\$3.40	2028
	Martin County Utilities	Tropical Farms FAS Well TFRO-8 and Raw Water Main	Construct one FAS well and raw water main.	0.00 ^b	\$6.00	2028
	Martin County Utilities	Tropical Farms 4.60 mgd RO WTP Expansion and Decommission 1.50 mgd Nanofiltration WTP	Expand Tropical Farms RO WTP from 9.20 to 13.80 mgd; decommission 1.50 mgd nanofiltration.	4.60	\$40.00	2028
	SMRU	South Martin Regional Utility 2.20 mgd Expansion of RO WTP	Expand RO WTP and add one FAS well.	2.20	\$3.50	2037
	Stuart	Stuart FAS Well 2 and Raw Water Main	Construct one FAS well and raw water main.	0.00 ^b	\$8.00	2026
	Stuart	Stuart Expand RO WTP by 0.50 mgd	Expand RO WTP.	0.50	\$4.50	2026

Table 8-2. Continued.

County	Potable Utility Name	Project Name ^a	Project Description	Project Capacity (mgd)	Total Capital (\$M)	Estimated Completion Date
Potable – FAS (Continued)						
St. Lucie	Port St. Lucie	Western FAS Well F-19	Construct one FAS well.	0.00 ^b	\$3.29	2025
	Port St. Lucie	Western Raw Water Main James E. Anderson FAS	Construct raw water mains to connect FAS wells F-37, F-38, and F-39 to James E. Anderson RO WTP.	0.00 ^b	\$10.19	2025
	Port St. Lucie	Prineville FAS RO WTP Deep Injection Well	Construct one deep injection well for Prineville RO WTP.	0.00 ^b	\$17.00	2026
	Port St. Lucie	James E. Anderson WTP FAS Wells F-37, F-38, and F-39	Construct three FAS wells.	0.00 ^b	\$17.53	2027
	Port St. Lucie	New 10.00 mgd Discovery FAS RO WTP	Construct new Discovery FAS RO WTP.	10.00	\$89.90	2029
	Port St. Lucie	Discovery 5 FAS Wells and Raw Water Main	Construct five FAS wells and raw water mains for new Discovery RO WTP.	0.00 ^b	\$61.36	2029
	Port St. Lucie	Discovery FAS RO WTP Deep Injection Well	Construct one deep injection well for Discovery FAS RO WTP.	0.00 ^b	\$9.35	2031
	St. Lucie County Utilities	New Central County 2.0 mgd RO WTP and FAS Wells – Phase 1	Construct new 2.00 mgd RO WTP, three FAS wells, and raw water mains.	2.00	\$46.00	2027
	St. Lucie County Utilities	New North County Regional WTP 2.0 mgd RO and FAS Wells – Phase 1	Construct new 2.00 mgd RO WTP and FAS wells.	2.00	\$56.00	2027
	St. Lucie County Utilities	North County Regional RO WTP 2.00 mgd Expansion – Phase 2	Expand RO WTP by 2.00 mgd for a total of 4.00 mgd; construct two FAS wells and raw water mains.	2.00	\$20.00	2033
	St. Lucie County Utilities	Central County RO WTP 2.00 mgd Expansion – Phase 2	Expand RO WTP by 2.00 mgd for a total of 4.00 mgd; construct two FAS wells and raw water mains.	2.00	\$20.00	2046
	St. Lucie West Services District	St. Lucie West Services District 1.20 mgd RO WTP Expansion, FAS Well, and Deep Injection Well	Expand RO WTP by 1.20 mgd for a total of 4.80 mgd; construct one FAS well and one deep injection well.	1.20	\$36.00	2028
Potable – Reclaimed Water						
Martin	Martin County Utilities	Tropical Farms WWTF Advanced Wastewater Treatment Pilot Project	Conduct pilot-scale testing to evaluate the feasibility of achieving sustainable indirect and direct potable reuse levels of treatment in compliance with FDEP regulations.	0.00 ^b	\$1.00	2028
St. Lucie	FPUA	2.50 mgd Mainland WWTF Potable Reuse RO Treatment Train	Construct new 2.50 mgd RO treatment train for potable reuse.	2.50	\$5.00	2040

Table 8-2. Continued.

County	Potable Utility Name	Project Name ^a	Project Description	Project Capacity (mgd)	Total Capital (\$M)	Estimated Completion Date
Nonpotable – Reclaimed Water						
Martin	Indiantown	Indiantown WWTF Rehabilitation and 1.25 mgd Expansion	Rehabilitate existing 0.75 mgd WWTF and expand by 0.45 to 1.20 mgd, designed to meet the BMAP requirements of the St. Lucie River Estuary, with Class 1 reliability, a prerequisite for producing public access reuse water.	01.25	\$22.50	2026
	Indiantown	Indiantown WWTF Improvements to Provide 1.20 mgd of Public Access Irrigation	Rehabilitate storage, distribution, and other infrastructure at the Indiantown WWTF to distribute 1.20 mgd of public access irrigation.	0.00 ^b	\$2.50	2026
	SMRU	Expand WWTF by 0.20 mgd	Expand reclaimed water treatment capacity by 0.20 mgd.	0.20	\$1.26	2026
St. Lucie	FPUA	Mainland WWTF 2.50 mgd Expansion – Phase 1	Expand reclaimed water treatment facility adding 2.50 mgd.	2.50	\$2.50	2035
	FPUA	3.20 MG Storage Tank for Supplemental Reclaimed Water Supply	Construct 3.20 MG storage tank for supplemental reclaimed water supply.	0.00 ^b	\$3.00	2035
	FPUA	Mainland WWTF 2.50 mgd Expansion – Phase 2	Expand reclaimed water treatment facility adding 2.50 mgd.	2.50	\$2.50	2050
	Port St. Lucie	Glades WWTF 12.00 mgd Deep Injection Well	Construct 12.00 mgd deep injection well.	0.00 ^b	\$16.00	2027
	Port St. Lucie	Westport to Glades 6.00 mgd Force Main	Construct reclaimed water main extension.	0.00 ^b	\$17.51	2028
	Port St. Lucie	Glades WWTF 12.00 mgd High Service Pump	Construct additional high service pump capacity.	0.00 ^b	\$6.50	2031
	Port St. Lucie	Glades WWTF 12.00 MG Storage	Construct 12.00 MG storage facility.	0.00 ^b	\$32.00	2031
	Port St. Lucie	Glades 12.00 to 24.00 mgd WWTF Expansion	Expand reclaimed water treatment facility by 12.00 mgd to a total treatment capacity of 24.00 mgd.	12.00	\$400.00	2031
	Port St. Lucie	Far West Reclaimed Water Main	Construct reclaimed water main extension.	0.00 ^b	\$6.60	2036
	St. Lucie County Utilities	Central County 0.50 mgd Modification Tropicana Industrial WWTF and 1.50 mgd Expansion to Create 2.00 mgd Reclaimed Water Capacity – Phase 1	Phase 1 modification and expansion of Tropicana Industrial WWTF increasing total combined treatment capacity by 2.00 mgd.	2.00	\$36.00	2027

Table 8-2. Continued.

County	Potable Utility Name	Project Name ^a	Project Description	Project Capacity (mgd)	Total Capital (\$M)	Estimated Completion Date
Nonpotable – Reclaimed Water (Continued)						
St. Lucie (Continued)	St. Lucie County Utilities	Holiday Pines WWTF 0.60 mgd to 1.20 mgd Expansion – Phase 2	Expand Holiday Pines WWTF from 0.60 mgd to 1.20 mgd.	0.60	\$24.80	2028
	St. Lucie County Utilities	Holiday Pines WWTF Expansion from 1.20 to 3.00 mgd – Phase 3	Expand Holiday Pines WWTF by 1.80 mgd from 1.20 to 3.00 mgd.	1.80	\$30.00	2030
	St. Lucie County Utilities	Central County WWTF Expansion from 2.00 to 4.00 mgd – Phase 2	Expand the Central County WWTF from 2.00 to 4.00 mgd.	2.00	\$20.00	2036
Nonpotable – Surface Water Storage						
St. Lucie	Port St. Lucie	Area 7A – 730 Acre Storage Component of McCarty Ranch Project Capturing Excess Stormwater from C-23 Canal	Construct 730-acre aboveground impoundment to capture excess water from the C-23 Canal.	0.00 ^b	\$10.40	2025
	Port St. Lucie	Dredging of McCarty Ranch South Lake Capturing Excess Stormwater from the C-23 Canal	Dredge McCarty Ranch South Lake to prepare for future Discovery surface water RO WTP, including culverts, berm construction, and stormwater pumping station with storage of excess stormwater from the C-23 Canal.	0.00 ^b	\$6.20	2030
	Port St. Lucie	Area 7B – 730 Acre Storage Component of McCarty Ranch Project Capturing Excess Stormwater from C-23 Canal	Construct 730-acre aboveground impoundment to capture excess stormwater from the C-23 Canal.	0.00 ^b	\$10.62	2032
Nonpotable – ASR Storage						
St. Lucie	Port St. Lucie	McCarty Ranch ASR Wells Initial Construction and Testing – Phase 1	Construct and test ASR well(s) on the McCarty Ranch site capturing and storing excess stormwater from the C-23 Canal.	0.00	\$10.90	2035
	Port St. Lucie	McCarty Ranch ASR Wells 10.00 mgd Storage – Phase 2	Construct ASR wells.	10.00	\$14.00	2040

ASR = aquifer storage and recovery; BMAP = Basin Management Action Plan; FAS = Floridan aquifer system; FDEP = Florida Department of Environmental Protection; FPUA = Fort Pierce Utilities Authority; MG = million gallons; mgd = million gallons per day; RO = reverse osmosis; SAS = surficial aquifer system; SMRU = South Martin Regional Utility; UEC = Upper East Coast; WTP = water treatment plant; WWTF = wastewater treatment facility.

^a Based on planning-level screening, water supply projects are identified in this plan update to meet 2050 projected demands and have a likelihood of being permitted. However, each proposed use of water must meet the conditions for permit issuance found in Section 373.223, F.S., and the implementing criteria found in Chapter 40E-2, F.A.C., and will be reviewed on an application-by-application basis.

^b The project adds withdrawal, distribution, or storage capacity but does not increase the overall treatment capacity.

Domestic Self-Supply

Domestic Self-Supply (DSS) includes potable water used by households served by small utilities (less than 0.10 mgd) or self-supplied by private wells. DSS average net (finished) demands in the UEC Planning Area are projected to decrease from 6.23 mgd in 2024 to 3.59 mgd in 2050 due to expansion of PS utility service areas to serve current DSS areas. All current and future needs in this use category are expected to be met from private wells using fresh groundwater from the SAS. As such, no water supply development projects were proposed for this use category.

Agriculture



AG water use includes self-supplied water used for crop irrigation, greenhouses, nurseries, livestock watering, pasture irrigation, and aquaculture. AG is the largest water use category in the UEC Planning Area and is projected to remain so over the planning horizon despite a lower demand in 2050 than in 2024. Gross AG water demand is projected to decrease by 12%, from 156.77 mgd in 2024 to 138.52 mgd in 2050, and irrigated acreage is projected to decrease by 10% (9,130 acres). **Chapter 2** and **Appendix A** provide more information about AG water use and projected demands.

The majority of AG water demand in the UEC Planning Area is supplied by fresh surface water and groundwater. Water availability from most surface water and groundwater sources is limited by regulatory protections (**Chapter 4**).

Water supply development opportunities for AG may be available in the future by capture and use of on-site stormwater through the use of tailwater recovery systems and reservoirs as well as blending brackish groundwater with surface water. The storage and use of reclaimed water may be possible for a limited number of crops when meeting food safety and market standards, but there are limited reclaimed water sources near AG areas in the region. More efficient irrigation systems could reduce the amount of water needed to meet future crop demands; however, implementation of such systems can be economically and technically challenging. No specific water supply development projects for this category were provided or identified for this 2026 UEC Plan Update.

Continued use of best management practices (BMPs) promotes water conservation (**Chapter 3**). The Florida Department of Agriculture and Consumer Services (FDACS) develops and adopts (by rule) agricultural BMPs addressing water quality. Some BMPs contain an implicit water conservation component. Growers who enroll in the FDACS BMP program and implement the BMPs demonstrate their commitment to water resource protection, have a presumption of compliance with state water quality standards, and are eligible for technical and financial assistance towards meeting water resource protection goals.

Commercial/Industrial/Institutional

The CII water use category includes self-supplied water associated with the production of goods or provision of services by commercial, industrial, and institutional establishments. Water demands for CII in the UEC Planning Area are met primarily using traditional supplies, such as fresh surface water and groundwater and, to a limited extent, reclaimed water. The projected average gross demand for this category is estimated to be 0.71 mgd by 2050, which is a slight increase from 2024 demands (0.55 mgd).

Although traditional water supplies generally are considered adequate to meet the relatively small demands projected for CII, AWS options should be considered based on local conditions. If reclaimed water is available to meet existing and/or new CII demands, the feasibility of such opportunities will be evaluated through the water use permitting process. No specific water supply development projects for this category were provided or identified for this 2026 UEC Plan Update.

Landscape/Recreational

The Landscape/Recreational (L/R) category includes self-supplied water used to irrigate golf courses and other public access areas, such as sports fields, parks, cemeteries, roadway medians, and land managed by homeowners' associations and commercial developments. Irrigation supplies for this category include groundwater, surface water from local canals or stormwater management system ponds, and reclaimed water. In the UEC Planning Area, L/R average gross demand is projected to increase from 46.04 mgd in 2024 to 56.58 mgd in 2050. The projected increase in growth for this category is expected to be partially met through currently proposed reclaimed water projects. Reclaimed water is used to meet approximately 19.2% of the irrigation demand for L/R.



Reclaimed water treatment capacity increases planned by wastewater treatment utilities indicate substantial volumes of additional reclaimed water will be made available in the future. More information can be found in **Chapter 5** and **Appendix E**. Reclaimed water projects proposed by utilities are expected to generate 24.85 mgd of additional reclaimed water treatment capacity by 2050 (**Table 8-1**). In addition to the planned expansion of reclaimed water supplies to proposed L/R land uses, this additional volume may provide opportunities to convert some existing uses of traditional fresh water supplies to reclaimed water. No specific water supply development projects for L/R were provided or identified for this 2026 UEC Plan Update.

Power Generation

The Power Generation (PG) water demand includes use of groundwater, fresh surface water, or reclaimed water for thermoelectric power generation facilities. Currently, there are three PG facilities in the UEC Planning Area: Martin Power Plant, Treasure Coast Energy Center, and St. Lucie Nuclear Plant. The Martin Power Plant uses fresh water from the SAS for processing

water and from the C-44 Canal for cooling pond makeup water. The Treasure Coast Energy Center uses groundwater from the FAS and plans to utilize reclaimed water as the primary source when it becomes available from the Fort Pierce Utility Authority (FPUA) Mainland Water Reclamation Facility in 2026. The St. Lucie Nuclear Plant uses potable water from FPUA for processing water and seawater for cooling water.

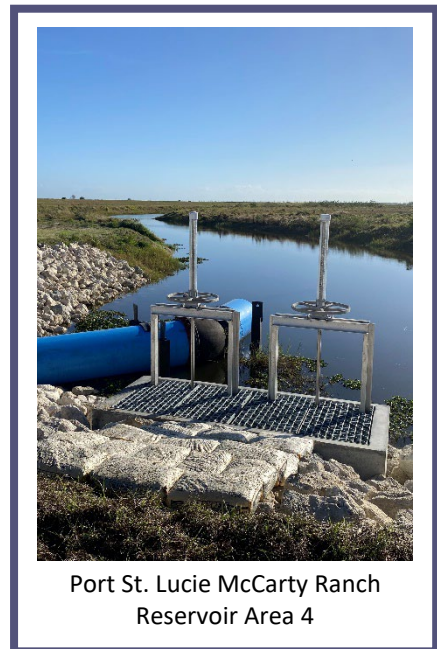
Demand for PG is projected to decrease from 21.11 mgd in 2024 to 16.42 mgd in 2050, based on demand estimates provided by power generation facility staff as described further in **Appendix A**. A portion of the existing demand from the FAS, 1.50 mgd in 2024, will be offset with reclaimed water beginning in 2026 at the Treasure Coast Energy Center. Because the availability of fresh water is limited in the UEC Planning Area, AWS sources may be the most feasible options to meet future PG demands if a new use is proposed. No specific water supply development projects for this category were provided or identified for this 2026 UEC Plan Update.

COOPERATIVE FUNDING PROGRAM

Funding for water supply development and water conservation at the local level is the shared responsibility of water suppliers and users. The State of Florida and the water management districts have provided funding to local water users to develop AWS sources and to implement water conservation programs. One funding consideration is that the project must be included in, or consistent with, a regional water supply plan update. Some projects not included in this 2026 UEC Plan Update, but consistent with the plan's goals, may be funded. When the SFWMD deems appropriate, a plan may specifically identify the need for multijurisdictional approaches to projects based on technical, permit, and financial feasibility.

For nearly three decades, the SFWMD has provided cost-share funding to local governments, special districts, utilities, homeowners' associations, water users, and other public and private organizations for AWS and water conservation projects consistent with the SFWMD's core mission. In 2016, these efforts were combined under the Cooperative Funding Program (CFP), which provides financial incentives for local projects that complement ongoing regional restoration, flood control, water quality, and water supply efforts within the District's 16-county jurisdiction.

Each fiscal year, the District's Governing Board will determine the amount of funding, if any, to allocate to the CFP, the project priorities for that year, and the cost share to be allocated. SFWMD staff will review the proposed projects based on guidelines and priorities established by the District's Governing Board. Program funding is subject to approval by the District Governing Board.



Alternative Water Supply

The AWS component of the CFP provides cost-share funding for projects that increase water supply. These projects include development of salt water or brackish water, reclaimed or recycled water, surface water captured during heavy rainfalls, sources made available through addition of new storage capacity, and stormwater (for use by a water use permittee), among others. From Fiscal Year (FY) 2022 through FY2026, the SFWMD provided \$55.3 million in AWS funding for 17 projects located throughout the District. One of these projects is in the UEC Planning Area, generating 2 mgd of AWS capacity.

Water Conservation

The water conservation component of the CFP, formerly known as the Water Savings Incentive Program or WaterSIP, provides cost-share funding for projects that reduce urban and agricultural water use. The SFWMD has provided matching funds up to 50% to water providers and users (e.g., local governments, utilities, agricultural operations, industrial groups, schools, hospitals, homeowners' associations) for water-saving technologies, such as low-flow plumbing fixtures, rain sensors, fire hydrant flushing devices, and other hardware. From FY2022 to FY2026, the SFWMD provided more than \$1.5 million in funding towards 38 water conservation projects, with an estimated water savings of 549.2 million gallons per year (mgy), or 1.5 mgd. In the UEC Planning Area, one of these projects received \$94,125 in funding with an estimated water savings of 6.69 mgy or 0.02 mgd. **Chapter 3** contains additional information on water conservation efforts.

SUMMARY OF WATER SUPPLY DEVELOPMENT PROJECTS

Total average gross water demands within the UEC Planning Area from all sources are projected to increase approximately 16.12 mgd (5.4%) by 2050. Meeting these demands requires continued demand reduction through water conservation and use of diverse water sources, including brackish groundwater (for most uses except DSS), reclaimed water, seasonally available stormwater, and ASR.

To meet their projected 2050 demand, 3 of the 15 PS utilities need to construct projects to increase potable treatment capacity. The total proposed water supply development projects, including projects proposed for source diversification and others proposed to implement changes in treatment technology, could generate 45.50 mgd of new water treatment capacity to meet the 2050 PS net (finished) demand of 99.83 mgd. New treatment capacity consists of 33.00 mgd of potable water produced by FAS projects, 10.00 mgd produced by stormwater, and 2.50 mgd of potable reuse. Summaries of existing and proposed projects and capacities are provided in **Tables 8-2** and **8-3**.

Although users are not required to select a project included in this 2026 UEC Plan Update, in accordance with Section 373.709(7), F.S., development and implementation of water supply projects, including AWS, are critical to ensure an adequate water supply is available for future growth while sustaining the natural systems.

Table 8-3. Existing and proposed increase in water supply treatment capacities (in mgd) for UEC PS utilities.

County	Public Supply Utility	Surface Water/ Stormwater		SAS		FAS		ASR ^a		Reclaimed Water ^b	
		Existing	Proposed ^c	Existing	Proposed ^c	Existing	Proposed ^c	Existing	Proposed ^c	Existing	Proposed ^c
Martin	Indiantown			1.29			6.00			0.75	1.25
	Martin County Utilities			5.30		13.50	5.10			8.66	
	Sailfish Point					0.35				0.12	
	South Martin Regional Utility			6.14		2.00	2.20			1.40	0.20
	St. Lucie Village Parklife			0.17							
	Stuart			6.00		1.50	0.50			4.00	
St. Lucie	Fort Pierce Utilities Authority			12.99		10.33				18.00	7.50
	Harbour Ridge			0.36						0.12	
	Meadowood Community Association			0.43						0.11	
	Port St. Lucie		10.00	8.00		33.65	10.00		10.00	18.00	12.00
	Reserve Community Development District			0.41							
	Spanish Lakes Country Club			0.48						0.16	
	Spanish Lakes Fairways			0.93						0.25	
	St. Lucie County Utilities			0.29			8.00			2.75	10.40
	St. Lucie West Services District					3.60	1.20			2.60	
UEC Planning Area Total		0.00	10.00	42.79	0.00	64.93	33.00	0.00	10.00	56.92	31.35

ASR = aquifer storage and recovery; FAS = Floridan aquifer system; mgd = million gallons per day; SAS = surficial aquifer system; UEC = Upper East Coast.

^a This is the estimated recoverable storage capacity, not new water supply treatment capacity.

^b Reclaimed water is not a potable water source; however, it is an AWS used to reduce reliance on traditional water sources.

^c Distribution lines, wells, ASR wells, stormwater reservoirs, and other infrastructure or storage projects that do not generate additional water supplies are not counted as adding increased water supply treatment capacity.

^d The Holiday Pines WTP will be replaced by the North County Regional WTP by 2030.

REFERENCES

- FDEP. 2024. *OCULUS Electronic Document Management System*. Florida Department of Environmental Protection, Tallahassee, FL. Available online at <https://depedms.dep.state.fl.us/Oculus/servlet/login>.
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Conclusions and Future Direction

This chapter of the *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) provides conclusions and summarizes the future direction for water supply in the UEC Planning Area of the South Florida Water Management District (SFWMD or District). This plan update assesses the water demands and available sources through 2050. Water demand is expected to increase 16.12 million gallons per day (mgd) by 2050, primarily due to increases in urban demands for the Public Supply (PS) and Landscape/Recreational (L/R) water use categories (**Chapter 2**). Water conservation is an important component of integrated water resource management and may reduce, defer, or eliminate the need to expand water supply infrastructure. Water conservation by all users reduces demand and is a component of meeting future water needs (**Chapter 3**).

TOPICS

- ◆ Demand Summary
- ◆ Demand Management: Water Conservation
- ◆ Natural Systems and Resource Protection
- ◆ Water Source Options
- ◆ Coordination
- ◆ Sea Level Rise and Other Changing Hydrologic and Climate Conditions
- ◆ Conclusions

There are several activities planned or under way to meet natural systems water needs, including Comprehensive Everglades Restoration Plan (CERP) projects and other water resource development projects, that can affect (enhance or limit) future water supplies within the UEC Planning Area (**Chapter 7**). In addition, regulatory criteria designed to protect water resources, including water reservations, restricted allocation areas (RAAs), and elements identified in minimum flow and minimum water level (MFL) prevention and recovery strategies, place limitations on water available for allocation (**Chapter 4, Appendix C**).

Guidance in this 2026 UEC Plan Update should be considered when developing water supply options to meet future needs. Statutory requirements, existing conditions, resource constraints (including protection tools and criteria), and the needs of all water users are addressed. All water users are encouraged to continue being prudent with water use decisions and use water efficiently. The SFWMD's recommendations for water supply planning in the UEC Planning Area include continued coordination with agricultural stakeholders, PS utilities, and other water users; protection of natural resources; diversification of water sources; and continued monitoring of water levels and water quality in surface water and groundwater.

DEMAND SUMMARY

Total average annual demand for all water use categories for 2050 is projected to be 315.65 mgd (**Table 9-1**). This is a 5% decrease from the estimated 2024 base year demands (299.53 mgd) and 12% more than the projected 2045 demands in the 2021 UEC Plan Update.

Table 9-1. Change in water use demands in the UEC Planning Area from 2024 to 2050.

Water Use Category	2024 Estimated Use (mgd)	2050 Projected Demand (mgd)	Percent Change	Percent of Projected 2050 Total Demand
PS	68.83	99.83	45.0%	31.6%
DSS	6.23	3.59	-42.4%	1.1%
AG	156.77	138.52	-11.6%	43.9%
CII	0.55	0.71	29.1%	0.2%
L/R	46.04	56.58	22.9%	17.9%
PG	21.11	16.42	-22.2%	5.2%
Total	299.53	315.65	5.4%	100.0%

AG = Agriculture; CII = Commercial/Industrial/Institutional; DSS = Domestic Self-Supply; L/R = Landscape/Recreational; mgd = million gallons per day; PG = Power Generation; PS = Public Supply; UEC = Upper East Coast.

DEMAND MANAGEMENT: WATER CONSERVATION

Water conservation measures and programs for all water use categories offer the potential to reduce the amount of water needed to meet future demands (**Chapter 3**). All water users are urged to implement water conservation measures to reduce demands and defer construction of capital-intensive projects. The following conservation-related actions are recommended:

- ◆ The SFWMD should continue to implement its Comprehensive Water Conservation Program and its Cooperative Funding Program.
- ◆ Agricultural water users are encouraged to install or upgrade to high-efficiency irrigation systems, advanced irrigation technology (controllers), and, when applicable, Florida Automated Weather Network (FAWN) irrigation tools. More efficient irrigation systems could substantially reduce the amount of water needed to meet future crop demands; however, implementation of such systems may be economically and technically challenging.
- ◆ Local governments, utilities, and large water users are encouraged to develop goal-based water conservation plans and proactively implement water-saving measures and programs, such as incentives to promote replacement of older water fixtures with new high-efficiency ones.
- ◆ Local governments should evaluate whether mandated water conservation measures, such as requirements for construction of water-efficient homes and commercial properties, are appropriate for their jurisdiction.

- Local governments should adopt a year-round irrigation ordinance that fully comports with the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, Florida Administrative Code). Although 8 of the 11 local governments have adopted acceptable ordinances, 3 in the UEC Planning area have not yet adopted irrigation ordinances.
- Local governments should develop and adopt ordinances to promote and be consistent with Florida-Friendly Landscaping provisions (Section 373.185, Florida Statutes).
- Public education programs can help instill a year-round conservation ethic. Local and tribal governments and PS utilities are encouraged to provide conservation-related information, messaging, and educational programs in cooperation with the SFWMD.
- All eligible water users are encouraged to seek cost-share funding opportunities that may be available for water conservation projects.
- L/R water users are encouraged to implement advanced irrigation technology, improve landscape design and best management practices, and participate in recognition programs (e.g., Florida-Friendly Landscaping program) to further increase landscape water use efficiency.
- Commercial/Industrial/Institutional (CII) entities are encouraged to use the *Water Efficiency and Self-Conducted Water Audits at Commercial and Institutional Facilities: A Guide for Facility Managers* (SFWMD 2013) to improve water use efficiency and reduce operating costs.

NATURAL SYSTEMS AND RESOURCE PROTECTION



In addition to the protection of water resources, a wide range of activities related to natural systems can affect future water supplies within the UEC Planning Area. Such activities include construction of CERP projects; changes by the United States Army Corps of Engineers (USACE) to regulation schedules for the Everglades, Lake Okeechobee, and other water bodies; and monitoring and research projects. In addition, regulatory criteria designed to protect water resources and related natural systems place limitations on water available for allocation (**Chapter 4, Appendix C**).

CERP includes regional projects to improve the quality, timing, volume, distribution, and delivery of water to the natural system. Future environmental restoration and water resource protection efforts include the following:

- The SFWMD will continue to make progress towards completion of the Indian River Lagoon – South Project, including operation of the C-44 Reservoir and Stormwater Treatment Area (STA) and construction and operation of the C-23, C-24, and C-25 project components and other ecosystem restoration projects.

- ◆ The SFWMD will continue to partner with the USACE on planning for future CERP projects in the Lake Okeechobee and Loxahatchee River watersheds.
- ◆ The SFWMD will continue to synchronize CERP priorities with the USACE using the Integrated Delivery Schedule (USACE 2026), a sequencing strategy for planning, designing, and constructing cost-shared projects as part of the South Florida Ecosystem Restoration Program, based on ecosystem needs, benefits, costs, and available funding.
- ◆ The SFWMD will continue to develop and implement new regulatory rules and criteria, such as water reservations and RAAs, to protect water created for natural systems by CERP and other restoration projects.
- ◆ The SFWMD will continue to monitor natural areas, including the St. Lucie River watershed, Allapattah Flats, Ten Mile Creek Water Preserve Area, Cypress Creek, Taylor Creek, and Lakeside Ranch and provide annual updates in the *South Florida Environmental Report* (<https://www.sfwmd.gov/sfer>) to track the health of the areas and meet regulatory requirements.
- ◆ The SFWMD will continue to implement, review, and update MFL prevention strategy components for the St. Lucie Estuary, as appropriate, in conjunction with future water supply plan updates.

WATER SOURCE OPTIONS

The UEC Planning Area relies primarily on surface water from the C-23, C-24, and C-25 canals as well as Lake Okeechobee and its hydraulically connected canals for AG irrigation, with supplemental water from the Floridan aquifer system (FAS) during dry periods. Fresh groundwater from the surficial aquifer system (SAS) and brackish water from the FAS are the primary sources for PS and other urban and industrial uses (**Chapter 5**).

Withdrawals from the SAS have been maximized in many areas, especially along the coast, due to low aquifer productivity, the rate of recharge, potential impacts to wetlands and existing legal uses, potential for saltwater intrusion into freshwater sources, and proximity to sources of pollution. Therefore, PS utilities are expected to continue increasing use of the FAS to meet future water demands. Additionally, blending brackish water with fresh water from the SAS or surface water is a practical solution to meet some of the region's AG needs when surface water availability is limited or during freezes. However, the suitability of supplementing water from the FAS may depend on the salt tolerance of the intended crops.

Pumps on FAS wells in Martin and St. Lucie counties are restricted, as outlined in the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (SFWMD 2025). In addition, RAA criteria limit surface water withdrawals from the C-23, C-24, and C-25 canals and Lake Okeechobee and its hydraulically connected canals, such as the C-44 (St. Lucie) Canal.

Alternative water supply (AWS) sources, such as reclaimed water, can be used to meet new uses or replace freshwater sources and potable water currently used for irrigation or industrial purposes. Additionally, water storage features, such as reservoirs, aquifer storage and recovery (ASR) wells, and impoundments can capture excess stormwater, groundwater, and surface water during wet-weather periods and provide supplemental water supply for

AG, PS, natural systems, and other needs during dry periods. Seawater is a potential AWS source as membrane technology costs continue to decline. There are two reverse osmosis seawater desalination treatment plants in the Lower East Coast Planning Area operated to supplement potable supply and for emergency back up by the Florida Keys Aqueduct Authority; however, no seawater projects are proposed in this plan update for the UEC Planning Area. Currently, proposed AWS projects, including options such as brackish groundwater, excess stormwater, and potable reuse, are summarized along with traditional water supply development projects in **Chapter 8**.

Sea level rise and other changing hydrologic and climate conditions can affect water resources and water demands in the UEC Planning Area. The District, local governments, and water users need to be diligent in proactively understanding potential impacts, develop tools to predict those potential impacts, and implement resiliency strategies in a coordinated effort.

The following sections offer guidance for consideration by local governments, water users, and the SFWMD as a basis for the future availability of water supply sources in the UEC Planning Area.

Surface Water

Surface water is the primary source for the AG water use category in the UEC Planning Area. Surface water supply sources in/adjacent to the UEC Planning Area include the C-23, C-24, C-25, and C-44 canals and Lake Okeechobee and its hydraulically connected secondary system in the Lake Okeechobee Service Area. Water availability in most of these systems is limited due to RAA criteria or other protective measures. Additional water storage features could enhance water availability. The following actions should be implemented:



C-44 Reservoir and STA

- ◆ The SFWMD and USACE will continue operating the C-44 Reservoir and STA and implementing C-23, C-24, and C-25 components of the CERP Indian River Lagoon – South Project.
- ◆ The USACE completed the rehabilitation of the Herbert Hoover Dike and revised the Lake Okeechobee System Operating Manual (LOSOM), which was finalized in August of 2024. The USACE’s water control plan for LOSOM includes operational flexibility reflecting the multiple objectives of managing Lake Okeechobee water levels. The Environmental Impact Statement upon which LOSOM is based showed water supply performance improvements over the Lake Okeechobee Regulation Schedule 2008 (LORS08). The SFWMD will provide operational guidance to the USACE on a weekly basis and use available storage and conveyance capacity to achieve water supply performance consistent with the state’s water supply authority.
- ◆ Capital projects to increase storage, such as ASR systems and aboveground storage reservoirs, will continue to be studied, designed, and constructed by the SFWMD and the USACE.

- ◆ The SFWMD, working in conjunction with the USACE, conducted and prepared a Section 203 Feasibility Study and Environmental Impact Statement for the North of Lake Okeechobee Storage Reservoir, also known as the Lake Okeechobee Component A Storage Reservoir (LOCAR). LOCAR was authorized in the Water Resources Development Act of 2024 and is currently under the preliminary engineering design phase. Part of CERP, this project will increase the watershed's storage capacity to maintain the basin storage in the original recommended plan for the Lake Okeechobee Watershed Restoration Project and improve the quantity and timing of water deliveries to Lake Okeechobee and the northern estuaries, including the Indian River Lagoon and St. Lucie River Estuary in the UEC Planning Area.
- ◆ Local governments, agricultural operations, and PS utilities are encouraged to create additional storage capacity for excess surface water to use for water supply purposes when technically and economically feasible. Entities also are encouraged to investigate the potential storage capacity in local water control district systems.
- ◆ AG users should consider reducing or augmenting surface water use with other options, such as stormwater and tailwater recovery, the blending of brackish groundwater with fresh water where available, and more efficient water conservation practices.

Groundwater

Groundwater is the primary source of water for potable use in the UEC Planning Area, with approximately 27% of the 2024 PS demand met with fresh groundwater from the SAS and 73% with brackish groundwater from the FAS. The FAS also serves as a supplemental source for many AG stakeholders. Current permitted allocations are sufficient to meet most PS utilities' demands through 2050. Additional allocation of fresh groundwater above currently permitted levels to meet future PS demand in the UEC Planning Area depends on the location and source limitations. Use of reclaimed water and water conservation measures can extend fresh groundwater supplies. The majority of the increase in PS demand through 2050 is expected to be met using the brackish FAS.

Surficial Aquifer System

Withdrawals from the SAS are limited due to MFL rules, RAA criteria, saltwater intrusion concerns, potential impacts on wetlands, proximity to pollution sources, interference with existing legal users, and harm to existing off-site land uses. Potential use of the SAS for new or increased allocations will be evaluated on an application-by-application basis to determine if a project meets water use permitting criteria. The following actions are suggested:

- ◆ Water users are encouraged to reduce reliance on the SAS by diversifying water sources and developing AWS sources to meet future water demands.
- ◆ PS utilities should design wellfield locations, configurations, and pumping regimes to avoid saltwater intrusion, pollution, harm to natural systems, or increased dependence on the regional system (as demonstrated through modeling).
- ◆ PS utilities should consider implementing groundwater recharge systems using reclaimed or excess surface water as an impact offset or substitution credit (see Reclaimed Water section).

- ◆ PS utilities should continue to expand interconnections with other PS utilities for supply reliability and assess existing interconnections to confirm they operate as intended.
- ◆ The SFWMD, United States Geological Survey (USGS), and local governments should continue coordinating saltwater intrusion monitoring efforts to delineate the location and movement of the saltwater interface and identify areas of concern. The SFWMD will continue to update saltwater interface maps every 5 years.
- ◆ The SFWMD will periodically review existing groundwater monitoring networks and enhance them as appropriate.
- ◆ The SFWMD will continue to use the East Coast Surficial Model, a density-dependent groundwater flow and solute transport model to simulate the effects of changing conditions on the SAS, such as changes in demand, sea level rise, and other changing hydrologic and climate conditions.

Floridan Aquifer System

The FAS is expected to be the primary water source to meet increased PS demands. Brackish groundwater from the FAS is considered an AWS source in the UEC Planning Area. The following future actions are suggested:

- ◆ Local water users installing FAS wells are encouraged to collaborate with the SFWMD to gather and share hydrogeologic data. Additional data will increase knowledge of aquifer properties and could support updates to future groundwater modeling efforts of the FAS.
- ◆ The monitoring networks used to assess the SAS and FAS are a hybrid of regional monitoring by agencies, such as the SFWMD and USGS, and monitoring performed by water use permittees as part of their permit requirements. Efforts should be made to identify wells considered critical to long-term monitoring and modeling to ensure they are maintained or replaced as necessary.
- ◆ Local water users, other agencies, local governments, and PS utilities are encouraged to coordinate with the SFWMD to improve ongoing water level and water quality monitoring of the FAS.
- ◆ PS utilities should use an incremental approach when installing and testing production wells due to geologic variability within the FAS. Wellfields should be designed with adequate separation between wells and monitored to prevent overstressing production zones to minimize harmful changes in water quality.
- ◆ The SFWMD will continue to work with FAS stakeholders, including the St. Johns River Water Management District, to further refine assumptions and data used in the East Coast Floridan Model simulations.
- ◆ Landowners are encouraged to plug and abandon free-flowing, inactive, or nonfunctional FAS wells in accordance with existing rules and regulations. This will prevent loss of water via free-flowing wells and contamination of the overlying SAS with more saline water from the FAS.

- ◆ AG water users should consider blending brackish water from the FAS with fresh groundwater or surface water to produce acceptable irrigation-quality water. Blended water supplies depend on crop requirements, water sources, treatment type, volume of stored water, and natural system requirements. These blended supplies require monitoring to ensure acceptable water quality.

Reclaimed Water

In the UEC Planning Area, reclaimed water is used primarily for L/R irrigation, groundwater recharge, power generation (PG) cooling water, and environmental enhancement. Reclaimed water can be used to meet new uses or replace freshwater sources currently used for potable supplies, irrigation, and industrial purposes, thereby decreasing the use of traditional freshwater sources. Opportunities to expand reclaimed water use include the following:



- ◆ Local governments should consider requiring construction of reclaimed water infrastructure in new development projects. Building codes, ordinances, and land development regulations are options to promote reclaimed water use.
- ◆ Local governments should consider establishing mandatory reuse zones where reclaimed water use is required by ordinance. The SFWMD will provide technical assistance to local governments who wish to establish mandatory reuse zones.
- ◆ Local governments and PS utilities should support development of additional reclaimed water lines for green space irrigation (e.g., residential lots, medians, common areas, golf courses) to decrease reliance on traditional freshwater sources.
- ◆ PS utilities should consider using substitution credits and impact offsets (Section 373.250, Florida Statutes) to promote increased availability and distribution of reclaimed water and decreased use of traditional water sources.
- ◆ PS utilities should extend their reclaimed water supply by implementing feasible options, such as increased storage, residential customer metering, tiered rate structures, limiting landscape irrigation frequency for mature landscapes, and interconnects with other reclaimed water utilities.

New Storage Capacity for Surface Water or Groundwater

In the UEC Planning Area, water storage options include reservoirs, ASR wells, and surface water impoundments that capture excess groundwater or surface water for later use. In addition, ASR can be used to store excess potable water and reclaimed water for seasonal or longer-term drought resilience. Proposed projects that develop new storage and create additional water supply may be considered AWS sources. Opportunities for new storage capacity include the following:

- ◆ Surface water storage systems (e.g., reservoirs) can help meet urban, agricultural, and environmental water supply needs.
- ◆ New or retrofitted surface water storage systems for agricultural operations could provide additional water supply for irrigation but may have limited availability during a 1-in-10-year drought.
- ◆ ASR systems can store water during periods of low demand and high-water levels (i.e., during the wet season) for subsequent recovery during dry periods, which could reduce withdrawals from the SAS and FAS wells.



Seawater

The ocean is an important source of water, but desalination is required before seawater can be used for water supply purposes. Where appropriate, PS utilities should consider the feasibility of desalinated seawater from the Atlantic Ocean as an additional water source option for the UEC Planning Area.

COORDINATION

Coordination and collaboration among regional and local government agencies and utility planning entities is essential to ensure the supply of water is sufficient and sustainable to meet urban, agricultural, and environmental needs. Examples of coordination and collaboration activities include the following:

- ◆ Water Supply Facilities Work Plans are due within 18 months of approval of this 2026 UEC Plan Update. Local governments must provide linkages and coordination between the SFWMD's plan update and the water supply-related components of their Comprehensive Plans.
- ◆ The SFWMD will continue to work with the Florida Department of Agriculture and Consumer Services and agricultural stakeholders to provide data for annual updates to the Florida Statewide Agricultural Irrigation Demand simulation for future crop acreage and water demand projections.
- ◆ The SFWMD will continue to coordinate and collaborate with PS utilities, counties, and the USGS to review, recommend improvements, and provide data and analyses for saltwater intrusion monitoring networks.
- ◆ Where wellfields are at risk of saltwater intrusion, the SFWMD will work with PS utilities and counties to identify additional monitoring needs and potential solutions.
- ◆ The SFWMD will coordinate and collaborate with stakeholders on the development and use of regional groundwater and surface water models to evaluate water resource availability.

- ◆ The SFWMD will support the development of multijurisdictional partnerships, where appropriate, to implement programs or projects that benefit a greater number of people than one entity might benefit by itself.
- ◆ The SFWMD will continue to coordinate and collaborate with local governments, PS utilities, and private entities on resiliency efforts and development of adaptive strategies to address sea level rise and other changing hydrologic and climate conditions.
- ◆ The SFWMD will coordinate ongoing activities outside the UEC Planning Area with St. Johns River Water Management District's planning efforts along the District boundaries.

SEA LEVEL RISE AND OTHER CHANGING HYDROLOGIC AND CLIMATE CONDITIONS

Sea level rise and other changing hydrologic and climate conditions could affect water supply sources as well as patterns of water demand. Recommendations related to sea level rise and changing hydrologic and climate conditions include the following:

- ◆ The SFWMD will conduct numerical modeling using the East Coast Surficial Model as part of an overall water supply vulnerability assessment.
- ◆ The SFWMD will continue to investigate sea level rise projection and climate models for use in water supply planning and system operations.
- ◆ The SFWMD will continue to support AWS development and promote water conservation to increase the security and diversity of water sources as withdrawing less water from aquifers helps prevent saltwater intrusion.
- ◆ The SFWMD, USACE, and coastal utilities and municipalities should identify methods to evaluate the consequences of sea level rise and other changing hydrologic and climate conditions and use them to assess the cumulative impacts to existing structures, water resources, and legal users.
- ◆ The SFWMD will continue to provide technical assistance to local governments as they develop sea level rise and changing hydrologic and climate conditions adaptation strategies.
- ◆ Water users should periodically review irrigation schedules and consider installing weather-based controllers.
- ◆ PS utilities should plan for sea level rise and other changing hydrologic and climate conditions by reducing withdrawals from the SAS by using the FAS, employing water conservation measures to reduce overall water demands, and expanding reuse programs to reduce potable and self-supplied SAS withdrawals for irrigation.
- ◆ Local governments, PS utilities, and private entities should coordinate on resiliency efforts and development of adaptive strategies to address sea level rise and other changing hydrologic and climate conditions (e.g., constructing defensive barriers, improving infrastructure, rezoning property threatened by inundation or transferring it to public ownership).

CONCLUSIONS

Building on the findings and conclusions of previous UEC water supply plan updates, this 2026 UEC Plan Update assesses water supply demand and available sources through 2050. This plan update concludes that future water needs of the region during average and 1-in-10-year drought conditions can be met through the 2050 planning horizon with existing water supply infrastructure, appropriate management, conservation, and implementation of projects identified herein.

Meeting future water needs through 2050 in the UEC Planning Area depends on the following:

- ◆ Construction of potable water supply development projects by PS utilities.
- ◆ Implementation of CERP, restoration strategies, and other water resource development projects to provide additional storage.
- ◆ Implementation of LOSOM and construction of CERP capital projects identified in MFL prevention and recovery strategies.

Successful implementation of this 2026 UEC Plan Update requires close collaboration with agricultural interests, local and tribal governments, PS utilities, and other stakeholders. Coordination efforts should ensure that water resources in the UEC Planning Area continue to be prudently managed and available to meet future demands while also protecting natural systems.

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Glossary

1-in-10-year drought A year in which below normal rainfall occurs with a 90% probability of being exceeded in any other year. It has an expected return frequency of once in 10 years.

1-in-10-year level of certainty (see *Level of certainty*)

Acre-foot, acre-feet The volume of water that covers 1 acre (43,560 square feet) to a depth of 1 foot. The equivalent of 43,560 cubic feet, 1,233.5 cubic meters, or 325,872 gallons.

Agricultural best management practice (Agricultural BMP) A practice or combination of agricultural practices, based on research, field testing, and expert review, determined to be the most effective and practicable means of improving water quality or quantity while maintaining or even enhancing agricultural production.

Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) A water budget model for calculating irrigation demands that estimates demand based on basin-specific data. The AFSIRS model calculates both net and gross irrigation requirements for average and 1-in-10-year drought irrigation requirements. A crop's net irrigation requirement is the amount of water delivered to the root zone of the crop, while the gross irrigation requirement includes both the net irrigation requirement and the losses incurred in the process of delivering irrigation to the crop's root zone.

Agriculture (AG) Self-supplied water used for commercial crop irrigation, freeze protection, greenhouses, nurseries, livestock watering, pasture, and aquaculture.

Alternative water supply (AWS) Salt water; brackish surface water and groundwater; surface water captured predominately during wet-weather flows; sources made available through the addition of new storage capacity for surface water or groundwater; water that has been reclaimed after one or more public supply, municipal, industrial, commercial, or agricultural uses; the downstream augmentation of water bodies with reclaimed water; stormwater; and, any other water supply source that is designated as nontraditional for a water supply planning region in the applicable regional water supply plan (Section 373.019, Florida Statutes [F.S.]).

Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District (SFWMD Applicant's Handbook) Read in conjunction with Chapter 40E-2, Florida Administrative Code (F.A.C.), the Applicant's Handbook further specifies the general procedures and criteria used by SFWMD staff for review of water use permit applications to ensure water uses permitted by the SFWMD are reasonable-beneficial, do not interfere with existing legal users, and are in the public interest.

Aquifer A geologic formation, group of formations, or part of a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs.

Aquifer storage and recovery (ASR) The underground storage of potable water, stormwater, surface water, fresh groundwater, or reclaimed water, which is injected into an aquifer through wells in accordance with technical and permitting requirements of the Florida Department of Environmental Protection. The aquifer (typically the Floridan aquifer system in South Florida) acts as an underground reservoir for the injected water, reducing water loss to evaporation. The water is injected during the wet season or when water is readily available and stored with the intent to recover it for use during future dry periods.

Aquifer system A heterogeneous body of (interbedded or intercalated) permeable and less permeable material that functions regionally as a water-yielding hydraulic unit and may be composed of more than one aquifer separated at least locally by confining units that impede groundwater movement, but do not greatly affect the hydraulic continuity of the system.

Average rainfall year A year having rainfall with a 50% probability of being exceeded over a 12-month period.

Base condition A specified period of time during which collected data are used for comparison with subsequent data.

Basin There are two types of basins: 1) a groundwater basin is a hydrologic unit consisting of one large aquifer, or several connecting and interconnecting aquifers; and 2) a surface water basin is a tract of land drained by a surface water body or its tributaries.

Below land surface (bls) Depth below land surface regardless of land surface elevation.

Boulder Zone A highly transmissive, cavernous zone of dolomite within the Lower Floridan aquifer used to dispose of secondary-treated effluent from wastewater treatment facilities and concentrate from membrane water treatment plants via deep injection wells.

Brackish water Water with a chloride concentration greater than 250 milligrams per liter (mg/L) and less than 19,000 mg/L.

Canal A manmade waterway used for draining or irrigating land or for navigation by boat.

Capacity The ability to treat, move, or reuse water. Typically, capacity is expressed in millions of gallons per day (mgd).

Central and Southern Florida Project (C&SF Project) A complete system of canals, storage areas, and water control structures spanning the area from Lake Okeechobee to the east and west coasts and from Orlando south to the Everglades. It was designed and constructed during the 1950s by the United States Army Corps of Engineers to provide flood control and improve navigation and recreation.

Commercial/Industrial/Institutional (CII) Self-supplied water associated with the production of goods or provision of services by industrial, commercial, or institutional establishments.

Comprehensive Everglades Restoration Plan (CERP) The federal-state partnership framework and guide for the restoration, protection, and preservation of the South Florida ecosystem. CERP also provides for water-related needs of the region, such as water supply and flood protection.

Confined aquifer An aquifer containing groundwater that is confined under pressure and bounded between substantially less permeable materials such that water will rise in a fully penetrating well above the top of the aquifer. In cases where the hydraulic head is greater than the elevation of the overlying land surface, a fully penetrating well will naturally flow at the land surface without means of pumping or lifting.

Confining unit A body of significantly less permeable material than the aquifer, or aquifers, that it stratigraphically separates. The hydraulic conductivity may range from nearly zero to some value significantly lower than that of the adjoining aquifers and impedes the vertical movement of water.

Conservation (see *Water conservation*)

Consumptive use Any use of water that reduces the supply from which it is withdrawn or diverted.

Control structure An artificial structure designed to regulate the level/flow of water in a canal or other water body (e.g., weirs, dams).

Cubic feet per second (cfs) A rate of flow (e.g., in streams and rivers) equal to a volume of water 1 foot high and 1 foot wide flowing a distance of 1 foot in 1 second. One cfs is equal to 7.48 gallons of water flowing each second.

DBHydro Insights The SFWMD's corporate environmental database, storing hydrologic, meteorologic, hydrogeologic, and water quality data.

Demand The quantity of water needed to fulfill a requirement.

Demand management Reducing the demand for water through activities that alter water use practices, improve efficiency in water use, reduce losses of water, reduce waste of water, alter land management practices, and/or alter land uses.

Dike An embankment to confine or control water, especially one built along the banks of a river or lake to prevent overflow of lowlands; a levee.

Discharge The rate of water movement past a reference point, measured as volume per unit of time (usually expressed as gallons per minute, cubic feet per second, or cubic meters per second).

Disinfection The process of inactivating microorganisms that cause disease. All potable water requires disinfection as part of the treatment process prior to distribution. Disinfection methods include chlorination, ultraviolet radiation, and ozonation.

Disposal Effluent disposal involves the practice of releasing treated wastewater back to the environment using ocean outfalls, surface water discharges, or deep well injection.

Domestic Self-Supply (DSS) Potable water used by households served by small utilities (less than 0.10 mgd) or self-supplied by private wells.

Domestic wastewater Wastewater derived principally from residential dwellings, commercial buildings, and institutions; sanitary wastewater; sewage.

Drainage basin The land area where precipitation ultimately drains to a particular watercourse (e.g., river, stream) or body of water (e.g., lake, reservoir). Drainage basins in South Florida are defined by rule and periodically are redefined to reflect changes in the regional drainage network.

Drawdown 1) The vertical distance between the static water level and the surface of the cone of depression. 2) A lowering of the groundwater surface caused by pumping.

Drought A long period of abnormally low rainfall, especially one that reduces water supply availability.

Ecology The study of the interrelationships of plants and animals to one another and to their physical and biological environment.

Ecosystem Biological communities together with their environment, functioning as a unit.

Ecosystem restoration The process of reestablishing to as near its natural condition as possible, the structure, function, and composition of an ecosystem.

Elevation The height in feet above mean sea level according to National Geodetic Vertical Datum of 1929 (NGVD29) or North American Vertical Datum of 1988 (NAVD88). May also be expressed in feet above mean sea level as reference datum.

Environmental Impact Statement (EIS) An evaluation of the positive and negative environmental effects of a proposed agency action required under United States environmental law by the National Environmental Policy Act for federal government agency actions “significantly affecting the quality of the human environment.”

Estuary A body of water found where a river meets the ocean that is characterized by fresh water mixing with salt water.

Evapotranspiration (ET) The total loss of water to the atmosphere by evaporation from land and water surfaces and by transpiration from plants.

Exceedance The violation of the pollutant levels permitted by environmental protection standards.

Exceedance (MFL) As defined in Rule 40E-8.021, F.A.C., to fall below a minimum flow or level, which is established in Parts II and III of Chapter 40E-8, F.A.C., for a duration greater than specified for the MFL water body.

Finished water Water that has undergone a purification or treatment process; water that has passed through all the processes in a water treatment plant and is ready to be delivered to consumers. Contrast with *Raw water*.

Finished water demand (see *Net water demand*)

Fiscal Year (FY) The SFWMD’s fiscal year begins on October 1 and ends on September 30 the following year.

Florida Administrative Code (F.A.C.) The Florida Administrative Code is the official compilation of the administrative rules and regulations of state agencies.

Florida-Friendly Landscaping™ Quality landscapes that conserve water, protect the environment, are adaptable to local conditions, and are drought tolerant. The nine principles of such landscaping include the following: right plant right place, water efficiently, fertilize appropriately, mulch, attract wildlife, manage yard pests responsibly, recycle yard waste, reduce stormwater runoff, and protect the waterfront.

Florida Statutes (F.S.) The Florida Statutes are a permanent collection of state laws organized by subject area into a code made up of titles, chapters, parts, and sections. The Florida Statutes are updated annually by laws that create, amend, or repeal statutory material.

Floridan aquifer system (FAS) A highly used, deep aquifer system composed of the Upper and Lower Floridan aquifers. It is the principal source of water supply north of Lake Okeechobee and is highly mineralized south of the lake, requiring membrane treatment prior to use.

Flow The actual amount of water flowing by a particular point over some specified time. In the context of water supply, flow represents the amount of water being treated, moved, or reused. Flow is frequently expressed in mgd.

Fresh water An aqueous solution with a chloride concentration less than or equal to 250 mg/L.

Geologic unit A geologic unit is a volume of rock or ice of identifiable origin and age range that is defined by the distinctive and dominant, easily mapped and recognizable petrographic, lithologic, or paleontologic features that characterize it.

Gross (raw) water demand The amount of water withdrawn from a water resource to meet a particular need of a water user or customer. Gross demand is the amount of water allocated in a water use permit. Gross (or raw) water demand is nearly always higher than net (or user/customer) water demand to account for treatment and distribution losses.

Groundwater Water beneath the surface of the ground, whether or not flowing through known and definite channels. Specifically, that part of the subsurface water in the saturated zone, where the water is under pressure greater than the atmosphere.

Groundwater recharge (see *Recharge*)

Harm As defined in Chapter 40E-8, F.A.C., the temporary loss of water resource functions that results from a change in surface or groundwater hydrology and takes a period of 1 to 2 years of average rainfall conditions to recover.

Headwater(s) 1) Water that is typically of higher elevation (with respect to tailwater) or on the controlled side of a structure. 2) The waters at the highest upstream point of a natural system that are considered the major source waters of the system.

Hydrogeologic unit Any rock unit or zone that because of its hydraulic properties has a distinct influence on the storage or movement of groundwater.

Hydrogeology The geology of groundwater, with emphasis on the chemistry and movement of water.

Hydrologic condition(s) The state of an area pertaining to the amount and timing of water present.

Hydrologic model A conceptual or physically based procedure for numerically simulating a process or processes that occur in a watershed.

Hydrology The scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

Impoundment Any lake, reservoir, or other containment of surface water occupying a depression or bed in the earth's surface and having a discernible shoreline.

Infiltration The movement of water through the soil surface into the soil under the forces of gravity and capillarity.

Inflow 1) The act or process of flowing in or into. 2) The measured quantity of water that has moved into a specific location.

Injection well Refers to a well constructed to inject treated wastewater directly into the ground. Wastewater is generally forced (pumped) into the well for dispersal or storage in a designated aquifer. Injection wells are generally drilled below freshwater levels, or into unused aquifers or aquifers that do not contain drinking water.

Irrigation The application of water to crops and other plants by artificial means to supplement rainfall.

Landscape irrigation The outside watering of shrubbery, trees, lawns, grass, ground covers, vines, gardens, and other such flora, not intended for resale, which are planted and are situated in such diverse locations as residential and recreational areas; cemeteries; public, commercial, and industrial establishments; and public medians and rights-of-way.

Landscape/Recreational (L/R) Self-supplied and reclaimed water used to irrigate golf courses and other public access areas, such as sports fields, parks, cemeteries, roadway medians, and land managed by homeowners' associations and commercial developments.

Levee An embankment to prevent flooding or a continuous dike or ridge for confining the irrigation areas of land to be flooded.

Level of certainty A water supply planning goal to assure at least a 90% probability during any given year that all the needs of reasonable-beneficial water uses will be met, while sustaining water resources and related natural systems during a 1-in-10-year drought event.

Marsh A frequently or continually inundated unforested wetland characterized by emergent herbaceous vegetation adapted to saturated soil conditions.

Miccosukee Tribe of Indians of Florida A federally recognized Native American tribe, who was part of the Seminole Nation until they organized as an independent tribe in 1962. The Miccosukee Tribe of Indians of Florida is recognized by the State of Florida pursuant to Chapter 285, Florida Statutes.

Million gallons per day (mgd) A rate of flow of water equal to 133,680.56 cubic feet per day, 1.5472 cubic feet per second, or 3.0689 acre-feet per day. A flow of 1 million gallons per day for 1 year equals 1,120 acre-feet (365 million gallons).

Minimum flow and minimum water level (MFL) A flow or level established by the SFWMD pursuant to Sections 373.042 and 373.0421, F.S., for a given water body, at which further withdrawals would be significantly harmful to the water resources or ecology of the area.

Mobile irrigation lab (MIL) A vehicle furnished with irrigation evaluation equipment that is used to carry out on-site evaluations of irrigation systems and to provide recommendations on improving irrigation efficiency.

Model A computer model is a representation of a system and its operations and provides a cost-effective way to evaluate future system changes, summarize data, and help understand interactions in complex systems. Hydrologic models are used for evaluating, planning, and simulating the implementation of operations within the SFWMD's water management system under different climatic and hydrologic conditions. Water quality and ecological models are also used to evaluate other processes vital to the health of ecosystems. Groundwater flow models are a numerical representation of water flow and water quality within an aquifer or aquifer system.

Monitor well Any human-made excavation by any method to monitor fluctuations in groundwater levels, quality of underground waters, or the concentration of contaminants in underground waters.

National Geodetic Vertical Datum of 1929 (NGVD29) A geodetic datum derived from a network of information collected in the United States and Canada. It was formerly called the "Sea Level Datum of 1929" or "mean sea level." As technology has improved and the demand for greater accuracy increased, inherent inaccuracies were uncovered in NGVD29. As a result, NGVD29 has been superseded by the North American Vertical Datum of 1988 (NAVD88).

Natural system(s) A self-sustaining living system that supports an interdependent network of aquatic, wetland-dependent, and upland living resources.

Net water demand The amount of treated or finished water needed to meet a particular need, typically the total end user or customer water demand for public water supply systems and less than raw water demand due to treatment and process losses.

Outflow The measured quantity of water that has left an area or water body (through pumping or gravity) during a certain period of time.

Per capita use 1) The average amount of water used per person during a standard time period, generally per day. 2) Total use divided by the total population served.

Permeability The capacity of a porous rock, sediment, or soil for transmitting a fluid.

Planning area The SFWMD is divided into five areas within which planning activities are focused: Upper Kissimmee Basin (part of the Central Florida Water Initiative), Lower Kissimmee Basin, Upper East Coast, Lower West Coast, and Lower East Coast.

Potable water Water that is suitable for drinking, culinary, or domestic purposes.

Potentiometric head The level to which water will rise when a well is placed in a confined aquifer.

Power Generation (PG) The difference in the amount of water withdrawn by electric power generating facilities for cooling purposes and the water returned to the hydrologic system near the point of withdrawal.

Priority Water Bodies List and Schedule Required in Section 373.042(2), F.S. of the state's five water management districts to provide the Florida Department of Environmental Protection with an annual list and schedule of specific surface waters and groundwaters with minimum flows and levels and water reservation rules that will be adopted to protect them from the effects of consumptive use allocations.

Process water Water used for nonpotable industrial use (e.g., mixing cement).

Project Implementation Report (PIR) A comprehensive planning and engineering document required for federal water resource development projects, such as the Comprehensive Everglades Restoration Plan. A PIR bridges conceptual design and final construction. When a project triggers federal environmental reviews, an Integrated PIR and Environmental Impact Statement (PIR/EIS) is typically prepared to fulfill United States Army Corps of Engineers planning mandates and National Environmental Policy Act compliance.

Public Supply (PS) Water supplied to other end users or customers by water treatment facilities for potable use (drinking quality) with existing or projected average raw water demands of 0.10 mgd or greater.

Rapid infiltration basin (RIB) A reclaimed water groundwater recharge method by which treated wastewater is applied in deep and permeable deposits of highly porous soils for percolation and groundwater recharge.

Raw water 1) Water that is direct from the source—groundwater or surface water—without any treatment. 2) Untreated water, usually that entering the first unit of a water treatment plant. Contrast with *Finished water*.

Raw water demand The amount of water that must be withdrawn from the groundwater or surface water system to meet a particular need. Withdrawal demands are almost always higher than user/customer demands because of treatment and process losses, and inefficiencies associated with delivering water from the source to the end user.

Reasonable-beneficial use Use of water in such quantity as is needed for economic and efficient use for a purpose, which is both reasonable and consistent with the public interest.

Recharge (groundwater) The natural or intentional infiltration of surface water or reclaimed water into the ground to raise groundwater levels.

Reclaimed water Water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility (Rule 62-600.200, F.A.C.).

Recovery The rate and extent of return of a natural population or community to some aspect(s) of its previous condition. Because of the dynamic nature of ecological systems, the attributes of a “recovered” system should be carefully defined.

Reservoir An artificial or natural water body used for water storage. Reservoirs can be above or below ground.

Restoration The recovery of a natural system's vitality and biological and hydrological integrity to the extent that the health and ecological functions are self-sustaining over time.

Restricted allocation area (RAA) An area designated within the SFWMD boundaries for which allocation restrictions are applied regarding the use of specific sources of water. The water resources in these areas are managed in response to specific sources of water in the area for which there is a lack of water availability to meet the projected needs of the region from that specific source of water.

Retrofit 1) Indoor: The replacement of existing water fixtures, appliances, and devices with more efficient fixtures, appliances, and devices for the purpose of water conservation. 2) Outdoor: The replacement or changing out of an existing irrigation system with a more efficient irrigation system, such as a conversion from an overhead sprinkler system to a microirrigation system. May also include rain or soil moisture sensors to increase efficiency.

Reuse The deliberate application of reclaimed water for a beneficial purpose. Criteria used to classify projects as “reuse” or “effluent disposal” are contained in Rule 62-610.810, F.A.C. The term “reuse” is synonymous with “water reuse.”

Reverse osmosis A treatment process for desalting and removing other contaminants from water using applied pressure to drive the feed water (source water) through a semipermeable membrane.

Rule(s) Of or pertaining to the SFWMD’s regulatory programs, which are set forth in various statutes, codes, and criteria.

Runoff That component of rainfall, which is not absorbed by soil, intercepted and stored by surface water bodies, evaporated to the atmosphere, transpired and stored by plants, or infiltrated to groundwater, but which flows to a watercourse as surface water flow.

Salinity Of or relating to chemical salts, usually measured in mg/L, or practical salinity units.

Salt water (see *Seawater or Salt water*)

Saltwater interface The hypothetical surface of chloride concentration between fresh water and seawater where the chloride concentration is 250 mg/L at each point on the surface.

Saltwater intrusion The invasion of a body of fresh water by a body of salt water due to its greater density. It can occur either in surface water or groundwater bodies. The term is applied to the flooding of freshwater marshes by seawater, the upward migration of seawater into rivers and navigation channels, and the movement of seawater into freshwater aquifers along coastal regions.

Seawater or Salt water Water with a chloride concentration at or above 19,000 mg/L.

Seepage The passage of water or other fluid through a porous medium, such as the passage of water through an earth embankment or masonry wall. Groundwater emerging on the face of a stream bank; the slow movement of water through small cracks, pores, interstices, etc., of a material into or out of a body of surface or subsurface water. Seepage is generally expressed as flow volume per unit of time.

Seminole Tribe of Florida A federally recognized Indian Tribe organized pursuant to Section 16 of the Indian Reorganization Act of 1934 and recognized by the State of Florida pursuant to Chapter 285, Florida Statutes.

Serious harm As defined in Chapter 40E-8, F.A.C., the long-term, irreversible, or permanent loss of water resource functions resulting from a change in surface water or groundwater hydrology.

Service area The geographical region in which a water supplier has the ability and the legal right to distribute water for use.

Significant harm As defined in Chapter 40E-8, F.A.C., the temporary loss of water resource functions that results from a change in surface water or groundwater hydrology and takes more than 2 years to recover, but which is considered less severe than serious harm.

Stormwater Water that does not infiltrate but accumulates on land as a result of storm runoff, snowmelt, irrigation, or drainage from impervious surfaces.

Stormwater discharge Precipitation runoff from roadways, parking lots, and roof drains that is collected in gutters and drains. A major source of nonpoint source pollution to water bodies and sewage treatment facilities in municipalities where stormwater is combined with the flow of domestic wastewater (sewage) before entering the wastewater treatment facility.

Stormwater treatment area (STA) A system of constructed water quality treatment wetlands that use natural biological processes to reduce levels of nutrients and pollutants from surface water runoff.

Surface water Water above the soil or substrate surface, whether contained in bounds, created naturally or artificially, or diffused. Water from natural springs is classified as surface water when it exits from the spring onto the earth's surface.

Surficial aquifer system (SAS) Often the principal source of water for urban uses. This aquifer is unconfined, consisting of varying amounts of limestone and sediments that extend from the land surface to the top of an intermediate confining unit.

Total dissolved solids (TDS) The sum of all organic and inorganic materials—including minerals, salts, metals, cations, and anions—dissolved in a given volume of water.

Treatment facility Any facility or other works used for the purpose of treating, stabilizing, or holding water or wastewater.

Tributary A stream that flows into a larger stream or other body of water.

Utility Any legal entity responsible for supplying potable water for a defined service area or customer.

Violation (MFL) As defined in Rule 40E-8.021, F.A.C., to fall below an adopted minimum flow or level criterion for a duration and frequency greater than specified for the MFL water body. Unless otherwise specified herein, in determining the frequency with which water flows and levels fall below an established MFL for purposes of determining an MFL violation, a "year" means 365 days from the last day of the previous MFL exceedance.

Wastewater The combination of liquid and water-carried pollutants from residences, commercial buildings, industrial plants, and institutions together with any groundwater, surface runoff, or leachate that may be present.

Water conservation The permanent, long-term reduction of daily water use. Permanent water use reduction requires the implementation of water saving technologies and measures that reduce water use while satisfying consumer needs. Water conservation is considered a demand management measure because it reduces the need for future expansion of water supply infrastructure (see *Demand management*).

Water conservation rate structure A water rate structure designed to conserve water. Examples of conservation rate structures include increasing block rates, seasonal rates, and quantity-based surcharges.

Water management The general application of practices to obtain added benefits from precipitation, water or water flow in any of a number of areas, such as irrigation, drainage, wildlife and recreation, navigation, water supply, watershed management, and water storage in soil for crop production. Watershed management is the analysis, protection, development, operation, or maintenance of the land, vegetation, and water resources of a drainage basin for the conservation of all its resources for the benefit of its residents. Watershed management for water production is concerned with the quality, quantity, and timing of the water which is produced.

Water quality 1) A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose. 2) The physical, chemical, and biological condition of water as applied to a specific use. Federal and state guidelines set water quality standards based on the water's intended use, whether it is for recreation, fishing, drinking, navigation, shellfish harvesting, or agriculture.

Water reservation A legal mechanism authorized by Section 373.223(4), F.S., to set aside water from consumptive uses for the protection of fish and wildlife or for public health and safety. The reservation is composed of a quantification of the water to be protected, which includes a seasonal and a locational component.

Water resource development The formulation and implementation of regional water resource management strategies, including collection and evaluation of surface water and groundwater data; structural and nonstructural programs to protect and manage the water resources; development of regional water resource implementation programs; construction, operation, and maintenance of major public works facilities to provide for flood control, surface and groundwater storage, and groundwater recharge augmentation; and related technical assistance to local governments and to government-owned and privately owned water utilities (Section 373.019, F.S.).

Water Resources Development Act (WRDA) A biennial federal legislation enacted by the United States Congress to authorize water infrastructure projects, studies, and policies conducted by the United States Army Corps of Engineers.

Water reuse (see *Reuse*)

Water Rights Compact of 1987 a compact among the Seminole Tribe of Florida, the State of Florida, and the SFWMD (Public Law 100-228, 101 Statute 1556, and Chapter 87-292, Laws of Florida, as codified in Section 285.165, F.S.) establishing water use regulations and management for the Seminole Tribe of Florida and recognizing the tribe's sovereignty over surface water and groundwater on its trust lands.

Watershed A region or area bounded peripherally by a water parting and draining ultimately to a particular watercourse or body of water. Watersheds conform to federal hydrologic unit code standards and can be divided into subwatersheds and further divided into catchments, the smallest water management unit recognized by SFWMD Operations. Unlike drainage basins, which are defined by rule, watersheds are continuously evolving as the drainage network evolves.

Water Shortage Plan(s) This effort includes provisions in Chapters 40E-21 and 40E-22, F.A.C., and identifies how water supplies are allocated to users during declared water shortages.

Water supply development The planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use (Section 373.019, F.S.).

Water Supply Plan Detailed water supply plan developed by the water management districts under Section 373.709, F.S., providing an evaluation of available water supply and projected demands at the regional scale. The planning process projects future demand for at least 20 years and recommends projects to meet identified needs.

Water table The surface of a body of unconfined groundwater at which the pressure is equal to that of the atmosphere; defined by the level where water within an unconfined aquifer stands in a well.

Water use Any use of water that reduces the supply from which it is withdrawn or diverted.

Water use permitting The issuance of permits by the SFWMD, under the authority of Chapter 40E-2, F.A.C., allowing a specified quantity of water withdrawal for consumptive use over a specified time period.

Wellfield One or more wells producing water from a groundwater source. A tract of land that contains a number of wells for supplying a large municipality or irrigation district.

Wetland An area that is inundated or saturated by surface water or groundwater with vegetation adapted for life under those soil conditions (e.g., swamps, bogs, marshes).

Withdrawal Water removed from a surface water or groundwater source for use.

Yield The quantity of water (expressed as rate of flow or total quantity per year) that can be collected for a given use from surface or groundwater sources.

Appendices

A

Water Demand Projections

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POPULATION ESTIMATES AND PROJECTIONS

The South Florida Water Management District (SFWMD or District) develops water demand estimates and projections in coordination with stakeholder groups, other agencies, utilities, and local governments. **Chapter 2** of the *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update) provides summary information, and this appendix describes the methods used to develop water demand estimates for the 2024 base year as well as projections through 2050 for the UEC Planning Area. Demands are developed for six water use categories: Public Supply (PS), Domestic Self-Supply (DSS), Agriculture (AG), Commercial/Industrial/Institutional (CII), Landscape/Recreational (L/R), and Power Generation (PG). Water demand estimates and projections are provided in 5-year increments through 2050 for average rainfall and 1-in-10-year drought conditions. In addition, demands for PS are described and analyzed in two ways: gross (or raw) demand and net (or finished) demand.

This section presents the methodology used to develop the 2024 population estimates and 2050 population projections for the UEC Planning Area, which are essential to determining water demands. The University of Florida's Bureau of Economic and Business Research (BEBR) publishes low, medium, and high population estimates and projections to account for uncertainty in future population growth. BEBR provides population data at the county level; however, water supply planning requires population estimates and projections at the subcounty level to delineate PS utility service areas and DSS areas for PS and DSS demands. Section 373.709(2)(a)1.a., Florida Statutes (F.S.), prescribes the use of BEBR medium population projections in determining water supply needs in regional water supply plans as follows:

Population projections used for determining public water supply needs must be based upon the best available data. In determining best available data, the district shall consider the University of Florida Bureau of Economic and Business Research (BEBR) medium population projections and population projection data and analysis submitted by a local government pursuant to the public workshop described in subsection (1) if the data and analysis support the local government's comprehensive plan. Any adjustment of or deviation from the BEBR projections must be fully described, and the original BEBR data must be presented along with the adjusted data.

In accordance with Section 373.709(2)(a)1.a., F.S., permanent resident estimates and projections for each county, published by BEBR (Rayer and Comfort 2025), were used as the basis of population projections in this 2026 UEC Plan Update. BEBR county population estimates and projections are also used by local governments in their Comprehensive Plans. Adjustments were made to include only the portion of Okeechobee County within the UEC Planning Area. The 2024 permanent resident populations within the UEC Planning Area were as follows:

◆ Martin County:	165,380 permanent residents
◆ Okeechobee County:	557 permanent residents
◆ St. Lucie County:	380,773 permanent residents

Utility Service Areas

To establish current and future PS and DSS populations, each PS utility's 2024 and 2050 potable water service area was delineated. A utility service area refers to the area with water distribution infrastructure and water customers served by a particular PS utility. The SFWMD developed 2024 and 2050 utility service area maps based on information from utilities and the Water Use Permit database. Accuracy of the service area maps was verified through correspondence with all PS utilities. Note that there are no PS utilities in the northeastern portion of Okeechobee County within the UEC Planning Area boundary. **Appendix B** includes summaries of the PS utilities that provide 0.10 million gallons per day (mgd) or greater of net (finished) potable water. **Figures B-1** and **B-2** show the current and future PS service areas and wellfields in Martin County, respectively. **Figures B-3** and **B-4** show the current and future PS service areas and wellfields in St. Lucie County, respectively.

Population Projection Methodology

Census block populations from the 2020 Census (United States Census Bureau 2020) and 2024 PS service area maps were used to estimate the 2024 permanent resident populations for PS utilities and DSS areas. Each census block within the UEC Planning Area was assigned to a PS service area or a DSS area. The distribution of population in census blocks not entirely within a single PS service area or DSS area was based on visual comparison of residential land use coverage. PS service area and DSS area population estimates for 2020 through 2024, used for determining the per capita use rate (PCUR) for each PS utility, were calculated by applying annual county growth rates published by BEBR with 2024 estimates (Rayer and Comfort 2025) and the United States Census Bureau (2020).

Population projections to 2050 were calculated using Future Utility Service Area (**Figures B-2** and **B-4**) distributions of population served with the 2020 Census data (United States Census Bureau 2020). Population growth rate was provided by the county population projections (BEBR medium) from the 2025 set of projections (Rayer and Comfort 2025). When available, detailed subcounty population projections from county planning departments were assigned to PS utility service areas and DSS areas. In some cases, modifications were made to service area populations based on information from local land use planning maps and local government Comprehensive Plans.

Population Projection Results

Table A-1 provides the results of the population distributions by county and PS utility (or DSS) from 2024 to 2050. The results were shared with and reviewed by utility, tribal, and municipal/county government staff.

The populations shown in **Table A-1** indicate the UEC Planning Area will contain 195,507 additional permanent residents by 2050, an increase of approximately 36%. Port St. Lucie has the largest current and future populations, accounting for nearly half of the region's projected 2050 PS population.

Table A-1. Service area population projections in the UEC Planning Area.

PS Utility or DSS	Service Area Population Projections							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Indiantown	6,211	6,410	6,459	11,650	12,684	13,065	13,130	13,195
Jupiter (Martin portion)	2,289	2,362	2,381	2,452	2,501	2,551	2,602	2,641
Martin County Utilities	96,224	98,163	98,457	102,396	105,468	110,741	114,063	117,485
Port St. Lucie (Martin portion)	1,597	1,604	1,605	1,613	1,616	1,624	1,632	1,636
Sailfish Point	1,163	1,182	1,186	1,210	1,246	1,271	1,297	1,323
South Martin Regional Utility	20,784	21,449	21,615	22,264	22,932	23,620	24,328	25,058
St. Lucie Village Parklife	822	825	826	830	834	839	843	847
Stuart	17,495	17,775	17,845	18,030	18,391	18,759	19,134	19,517
Tequesta (Martin portion)	3,575	3,589	3,593	3,611	3,629	3,647	3,665	3,684
PS Total	150,160	153,359	153,967	164,056	169,301	176,117	180,694	185,386
DSS Total	11,141	12,021	12,433	8,944	8,799	5,883	4,406	2,414
Martin County Total	161,301	165,380	166,400	173,000	178,100	182,000	185,100	187,800
Okeechobee County^a								
PS Total	0	0	0	0	0	0	0	0
DSS Total	548	557	559	570	582	593	605	617
Okeechobee County Total	548	557	559	570	582	593	605	617
St. Lucie County^b								
Fort Pierce Utilities Authority	68,392	71,570	72,364	78,105	79,453	80,840	82,024	82,490
Harbour Ridge	1,198	1,254	1,292	1,315	1,332	1,351	1,366	1,373
Martin County Utilities (St. Lucie portion)	67	67	67	67	67	67	67	67
Meadowood Community Association	676	676	676	676	676	676	676	676
Port St. Lucie	198,755	223,848	230,122	260,379	294,457	313,363	343,677	349,366
Reserve Community Development District	3,565	3,608	3,618	3,673	3,728	3,784	3,841	3,898
Spanish Lakes Country Club	1,618	1,646	1,654	1,687	1,724	1,762	1,797	1,798
Spanish Lakes Fairways	2,120	2,217	2,241	2,269	2,289	2,309	2,323	2,336
St. Lucie County Utilities	15,296	18,526	19,334	27,693	45,644	64,189	66,189	66,972
St. Lucie West Services District	13,163	13,436	13,505	13,607	13,656	13,707	13,719	13,796
PS Total	304,850	336,848	344,873	389,471	443,026	482,048	515,679	522,772
DSS Total	17,415	43,925	50,527	48,729	30,874	22,152	14,621	31,028
St. Lucie County Total	322,265	380,773	395,400	438,200	473,900	504,200	530,300	553,800
UEC Planning Area Total								
UEC Planning Area PS Total	455,010	490,207	498,840	553,527	612,327	658,165	696,373	708,158
UEC Planning Area DSS Total	29,104	56,503	63,519	58,243	40,255	28,628	19,632	34,059
UEC Planning Area Total	484,114	546,710	562,359	611,770	652,582	686,793	716,005	742,217

DSS = Domestic Self-Supply; PS = Public Supply; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries. No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

^b The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from St. Lucie County. However, for discussion purposes, information relating to the Seminole Tribe of Florida's Fort Pierce Reservation is included in the calculations for St. Lucie County.

Comparing these 2026 UEC Plan Update population projections to those published in the 2011, 2016, and 2021 UEC plan updates can provide insight into the importance of population growth rates based on BEBR medium projections. Prior to the national economic downturn in 2008, high rates of development in the region pointed to higher population growth rates (**Figure A-1**). The population projections in the 2011 UEC Plan Update were a result of higher population growth rates prior to the recession. The BEBR projections used in this 2026 UEC Plan Update indicate slower growth rates than projected in the 2011 UEC Plan Update and growth rates closely aligned with the projections published in the 2021 and 2016 plan updates.

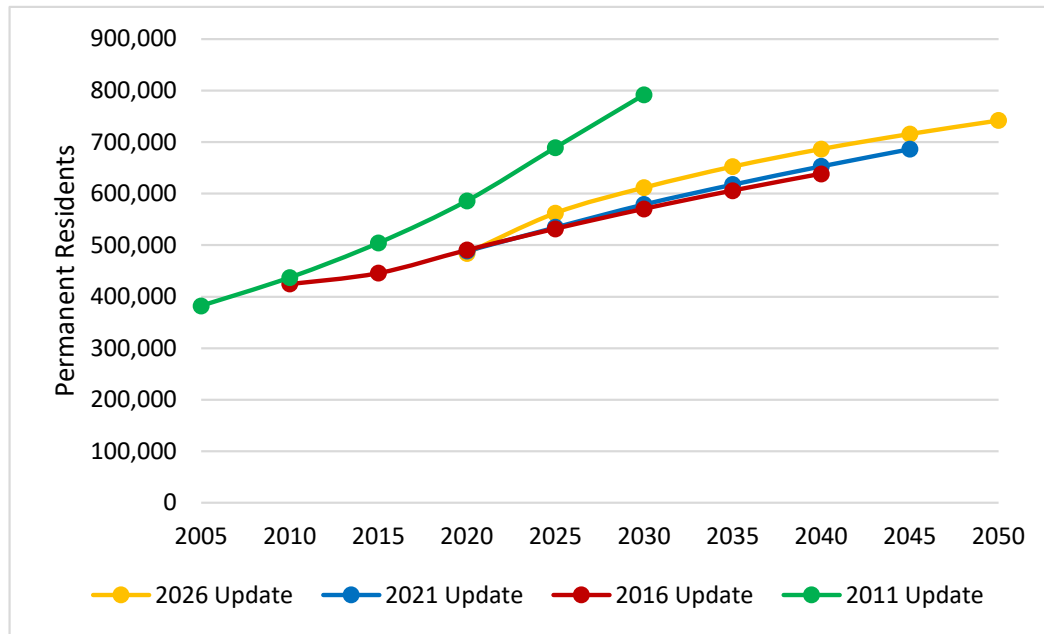


Figure A-1. Comparison of population projections from the 2011, 2016, 2021, and 2026 UEC water supply plan updates.

PUBLIC SUPPLY

The PS category includes potable water supplied by water treatment plants with a current allocation of 0.10 mgd or greater. Developing PS demand projections in the UEC Planning Area was a multistep process that included determining PS utility service area and DSS populations, calculating PCURs, and projecting future water needs.

NOTE

Perceived discrepancies in table totals are due to rounding.

PS Projection Methodology

Per Capita Use Rates

For each PS utility, a net (finished) water PCUR was developed by dividing the annual net (finished) water volume for 2020 through 2024 by the corresponding service area populations (permanent residents) for each year. The five annual PCURs were then averaged. Net (finished) water volumes for 2020 through 2024 were obtained from the PS utility

monthly operating reports submitted to the Florida Department of Environmental Protection (FDEP). The net (finished) water volume reported to the FDEP includes all water produced for permanent and seasonal residents; industrial, landscaping, and irrigation water supplied by PS utilities; and any water distribution losses. The resulting PCURs (**Table A-2**) conform to guidance provided by the FDEP for consistent statewide water supply planning. Future water conservation savings were not factored into demand projections and PCURs due to water savings uncertainty. The average PCURs for each county were calculated by averaging PS and DSS PCURs, weighted by their respective permanent resident populations.

Table A-2. Average net (finished) water per capita use rates (in gallons per capita per day) in the UEC Planning Area.

PS Utility or DSS	2020 – 2024 Average PCUR
Martin County	
Indiantown	94
Jupiter (Martin portion)	203
Martin County Utilities	118
Port St. Lucie (Martin portion)	94
Sailfish Point	155
South Martin Regional Utility	195
St. Lucie Village Parklife	87
Stuart	171
Tequesta (Martin portion)	193
Martin County DSS	137
Martin County Average	137
Okeechobee County^a	
Okeechobee County DSS	102
Okeechobee County Average	102
St. Lucie County	
Fort Pierce Utilities Authority	128
Harbour Ridge	132
Martin County Utilities (St. Lucie portion)	118
Meadowood Community Association	126
Port St. Lucie	94
Reserve Community Development District	114
Spanish Lakes Country Club	104
Spanish Lakes Fairways	105
St. Lucie County Utilities	100
St. Lucie West Services District	128
St. Lucie County DSS	103
St. Lucie County Average	103
UEC Planning Area Average	
UEC Planning Area Average	113

DSS = Domestic Self-Supply; PCUR = per capita use rate; PS = Public Supply; UEC = Upper East Coast.

^a Values listed are only for the areas within the UEC Planning Area boundaries. No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

Finished-to-Raw Water Conversion

Net (finished) demands (**Table A-3**) were calculated by multiplying the PS service area or DSS area population and the 5-year average PCUR. Gross (raw) water withdrawals are the volumes needed from the water source(s) to produce the required net (finished) water volumes considering water treatment process losses. Water use permit allocations are based on the gross (raw) water volume needed to meet service area demands, based on the demands projected at the time of the permit application. Therefore, it is important to present gross (raw) demands in water supply plans along with the net (finished) demands.

Table A-3. PS net (finished) water demands under average rainfall conditions in the UEC Planning Area.

PS Utility ^a	Net (Finished) Water Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Indiantown	0.58	0.60	0.61	1.10	1.19	1.23	1.23	1.24
Jupiter (Martin portion)	0.46	0.48	0.48	0.50	0.51	0.52	0.53	0.54
Martin County Utilities	11.35	11.58	11.62	12.08	12.45	13.07	13.46	13.86
Port St. Lucie (Martin portion)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Sailfish Point	0.18	0.18	0.18	0.19	0.19	0.20	0.20	0.21
South Martin Regional Utility	4.05	4.18	4.21	4.34	4.47	4.61	4.74	4.89
St. Lucie Village Parklife	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Stuart	2.99	3.04	3.05	3.08	3.14	3.21	3.27	3.34
Tequesta (Martin portion)	0.69	0.69	0.69	0.70	0.70	0.70	0.71	0.71
Martin County Total	20.52	20.97	21.06	22.21	22.87	23.76	24.36	25.01
St. Lucie County								
Fort Pierce Utilities Authority	8.75	9.16	9.26	10.00	10.17	10.35	10.50	10.56
Harbour Ridge	0.16	0.17	0.17	0.17	0.18	0.18	0.18	0.18
Martin County Utilities (St. Lucie portion)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Meadowood Community Association	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Port St. Lucie	18.68	21.04	21.63	24.48	27.68	29.46	32.31	32.84
Reserve Community Development District	0.14	0.11	0.11	0.12	0.12	0.13	0.13	0.13
Spanish Lakes Country Club	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19
Spanish Lakes Fairways	0.22	0.23	0.24	0.24	0.24	0.24	0.24	0.25
St. Lucie County Utilities	1.53	1.85	1.93	2.77	4.56	6.42	6.62	6.70
St. Lucie West Services District	1.95	2.02	2.03	2.04	2.05	2.05	2.07	2.08
St. Lucie County Total	31.70	34.85	35.64	40.10	45.28	49.11	52.34	53.03
UEC Planning Area Total								
UEC Planning Area Total	52.22	55.82	56.70	62.31	68.15	72.87	76.70	78.04

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

To determine the projected gross (raw) water demand for each PS utility, net (finished) water projections were multiplied by finished-to-raw ratios (**Table A-4**), which are based on the treatment efficiency of each PS treatment plant. For example, if a typical reverse osmosis treatment facility withdraws a gross (raw) volume of 10.00 mgd and produces 8.00 mgd of net (finished) water, its treatment losses are 20%. Therefore, its finished-to-raw ratio would be 1.25 (10 mgd divided by 8 mgd). For utilities with proposed projects that will change the treatment types and efficiencies, the finished-to-raw ratios are adjusted to account for the projected timing of implementation and corresponding changes in treatment losses.

Treatment efficiencies were determined from information supplied by utilities during initial outreach efforts, in the water use permit applications, from the FDEP Drinking Water Database (FDEP 2024), and from actual pumpage reports. The assumed standard treatment losses are 0% for aeration/disinfection only, 3% for lime softening/flocculation, 15% for nanofiltration, and 25% for reverse osmosis. If a utility has more than one treatment method, the ratio reflects combined treatment efficiencies and is typically based on pumpage reports comparing raw and finished water totals. Finished-to-raw adjustments for potable water treatment plants in the UEC Planning Area based on their existing treatment processes are listed in **Table A-4**. The locations of potable water treatment plants by treatment method are shown in **Figures A-2** and **A-3**. In recent years, utilities have been replacing aging lime softening facilities with membrane processes to accommodate current and projected regulatory standards, including maximum contaminant levels for perfluoroalkyl and polyfluoroalkyl substances, known as PFAS, which may result in increased future demands.

Table A-4. Finished-to-raw water adjustment ratios for PS utilities in the UEC Planning Area.

PS Utility ^a	Finished-to-Raw Ratio
Martin County	
Indiantown	1.03
Jupiter (Martin portion)	1.20
Martin County Utilities	1.21
Port St. Lucie (Martin portion)	1.28
Sailfish Point	1.33
South Martin Regional Utility	1.24
St. Lucie Village Parklife	1.28
Stuart	1.05
Tequesta (Martin portion)	1.19
St. Lucie County	
Fort Pierce Utilities Authority	1.22
Harbour Ridge	1.03
Martin County Utilities (St. Lucie portion)	1.21
Meadowood Community Association	1.03
Port St. Lucie	1.28
Reserve Community Development District	1.03
Spanish Lakes Country Club	1.33
Spanish Lakes Fairways	1.33
St. Lucie County Utilities	1.18
St. Lucie West Services District	1.33

PS = Public Supply; UEC = Upper East Coast.

^a No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

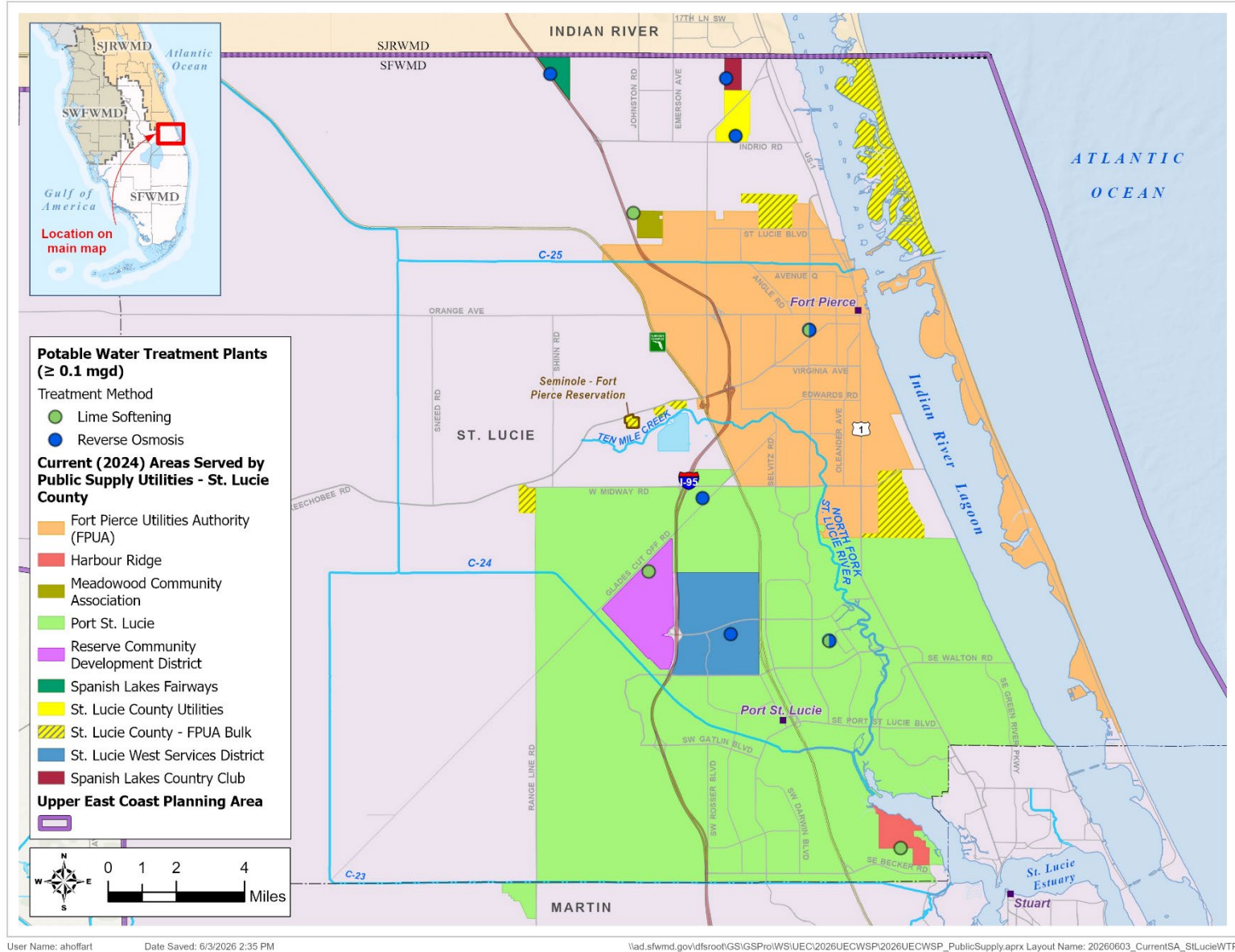


Figure A-3. Potable water treatment plants and current areas served by PS utilities in St. Lucie County.

PS Projection Results

Average Rainfall Conditions

Gross (raw) demands for PS under average rainfall conditions for 2020 through 2050 are provided in **Table A-5**.

Table A-5. PS gross (raw) water demands under average rainfall conditions in the UEC Planning Area.

PS Utility ^a	Gross (Raw) Water Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Indiantown	0.60	0.62	0.63	1.19	1.34	1.39	1.39	1.40
Jupiter (Martin portion)	0.55	0.58	0.58	0.60	0.61	0.62	0.64	0.65
Martin County Utilities	13.73	14.01	14.06	14.62	15.56	16.34	16.96	17.60
Port St. Lucie (Martin portion)	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20
Sailfish Point	0.24	0.24	0.24	0.25	0.25	0.27	0.27	0.28
South Martin Regional Utility	5.02	5.18	4.66	4.80	4.95	5.30	5.69	5.87
St. Lucie Village Parklife	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Stuart	3.14	3.19	3.20	3.33	3.39	3.47	3.53	3.61
Tequesta (Martin portion)	0.82	0.82	0.85	0.86	0.88	0.88	0.89	0.89
Martin County Total	24.38	24.92	24.50	25.94	27.27	28.56	29.66	30.59
St. Lucie County								
Fort Pierce Utilities Authority	10.68	11.18	11.30	12.20	12.41	12.63	12.81	12.88
Harbour Ridge	0.16	0.18	0.18	0.18	0.19	0.19	0.19	0.19
Martin County Utilities (St. Lucie portion)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Meadowood Community Association	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Port St. Lucie	23.91	26.93	28.10	32.07	36.26	39.18	42.97	43.68
Reserve Community Development District	0.14	0.11	0.11	0.12	0.12	0.13	0.13	0.13
Spanish Lakes Country Club	0.23	0.23	0.23	0.24	0.24	0.24	0.25	0.25
Spanish Lakes Fairways	0.29	0.31	0.32	0.32	0.32	0.32	0.32	0.33
St. Lucie County Utilities	1.81	2.18	2.28	3.68	6.06	8.54	8.80	8.91
St. Lucie West Services District	2.59	2.69	2.70	2.71	2.73	2.73	2.75	2.77
St. Lucie County Total	39.91	43.91	45.32	51.62	58.43	64.06	68.32	69.24
UEC Planning Area Total								
UEC Planning Area Total	64.29	68.83	69.82	77.56	85.70	92.62	97.98	99.83

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

1-in-10-Year Drought Conditions

Section 373.709, F.S., states that the level-of-certainty planning goal associated with identifying water demands shall be based on meeting demands during 1-in-10-year drought conditions. A 1-in-10-year drought is characterized by diminished rain and increased evapotranspiration relative to the historical record for a specific location. The increased PS demands during 1-in-10-year drought conditions were calculated using the method described in the *Districtwide Water Supply Assessment* (SFWMD 1998), which considers the increased demands on the irrigation portion of PS during droughts. The drought demand factors are 1.17 for Martin County, 1.17 for northeastern Okeechobee County (within the UEC Planning Area), and 1.09 for St. Lucie County. Average water demands were multiplied by the drought demand factor to calculate demands during 1-in-10-year drought conditions (**Tables A-6 and A-7**).

INFO

Average Rainfall and 1-in-10-Year Drought

An **average rainfall year** is defined as a year having rainfall with a 50% probability of being exceeded in any other year.

A **1-in-10-year drought** is defined as a year in which below normal rainfall occurs with a 90% probability of being exceeded in any other year. It has an expected return frequency of once in 10 years.

Table A-6. PS net (finished) water demands under 1-in-10-year drought conditions in the UEC Planning Area.

PS Utility ^a	Net (Finished) Water Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Indiantown	0.68	0.70	0.71	1.29	1.39	1.44	1.44	1.45
Jupiter (Martin portion)	0.54	0.56	0.56	0.59	0.60	0.61	0.62	0.63
Martin County Utilities	13.28	13.55	13.60	14.13	14.57	15.29	15.75	16.22
Port St. Lucie (Martin portion)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Sailfish Point	0.21	0.21	0.21	0.22	0.22	0.23	0.23	0.25
South Martin Regional Utility	4.74	4.89	4.93	5.08	5.23	5.39	5.55	5.72
St. Lucie Village Parklife	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Stuart	3.50	3.56	3.57	3.60	3.67	3.76	3.83	3.91
Tequesta (Martin portion)	0.81	0.81	0.81	0.82	0.82	0.82	0.83	0.83
Martin County Total	24.02	24.54	24.65	25.99	26.76	27.80	28.51	29.27
St. Lucie County								
Fort Pierce Utilities Authority	9.54	9.98	10.09	10.90	11.09	11.28	11.45	11.51
Harbour Ridge	0.17	0.19	0.19	0.19	0.20	0.20	0.20	0.20
Martin County Utilities (St. Lucie portion)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Meadowood Community Association	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Port St. Lucie	20.36	22.93	23.58	26.68	30.17	32.11	35.22	35.80
Reserve Community Development District	0.15	0.12	0.12	0.13	0.13	0.14	0.14	0.14
Spanish Lakes Country Club	0.19	0.19	0.19	0.20	0.20	0.20	0.21	0.21

Table A-6. Continued.

PS Utility	Net (Finished) Water Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
St. Lucie County (Continued)								
Spanish Lakes Fairways	0.24	0.25	0.26	0.26	0.26	0.26	0.26	0.27
St. Lucie County Utilities	1.67	2.02	2.10	3.02	4.97	7.00	7.22	7.30
St. Lucie West Services District	2.13	2.20	2.21	2.22	2.23	2.23	2.26	2.27
St. Lucie County Total	34.56	37.99	38.85	43.71	49.36	53.53	57.07	57.81
UEC Planning Area Total								
UEC Planning Area Total	58.58	62.53	63.50	69.70	76.12	81.33	85.58	87.08

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

Table A-7. PS gross (raw) water demands under 1-in-10-year drought conditions in the UEC Planning Area.

PS Utility ^a	Gross (Raw) Water Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Indiantown	0.70	0.73	0.74	1.39	1.57	1.63	1.63	1.64
Jupiter (Martin portion)	0.64	0.68	0.68	0.70	0.71	0.73	0.75	0.76
Martin County Utilities	16.06	16.39	16.45	17.11	18.21	19.12	19.84	20.59
Port St. Lucie (Martin portion)	0.22	0.22	0.22	0.23	0.23	0.23	0.23	0.23
Sailfish Point	0.28	0.28	0.28	0.29	0.29	0.32	0.32	0.33
South Martin Regional Utility	5.87	6.06	5.45	5.62	5.79	6.20	6.66	6.87
St. Lucie Village Parklife	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Stuart	3.67	3.73	3.74	3.90	3.97	4.06	4.13	4.22
Tequesta (Martin portion)	0.96	0.96	0.99	1.01	1.03	1.03	1.04	1.04
Martin County Total	28.51	29.16	28.66	30.36	31.91	33.43	34.71	35.79
St. Lucie County								
Fort Pierce Utilities Authority	11.64	12.19	12.32	13.30	13.53	13.77	13.96	14.04
Harbour Ridge	0.17	0.20	0.20	0.20	0.21	0.21	0.21	0.21
Martin County Utilities (St. Lucie portion)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Meadowood Community Association	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Port St. Lucie	26.06	29.35	30.63	34.96	39.52	42.71	46.84	47.61
Reserve Community Development District	0.15	0.12	0.12	0.13	0.13	0.14	0.14	0.14
Spanish Lakes Country Club	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.27
Spanish Lakes Fairways	0.32	0.34	0.35	0.35	0.35	0.35	0.35	0.36
St. Lucie County Utilities	1.97	2.38	2.49	4.01	6.61	9.31	9.59	9.71
St. Lucie West Services District	2.82	2.93	2.94	2.95	2.98	2.98	3.00	3.02
St. Lucie County Total	43.49	47.87	49.41	56.27	63.70	69.84	74.47	75.47
UEC Planning Area Total								
UEC Planning Area Total	72.00	77.03	78.07	86.63	95.61	103.27	109.18	111.26

mgd = million gallons per day; PS = Public Supply; UEC = Upper East Coast.

^a No PS utilities are located in the portion of Okeechobee County within the UEC Planning Area.

DOMESTIC SELF-SUPPLY

The DSS category typically includes potable water used by households that are served by small utilities with current allocations less than 0.10 mgd or that are self-supplied by private wells. The permanent resident populations within DSS areas were developed simultaneously with the PS population estimates and projections as described earlier. To determine the current and future DSS demands, the weighted average PS PCURs (**Table A-2**) were multiplied by the DSS permanent resident populations in each county. DSS county PCURs remain constant through 2050. For DSS demands, the finished-to-raw water ratio is assumed to be 1.00. Therefore, no distinction is made between gross (raw) and net (finished) water demands.

Tables A-8 and A-9 contain the UEC Planning Area's DSS demand estimates and projections under average rainfall and 1-in-10-year drought conditions. The drought demand factors used for PS also were used to calculate 1-in-10-year drought DSS demands. The average gross (raw) DSS demands in 2024 were 6.23 mgd for 56,503 permanent residents (**Table A-1**) and are expected to decrease to 3.59 mgd in 2050 due to expansion of PS utility service areas to serve current DSS areas.

Table A-8. DSS gross (raw) water demands under average rainfall conditions in the UEC Planning Area.

County DSS	Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin	1.53	1.65	1.70	1.23	1.21	0.81	0.60	0.33
Okeechobee ^a	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
St. Lucie	1.79	4.52	5.20	5.02	3.18	2.28	1.51	3.20
UEC Planning Area Total	3.38	6.23	6.96	6.31	4.45	3.15	2.17	3.59

DSS = Domestic Self-Supply; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

Table A-9. DSS gross (raw) water demands under 1-in-10-year drought conditions in the UEC Planning Area.

County DSS	Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin	1.79	1.93	1.99	1.44	1.42	0.95	0.70	0.39
Okeechobee ^a	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
St. Lucie	1.95	4.93	5.67	5.47	3.47	2.49	1.65	3.49
UEC Planning Area Total	3.81	6.93	7.73	6.98	4.96	3.51	2.42	3.95

DSS = Domestic Self-Supply; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

AGRICULTURE

Water demands reported under AG include water used for agricultural production, such as farm irrigation, operation of greenhouses and nurseries, and raising livestock. Water used in the processing of agricultural commodities is accounted for under the CII category.

Previous UEC plan updates relied on various sources to develop agricultural acreage estimates and projections, including agricultural water use permits, parcel-level land use maps, and results from the United States Census of Agriculture. Irrigated acres were translated to water volume (mgd) estimates using the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) model (Smajstrla 1990).

Florida State legislation passed in 2013 prescribed a new approach for water management districts to consider agricultural water demands from the Florida Department of Agriculture and Consumer Services (FDACS). Section 570.93, F.S., directs the FDACS to develop annual statewide agricultural acreage and water demand projections based on the same 20-year planning horizon used in water supply planning. Under Section 373.709(2)(a)1.b., F.S., water management districts are required to consider FDACS projections, and any adjustments or deviations from the projections published by FDACS, "...must be fully described, and the original data must be presented along with the adjusted data."

AG Projection Methodology

FSAID Acreage and Demands Data

FDACS publishes 20-year agricultural acreage and associated water demand projections in annual Florida Statewide Agricultural Irrigation Demand (FSAID) reports. FDACS provides a draft of the geodatabase and report to the District and coordinates meetings to discuss updates on crop production, land use changes, and supporting data, so comments can be incorporated prior to publishing the final report. The 12th annual report (referred to as FSAID XII) was published in 2025 (FDACS 2025). The FSAID XII acreage projections (**Tables A-10** and **A-11**) are used in this 2026 UEC Plan Update to calculate AG demands.

Table A-10. Irrigated agricultural acres in the UEC Planning Area (From FDACS 2025).

Crop	2023	2025	2030	2035	2040	2045	2050
Sugarcane	26,152	26,152	25,802	24,375	23,667	23,433	22,716
Citrus	23,924	23,795	23,638	23,638	23,462	23,462	23,422
Hay/Pasture	19,862	19,779	19,673	19,637	19,525	19,525	18,938
Fresh Market Vegetables	11,446	11,446	10,933	10,677	10,429	9,810	9,810
Greenhouse/Nursery	4,489	3,981	3,724	3,715	3,704	3,570	3,489
Sod	3,388	3,388	3,335	3,335	2,826	2,826	2,826
Potatoes	1,398	1,398	1,101	1,101	1,101	272	272
Fruit (excluding citrus)	945	945	945	945	926	926	618
Field Crops	843	843	843	843	843	843	843
Total	92,447	91,727	89,994	88,266	86,483	84,667	82,934

FDACS = Florida Department of Agriculture and Consumer Services; UEC = Upper East Coast.

Table A-11. Irrigated agricultural demands (in mgd) in the UEC Planning Area
(From FDACS 2025).

Crop	2023	2025	2030	2035	2040	2045	2050
Sugarcane	33.02	33.02	32.58	30.77	29.87	29.58	28.68
Citrus	20.54	20.44	20.22	20.25	20.09	20.07	20.03
Hay/Pasture	14.31	14.16	13.96	13.94	13.77	13.72	13.35
Fresh Market Vegetables	15.74	15.76	15.07	14.70	14.35	13.53	13.53
Greenhouse/Nursery	11.47	10.32	9.75	9.73	9.72	9.40	9.19
Sod	3.23	3.23	3.19	3.19	2.73	2.73	2.73
Potatoes	1.41	1.41	1.14	1.14	1.14	0.29	0.29
Fruit (excluding citrus)	1.75	1.75	1.75	1.75	1.71	1.71	1.12
Field Crops	0.72	0.72	0.72	0.71	0.71	0.71	0.71
Total	102.19	100.81	98.38	96.18	94.09	91.74	89.63

FDACS = Florida Department of Agriculture and Consumer Services; mgd = million gallons per day; UEC = Upper East Coast.

Comparison of FSAID XII and AFSIRS Demands

The estimated 2024 and projected 2050 demands from the AFSIRS model were compared to the FSAID XII report. The demand projections differed by 52.68 mgd in 2024 and 46.99 mgd in 2050 despite sharing a similar irrigated acreage footprint (**Figure A-4**).

The SFWMD uses AFSIRS to estimate crop irrigation demands simulated in regional groundwater models, and the demands using AFSIRS resemble those obtained through the SFWMD's permitting methods. After reviewing water demands from FSAID XII and AFSIRS, the SFWMD chose to use water demand estimates and projections from AFSIRS based on irrigated acres published in the FSAID XII report (FDACS 2025). The decision to deviate from water demands published in the FSAID XII report (FDACS 2025) was made to maintain a consistent approach with previous planning and regional modeling efforts.

Data for soil type, rainfall, reference evapotranspiration are among the key inputs used with AFSIRS to calculate current and future demands. Soil input data were obtained from the Natural Resources Conservation Service's Soil Survey Geographic (SSURGO) database. Daily rainfall data were obtained from the SFWMD's Next Generation Radar (NEXRAD) rainfall data set. Reference evapotranspiration data were obtained from the United States Geological Survey's South Florida Information Access (SOFIA) database. The irrigation method for each irrigated parcel used with AFSIRS is provided in the FSAID XII data set. Most citrus groves are irrigated via microirrigation. Flood and seepage irrigation are the most common methods for all other crop categories.

Water demands associated with livestock and aquaculture production complete the demands for the AG category. Demands for these activities are taken directly from the FSAID XII report (FDACS 2025) without adjustment.

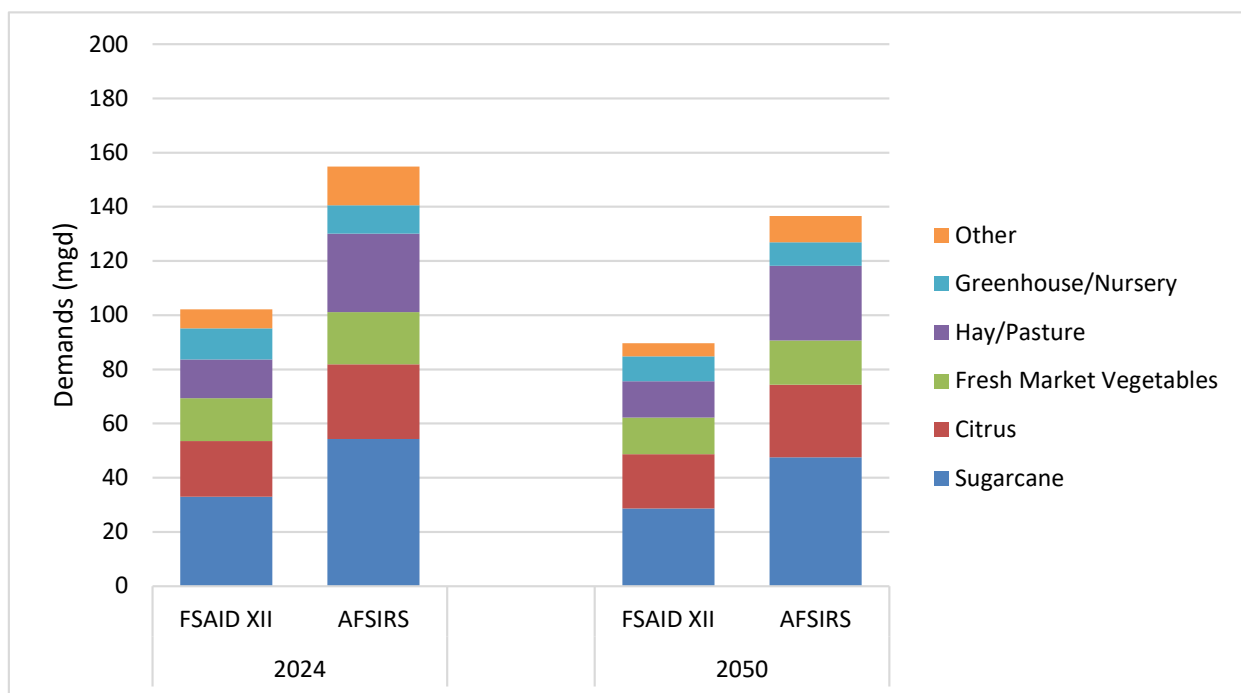


Figure A-4. Comparison of average water demands from the 12th Florida Statewide Agricultural Irrigation Demand (FSAID XII) report and the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS). (Note: The “Other” category includes commodities combined from **Table A-11** that are not graphed individually.)

AG Projection Results

AG acres and water demands depend on the choices of individual agricultural producers from year to year. Those choices are affected by several factors, including weather, markets, disease, proprietary information, and urban development pressure. AG projections can be affected by population changes as well as future land use conversions.

The gross irrigation requirements for various crop types under the AG category are provided in **Tables A-12 to A-20**. **Tables A-21 and A-22** summarize the gross water requirements for livestock and aquaculture. **Table A-23** summarizes all irrigated agricultural acreage and gross water demands in the UEC Planning Area by commodity, and **Table A-24** summarizes all irrigated agricultural acreage and gross water demands by county.

Sugarcane

Table A-12 presents the SFWMD's sugarcane acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-12. Gross irrigation demands (in mgd) for sugarcane acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	26,152	26,152	26,152	25,802	24,375	23,667	23,433	22,716
Average rainfall	54.35	54.35	54.35	53.62	50.73	49.65	49.10	47.60
1-in-10-year drought	63.12	63.12	63.12	62.27	58.91	58.12	57.48	55.72
Okeechobee County^a								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UEC Planning Area Total								
Irrigated acres	26,152	26,152	26,152	25,802	24,375	23,667	23,433	22,716
Average rainfall	54.35	54.35	54.35	53.62	50.73	49.65	49.10	47.60
1-in-10-year drought	63.12	63.12	63.12	62.27	58.91	58.12	57.48	55.72

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Sugarcane

Citrus

Table A-13 presents the SFWMD's citrus acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-13. Gross irrigation demands (in mgd) for citrus acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	734	734	734	734	734	710	710	710
Average rainfall	0.81	0.81	0.81	0.81	0.81	0.79	0.79	0.79
1-in-10-year drought	1.03	1.03	1.03	1.03	1.03	1.00	1.00	1.00
Okeechobee County ^a								
Irrigated acres	1,159	1,159	1,159	1,087	1,087	1,087	1,087	1,087
Average rainfall	1.26	1.26	1.26	1.18	1.18	1.18	1.18	1.18
1-in-10-year drought	1.56	1.56	1.56	1.46	1.46	1.46	1.46	1.46
St. Lucie County								
Irrigated acres	22,031	22,031	21,902	21,817	21,817	21,665	21,665	21,625
Average rainfall	25.45	25.45	25.26	25.21	25.21	24.48	24.48	24.79
1-in-10-year drought	32.12	32.12	31.87	31.81	31.81	30.89	30.89	31.63
UEC Planning Area Total								
Irrigated acres	23,924	23,924	23,795	23,638	23,638	23,462	23,462	23,422
Average rainfall	27.52	27.52	27.33	27.20	27.20	26.45	26.45	26.76
1-in-10-year drought	34.71	34.71	34.46	34.30	34.30	33.35	33.35	34.09

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Citrus Grove

Hay/Pasture

Table A-14 presents the SFWMD's hay/pasture acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions. The FSAID acres for this category are labeled and modeled as hay/pasture. The associated demands calculated with AFSIRS are assumed to capture irrigation for hay and any irrigation used for improved pasture.

Table A-14. Gross irrigation demands (in mgd) for hay/pasture acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	8,890	8,807	8,807	8,807	8,807	8,807	8,807	8,220
Average rainfall	13.36	13.24	13.24	13.24	13.24	13.24	13.24	12.24
1-in-10-year drought	15.38	15.24	15.24	15.24	15.24	15.24	15.24	14.06
Okeechobee County^a								
Irrigated acres	502	502	502	502	502	502	502	502
Average rainfall	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
1-in-10-year drought	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
St. Lucie County								
Irrigated acres	10,471	10,471	10,471	10,365	10,328	10,216	10,216	10,216
Average rainfall	15.35	15.35	15.35	15.21	15.14	15.00	15.00	15.00
1-in-10-year drought	17.93	17.93	17.93	17.76	17.69	17.53	17.53	17.53
UEC Planning Area Total								
Irrigated acres	19,863	19,780	19,780	19,674	19,637	19,525	19,525	18,938
Average rainfall	29.09	28.97	28.97	28.83	28.76	28.62	28.62	27.62
1-in-10-year drought	33.79	33.65	33.65	33.48	33.41	33.25	33.25	32.07

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Hay Field

Fresh Market Vegetables

Table A-15 presents the SFWMD's fresh market vegetable acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions, assuming two plantings per year lasting 4 months each. Examples of crops in the fresh market vegetable category include tomatoes, green beans, peppers, and melons.

Table A-15. Gross irrigation demands (in mgd) for fresh market vegetable acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	7,331	7,331	7,331	6,828	6,828	6,580	6,196	6,196
Average rainfall	14.56	14.56	14.56	13.86	13.86	13.34	12.56	12.56
1-in-10-year drought	16.70	16.70	16.70	15.93	15.93	15.33	14.41	14.41
Okeechobee County^a								
Irrigated acres	48	48	48	48	48	48	48	48
Average rainfall	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
1-in-10-year drought	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
St. Lucie County								
Irrigated acres	4,067	4,067	4,067	4,058	3,801	3,801	3,567	3,567
Average rainfall	4.58	4.58	4.58	4.37	3.92	3.92	3.60	3.60
1-in-10-year drought	5.89	5.89	5.89	5.62	5.04	5.04	4.63	4.63
UEC Planning Area Total								
Irrigated acres	11,446	11,446	11,446	10,934	10,677	10,429	9,811	9,811
Average rainfall	19.26	19.26	19.26	18.35	17.90	17.38	16.28	16.28
1-in-10-year drought	22.73	22.73	22.73	21.69	21.11	20.51	19.18	19.18

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Greenhouse/Nursery

Table A-16 presents the SFWMD's greenhouse/nursery acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-16. Gross irrigation demands (in mgd) for greenhouse/nursery acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	3,233	2,932	2,724	2,516	2,516	2,516	2,453	2,453
Average rainfall	7.28	6.39	6.14	5.49	5.49	5.49	5.46	5.46
1-in-10-year drought	8.11	7.12	6.83	6.11	6.11	6.11	6.08	6.08
Okeechobee County^a								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County								
Irrigated acres	1,257	1,257	1,257	1,208	1,200	1,188	1,117	1,035
Average rainfall	4.08	4.08	4.08	3.88	3.88	3.67	3.41	3.12
1-in-10-year drought	4.44	4.44	4.44	4.23	4.23	3.99	3.71	3.42
UEC Planning Area Total								
Irrigated acres	4,490	4,189	3,981	3,724	3,716	3,704	3,570	3,488
Average rainfall	11.36	10.47	10.22	9.37	9.37	9.16	8.87	8.58
1-in-10-year drought	12.55	11.56	11.27	10.34	10.34	10.10	9.79	9.50

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Greenhouse

Sod

Table A-17 presents the SFWMD's sod acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-17. Gross irrigation demands (in mgd) for sod acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	2,196	2,196	2,196	2,196	2,196	1,688	1,688	1,688
Average rainfall	3.69	3.69	3.69	3.69	3.69	3.13	3.13	3.13
1-in-10-year drought	4.44	4.44	4.44	4.44	4.44	3.99	3.99	3.99
Okeechobee County ^a								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County								
Irrigated acres	1,192	1,192	1,192	1,139	1,139	1,139	1,139	1,139
Average rainfall	2.69	2.69	2.69	2.54	2.54	2.54	2.54	2.54
1-in-10-year drought	3.16	3.16	3.16	2.99	2.99	2.99	2.99	2.99
UEC Planning Area Total								
Irrigated acres	3,388	3,388	3,388	3,335	3,335	2,827	2,827	2,827
Average rainfall	6.38	6.38	6.38	6.23	6.23	5.67	5.67	5.67
1-in-10-year drought	7.60	7.60	7.60	7.43	7.43	6.98	6.98	6.98

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Sod Farm

Potatoes

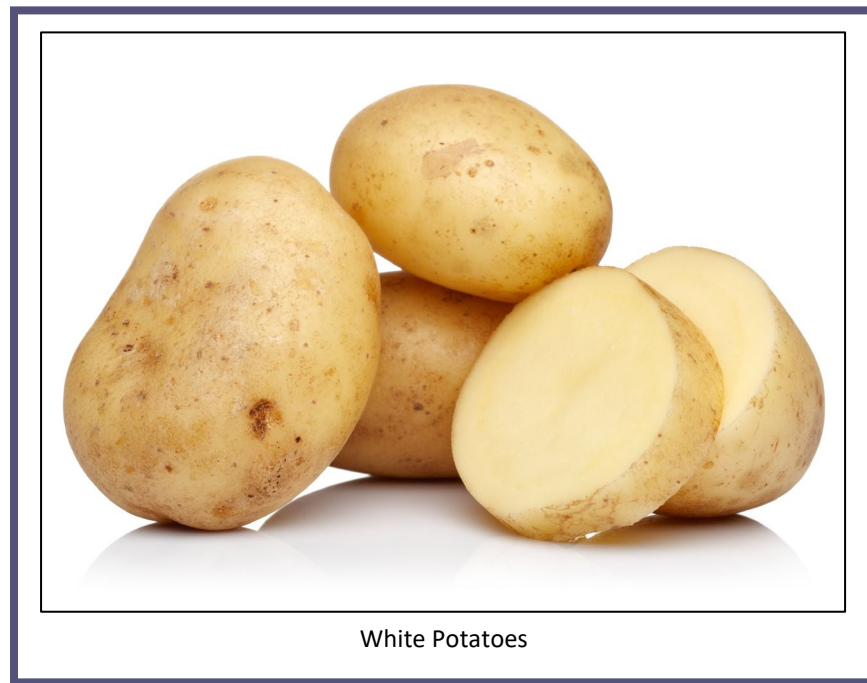
Table A-18 presents the SFWMD's potato acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-18. Gross irrigation demands (in mgd) for potato acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	1,398	1,398	1,398	1,101	1,101	1,101	272	272
Average rainfall	3.93	3.93	3.93	3.10	3.10	3.10	0.77	0.77
1-in-10-year drought	4.57	4.57	4.57	3.60	3.60	3.60	0.89	0.89
Okeechobee County ^a								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UEC Planning Area Total								
Irrigated acres	1,398	1,398	1,398	1,101	1,101	1,101	272	272
Average rainfall	3.93	3.93	3.93	3.10	3.10	3.10	0.77	0.77
1-in-10-year drought	4.57	4.57	4.57	3.60	3.60	3.60	0.89	0.89

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Fruit (Excluding Citrus)

Table A-19 presents the SFWMD's fruit (excluding citrus) acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-19. Gross irrigation demands (in mgd) for fruit (excluding citrus) acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	10	10	10	10	10	10	10	10
Average rainfall	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1-in-10-year drought	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Okeechobee County^a								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County								
Irrigated acres	935	935	935	935	935	915	915	608
Average rainfall	1.92	1.92	1.92	1.92	1.92	1.91	1.91	1.27
1-in-10-year drought	2.20	2.20	2.20	2.20	2.20	2.20	2.20	1.46
UEC Planning Area Total								
Irrigated acres	945	945	945	945	945	925	925	618
Average rainfall	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.28
1-in-10-year drought	2.22	2.22	2.22	2.22	2.22	2.22	2.22	1.48

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Strawberries

Field Crops

Table A-20 presents the SFWMD's field crop acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions. The field crops category includes soybeans, field corn, peanuts, dried beans, lentils, and other grains.

Table A-20. Gross irrigation demands (in mgd) for field crop acreage in the UEC Planning Area.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	271	271	271	271	271	271	271	271
Average rainfall	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
1-in-10-year drought	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Okeechobee County^a								
Irrigated acres	572	572	572	572	572	572	572	572
Average rainfall	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38
1-in-10-year drought	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
St. Lucie County								
Irrigated acres	0	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UEC Planning Area Total								
Irrigated acres	843	843	843	843	843	843	843	843
Average rainfall	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06
1-in-10-year drought	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.



Corn

Livestock

Table A-21 presents the FSAID XII water demand projections for livestock. Livestock demands published in the FSAID XII report were developed with assumed water requirements per head of livestock. Livestock demands are assumed to be the same under average rainfall and 1-in-10-year drought conditions.

Table A-21. Gross water demands (in mgd) for livestock in the UEC Planning Area.

2020	2024	2025	2030	2035	2040	2045	2050
Martin County							
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Okeechobee County ^a							
1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
St. Lucie County							
0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
UEC Planning Area Total							
1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

Note: Water demands for livestock were obtained from the FSAID XII report and not calculated using the AFSIRS model.



Cattle

Aquaculture

Table A-22 presents the FSAID XII water demand projections for aquaculture. Aquaculture demands are assumed to be the same under average rainfall and 1-in-10-year drought conditions.

Table A-22. Gross water demands (in mgd) for aquaculture in the UEC Planning Area.

2020	2024	2025	2030	2035	2040	2045	2050
Martin County							
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Okeechobee County ^a							
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
St. Lucie County							
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
UEC Planning Area Total							
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

Note: Water demands for aquaculture were obtained from the FSAID XII report and not calculated using the AFSIRS model.

Summary of Agricultural Results

Irrigated agricultural acres are projected to decrease 10% over the planning horizon, from 92,065 to 82,935 acres (**Tables A-23** and **A-24**). All counties are projected to experience reductions in demands, though Martin County will continue to have the majority of irrigated acres and AG demands through 2050 (**Table A-24**). AG demands across the UEC Planning Area are projected to decrease approximately 12%, from 156.77 mgd in 2024 to 138.52 mgd in 2050 under average rainfall conditions. Sugarcane accounts for the largest share of AG demands: 54.35 mgd in 2024 and 47.60 mgd in 2050. Although sugarcane has the greatest number of irrigated acres in 2024, the crop is projected to have the greatest decrease in irrigated acreage and associated demands over the planning horizon. By 2050, it will be reduced to 22,716 acres.

Table A-23. Summary of gross water demands (in mgd) for all agricultural acreage, livestock, and aquaculture in the UEC Planning Area by commodity.

	2020	2024	2025	2030	2035	2040	2045	2050
Sugarcane								
Irrigated acres	26,152	26,152	26,152	25,802	24,375	23,667	23,433	22,716
Average rainfall	54.35	54.35	54.35	53.62	50.73	49.65	49.10	47.60
1-in-10-year drought	63.12	63.12	63.12	62.27	58.91	58.12	57.48	55.72
Citrus								
Irrigated acres	23,924	23,924	23,795	23,638	23,638	23,462	23,462	23,422
Average rainfall	27.52	27.52	27.33	27.20	27.20	26.45	26.45	26.76
1-in-10-year drought	34.71	34.71	34.46	34.30	34.30	33.35	33.35	34.09
Hay/Pasture								
Irrigated acres	19,863	19,780	19,780	19,674	19,637	19,525	19,525	18,938
Average rainfall	29.09	28.97	28.97	28.83	28.76	28.62	28.62	27.62
1-in-10-year drought	33.79	33.65	33.65	33.48	33.41	33.25	33.25	32.07
Fresh Market Vegetables								
Irrigated acres	11,446	11,446	11,446	10,934	10,677	10,429	9,811	9,811
Average rainfall	19.26	19.26	19.26	18.35	17.90	17.38	16.28	16.28
1-in-10-year drought	22.73	22.73	22.73	21.69	21.11	20.51	19.18	19.18
Greenhouse/Nursery								
Irrigated acres	4,490	4,189	3,981	3,724	3,716	3,704	3,570	3,488
Average rainfall	11.36	10.47	10.22	9.37	9.37	9.16	8.87	8.58
1-in-10-year drought	12.55	11.56	11.27	10.34	10.34	10.10	9.79	9.50
Sod								
Irrigated acres	3,388	3,388	3,388	3,335	3,335	2,827	2,827	2,827
Average rainfall	6.38	6.38	6.38	6.23	6.23	5.67	5.67	5.67
1-in-10-year drought	7.60	7.60	7.60	7.43	7.43	6.98	6.98	6.98
Potatoes								
Irrigated acres	1,398	1,398	1,398	1,101	1,101	1,101	272	272
Average rainfall	3.93	3.93	3.93	3.10	3.10	3.10	0.77	0.77
1-in-10-year drought	4.57	4.57	4.57	3.60	3.60	3.60	0.89	0.89
Fruit (excluding citrus)								
Irrigated acres	945	945	945	945	945	925	925	618
Average rainfall	1.93	1.93	1.93	1.93	1.93	1.92	1.92	1.28
1-in-10-year drought	2.22	2.22	2.22	2.22	2.22	2.22	2.22	1.48
Field Crops								
Irrigated acres	843	843	843	843	843	843	843	843
Average rainfall	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06
1-in-10-year drought	2.37	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Livestock								
Irrigated acres	--	--	--	--	--	--	--	--
Average rainfall	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
1-in-10-year drought	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82

Table A-23. Continued.

Aquaculture								
Irrigated acres	--	--	--	--	--	--	--	--
Average rainfall	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
1-in-10-year drought	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
UEC Planning Area Total								
Irrigated acres	92,449	92,065	91,728	89,996	88,267	86,483	84,668	82,935
Average rainfall	157.78	156.77	156.33	152.59	149.18	145.91	141.64	138.52
1-in-10-year drought	185.56	184.43	183.89	179.60	175.59	172.40	167.41	164.18

mgd = million gallons per day; UEC = Upper East Coast.

Table A-24. Summary of gross water demands (in mgd) for all agricultural acreage, livestock, and aquaculture in the UEC Planning Area by county.

	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Irrigated acres	50,215	49,831	49,623	48,265	46,838	45,350	43,840	42,536
Average rainfall	99.06	98.05	97.80	94.89	92.00	89.82	86.13	83.63
1-in-10-year drought	114.54	113.41	113.12	109.81	106.45	104.58	100.28	97.34
Okeechobee County ^a								
Irrigated acres	2,281	2,281	2,281	2,209	2,209	2,209	2,209	2,209
Average rainfall	4.24	4.24	4.24	4.16	4.16	4.16	4.16	4.16
1-in-10-year drought	4.87	4.87	4.87	4.77	4.77	4.77	4.77	4.77
St. Lucie County								
Irrigated acres	39,953	39,953	39,824	39,522	39,220	38,924	38,619	38,190
Average rainfall	54.48	54.48	54.29	53.54	53.02	51.93	51.35	50.73
1-in-10-year drought	66.15	66.15	65.90	65.02	64.37	63.05	62.36	62.07
UEC Planning Area Total								
Irrigated acres	92,449	92,065	91,728	89,996	88,267	86,483	84,668	82,935
Average rainfall	157.78	156.77	156.33	152.59	149.18	145.91	141.64	138.52
1-in-10-year drought	185.56	184.43	183.89	179.60	175.59	172.40	167.41	164.18

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL

The CII water use category includes demands associated with commercial and industrial operations for processing, manufacturing, and technical needs (e.g., concrete production, citrus and vegetable processing, and mining operations). Commercial, industrial, or institutional users that receive water from PS utilities or use recirculated water in closed-loop geothermal heating and cooling systems are not included in CII demand calculations. Although a large portion of CII water used by the mining industry for activities such as rock washing is returned to the source, all mining water use is included in demand estimates and projections. All CII demand estimates and projections are presumed to be the same for average rainfall and 1-in-10-year drought conditions.

CII Projection Methodology

CII estimates and projections are based on water use data from the SFWMD's Water Use Permit database. If an active CII permit holder did not report water use, demand estimates were calculated as described in the *2023 Estimated Water Use Report* (SFWMD 2025).

Increases in the CII category are expected to be driven by growth of the regional economy and permanent resident population. Therefore, CII projections are anticipated to increase steadily as county permanent resident populations increase. Previous analyses of the relationship between CII demands and population growth support this approach.

CII Projection Results

Table A-25 summarizes the current and projected CII demands in the UEC Planning Area in 5-year increments through 2050. Martin and St. Lucie counties maintain a similar share of the region's CII demands over the planning horizon.

Table A-25. CII demand projections in the UEC Planning Area.

County	Demand (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin	0.36	0.24	0.24	0.25	0.26	0.27	0.27	0.28
Okeechobee ^a	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
St. Lucie	0.29	0.27	0.28	0.32	0.34	0.36	0.38	0.38
UEC Planning Area Total	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71

CII = Commercial/Industrial/Institutional; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

LANDSCAPE/RECREATIONAL

L/R water demands include irrigation for golf courses and other landscaped areas, such as parks, sports fields, and common areas of residential developments. L/R acreages reflect only the acres with SFWMD water use permits and include acreages using reclaimed water as a supplemental or backup supply. Acreages irrigated solely with reclaimed water do not require a water use permit and are not included. L/R demands were calculated using a combination of water use reported to the SFWMD as part of its regulatory compliance program and reclaimed water use reported by wastewater utilities to the FDEP.

There are two types of irrigated landscaped areas outside those permitted by the SFWMD that are excluded from the L/R demands. The first type includes landscaped areas irrigated with potable water provided by PS utilities, accounted for in PS demand estimates and projections. The second type is irrigated landscaped areas served by individual residential wells and surface water pumps permitted by rule (Rule 40E-2.061, Florida Administrative Code) and accounted for in DSS demand estimates and projections.

L/R Projection Methodology

L/R 2024 water use data reported to the SFWMD and estimated data for those not required to report are available in the *2023 Estimated Water Use Report* (SFWMD 2025). Reuse flows were determined from information supplied by wastewater utilities during initial outreach efforts and from each utility's 2024 Annual Reuse Report available from the FDEP OCULUS database (FDEP 2024). The 2024 use data from all sources were considered representative of demands under average rainfall conditions.

The SFWMD's reported and estimated water use and the reuse flow data allow for the disaggregation of L/R demands into the landscape and golf irrigation subcategories. Irrigated landscape and golf course acres indicated in **Table A-26** were calculated using the permitted L/R acreage from the SFWMD's Water Use Permit database. L/R acreages reflect only the acres with water use permits, including acreages using reclaimed water as a supplemental or backup supply. Acreages irrigated solely with reclaimed water do not require a water use permit and are not included.

Table A-26. L/R permitted acres in the UEC Planning Area.

Land Use	L/R Permitted Acres in the UEC Planning Area							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Landscape	3,249	3,347	3,368	3,502	3,605	3,684	3,747	3,802
Golf	2,965	3,520	4,500	4,500	4,500	4,500	4,500	4,500
Martin County Total	6,214	6,867	7,868	8,002	8,105	8,184	8,247	8,302
Okeechobee County ^a								
Landscape	30	42	42	43	44	45	46	47
Golf	0	0	0	0	0	0	0	0
Okeechobee County Total	30	42	42	43	44	45	46	47
St. Lucie County								
Landscape	5,224	5,360	5,566	6,168	6,671	7,098	7,465	7,514
Golf	1,784	1,784	2,218	2,218	2,218	2,218	2,218	2,218
St. Lucie County Total	7,008	6,995	7,784	8,386	8,889	9,316	9,683	9,732
UEC Planning Area Total								
Landscape	8,503	8,749	8,976	9,713	10,320	10,827	11,258	11,363
Golf	4,749	5,304	6,718	6,718	6,718	6,718	6,718	6,718
UEC Planning Area Total	13,252	14,053	15,694	16,431	17,038	17,545	17,976	18,081

L/R = Landscape/Recreational; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

The distinction is made between the acres and demands for golf courses and landscaped areas because they are projected to grow at different rates. Landscape irrigation was assumed to increase at the same rate as the counties' permanent resident populations. Golf course acreage and associated water demands in 2020 and 2024 are based on the respective permitted acreage. Following the development of five known proposed golf courses (three in Martin County and two in St. Lucie County) by 2025, golf course acreage and demands are projected to remain stable through 2050. This approach is used in other planning areas within the SFWMD and by other water management districts in Florida.

L/R Projection Results

Gross water demands for L/R were met with a combination of traditional water sources (groundwater and surface water) and reclaimed water. **Table A-27** shows that groundwater and surface water supply sources met approximately 81% of the 2024 L/R water demands, with reclaimed water supplementing the remaining 19%. The ratio of reclaimed water to groundwater/surface water used to meet future L/R demands is assumed to remain constant. Demands for reclaimed water in each county are assumed to grow at the same rate as that county's L/R demands.

Table A-27. L/R gross water demands in the UEC Planning Area by county and source.

Source	Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Groundwater/Surface Water	14.07	19.64	19.64	20.42	20.73	20.96	21.15	21.31
Reclaimed Water	2.93	4.09	4.09	4.25	4.32	4.36	4.40	4.44
Martin County Total	17.00	23.73	23.73	24.67	25.04	25.33	25.55	25.75
Okeechobee County ^a								
Groundwater/Surface Water	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13
Reclaimed Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13
St. Lucie County								
Groundwater/Surface Water	13.85	17.44	17.95	20.79	22.04	23.09	24.01	24.13
Reclaimed Water	3.92	4.75	4.89	5.66	6.00	6.29	6.54	6.57
St. Lucie County Total	17.77	22.19	22.84	26.45	28.04	29.38	30.54	30.70
UEC Planning Area Total								
Groundwater/Surface Water	28.01	37.20	37.71	41.33	42.89	44.19	45.29	45.57
Reclaimed Water	6.85	8.84	8.98	9.91	10.32	10.66	10.94	11.01
UEC Planning Area Total	34.86	46.04	46.69	51.25	53.21	54.84	56.23	56.58

L/R = Landscape/Recreational; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

L/R gross irrigation demand projections under average rainfall conditions, including reclaimed water, are presented in **Table A-28**. **Table A-29** shows the estimated quantity of water provided to meet projected demands during 1-in-10-year drought conditions.

Table A-28. L/R gross irrigation demands under average rainfall conditions in the UEC Planning Area.

Land Use	Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Landscape	8.43	12.13	12.13	12.61	12.98	13.27	13.49	13.69
Golf	8.57	11.60	11.60	12.06	12.06	12.06	12.06	12.06
Martin County Total	17.00	23.73	23.73	24.67	25.04	25.33	25.55	25.75
Okeechobee County ^a								
Landscape	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13
Golf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13
St. Lucie County								
Landscape	12.61	16.91	17.56	19.46	21.05	22.39	23.55	23.71
Golf	5.16	5.28	5.28	6.99	6.99	6.99	6.99	6.99
St. Lucie County Total	17.77	22.19	22.84	26.45	28.04	29.38	30.54	30.70
UEC Planning Area Total								
Landscape	21.13	29.16	29.81	32.20	34.16	35.79	37.18	37.53
Golf	13.73	16.88	16.88	19.05	19.05	19.05	19.05	19.05
UEC Planning Area Total	34.86	46.04	46.69	51.25	53.21	54.84	56.23	56.58

L/R = Landscape/Recreational; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

Table A-29. L/R gross irrigation demands under 1-in-10-year drought conditions in the UEC Planning Area.

Land Use	Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Landscape	10.62	15.28	15.28	15.89	16.36	16.72	17.00	17.25
Golf	11.14	15.08	15.08	15.68	15.68	15.68	15.68	15.68
Martin County Total	21.76	30.36	30.36	31.57	32.04	32.40	32.68	32.93
Okeechobee County ^a								
Landscape	0.11	0.15	0.15	0.15	0.16	0.16	0.16	0.17
Golf	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	0.11	0.15	0.15	0.15	0.16	0.16	0.16	0.17
St. Lucie County								
Landscape	15.89	21.31	22.13	24.52	26.52	28.22	29.68	29.87
Golf	6.71	6.86	6.86	9.09	9.09	9.09	9.09	9.09
St. Lucie County Total	22.60	28.17	28.99	33.61	35.61	37.30	38.77	38.96
UEC Planning Area Total								
Landscape	26.62	36.74	37.56	40.57	43.04	45.10	46.85	47.29
Golf	17.85	21.94	21.94	24.77	24.77	24.77	24.77	24.77
UEC Planning Area Total	44.47	58.69	59.51	65.33	67.80	69.86	71.61	72.06

L/R = Landscape/Recreational; mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

POWER GENERATION

Demands under the PG category include use of groundwater, fresh surface water, or reclaimed water by thermoelectric power generation facilities. There are two power generation facilities operating in the UEC Planning Area that are addressed in this plan update: the Martin Power Plant near Indiantown (Martin County) and the Treasure Coast Energy Center in Fort Pierce (St. Lucie County). The Martin Power Plant draws surface water from the C-44 Canal and an on-site pond for cooling purposes. The Treasure Coast Energy Center withdraws groundwater from the Floridan aquifer system. No power generation facilities used reclaimed water in 2024; however, once the Mainland Water Reclamation Facility becomes operable, it will provide reclaimed water to the Treasure Coast Energy Center by 2027. More information about the Mainland Water Reclamation Facility is provided in **Appendix E**.

PG demands for 2020 and 2024 were based on reported pumpage and verified through coordination with power generation facility staff. Future demands beyond 2024 were projected by power generation facility staff, considering past and current pumpage, planned projects, and anticipated needs. No new power generation facilities are planned for construction or operation through 2050, and PG demands are projected to remain relatively stable (**Table A-30**). All PG demand estimates and projections are presumed to be the same for average rainfall and 1-in-10-year drought conditions.

Table A-30. PG water demands in the UEC Planning Area between 2020 and 2050.

Facilities	Gross Demand (mgd) ^a							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin Power Plant	11.81	19.61	16.01	16.01	16.01	16.01	16.01	16.01
Treasure Coast Energy Center	1.50	1.50	1.50	0.41	0.41	0.41	0.41	0.41
UEC Planning Area Total	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42

mgd = million gallons per day; PG = Power Generation; UEC = Upper East Coast.

^a Does not include harvested rainwater, seawater, city water, or surface water returned to the source.

SUMMARY OF DEMAND PROJECTIONS

Total demands for the UEC Planning Area are anticipated to decrease by 16.12 mgd (-5%). AG demands are projected to see the largest decrease from 2024 to 2050, falling from 156.77 mgd to 138.52 mgd (-12%). PS is expected to increase 45% due to the projected population growth of 195,507 permanent residents, reaching 99.83 mgd by 2050. Also driven by population growth, L/R demands are projected to reach 56.58 mgd by 2050. The demands for all remaining categories (DSS, CII, and PG) are small and projected to be 20.72 mgd, combined, in 2050. Gross water demands in 5-year increments, by county and water use category, are provided in **Table A-31** for average rainfall conditions and **Table A-32** for 1-in-10-year drought conditions.

Table A-31. Summary of gross water demands under average rainfall conditions in the UEC Planning Area by water use category.

Water Use Category	Demand – Average Rainfall Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Public Supply	24.38	24.92	24.50	25.94	27.27	28.56	29.66	30.59
Domestic Self-Supply	1.53	1.65	1.70	1.23	1.21	0.81	0.60	0.33
Agriculture	99.06	98.05	97.80	94.89	92.00	89.82	86.13	83.63
Commercial/Industrial/Institutional	0.36	0.24	0.24	0.25	0.26	0.27	0.27	0.28
Landscape/Recreational	17.00	23.73	23.73	24.67	25.04	25.33	25.55	25.75
Power Generation	11.81	19.61	16.01	16.01	16.01	16.01	16.01	16.01
Martin County Total	154.14	168.20	163.98	162.99	161.79	160.80	158.22	156.59
Okeechobee County^a								
Public Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic Self-Supply	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Agriculture	4.24	4.24	4.24	4.16	4.16	4.16	4.16	4.16
Commercial/Industrial/Institutional	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Landscape/Recreational	0.09	0.12	0.12	0.12	0.13	0.13	0.13	0.13
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	4.43	4.46	4.46	4.38	4.39	4.39	4.40	4.40
St. Lucie County								
Public Supply	39.91	43.91	45.32	51.62	58.43	64.06	68.32	69.24
Domestic Self-Supply	1.79	4.52	5.20	5.02	3.18	2.28	1.51	3.20
Agriculture	54.48	54.48	54.29	53.54	53.02	51.93	51.35	50.73
Commercial/Industrial/Institutional	0.29	0.27	0.28	0.32	0.34	0.36	0.38	0.38
Landscape/Recreational	17.77	22.19	22.84	26.45	28.04	29.38	30.54	30.70
Power Generation	1.50	1.50	1.50	0.41	0.41	0.41	0.41	0.41
St. Lucie County Total	115.74	126.87	129.43	137.36	143.42	148.42	152.51	154.66
UEC Planning Area Total								
Public Supply	64.29	68.83	69.82	77.56	85.70	92.62	97.98	99.83
Domestic Self-Supply	3.38	6.23	6.96	6.31	4.45	3.15	2.17	3.59
Agriculture	157.78	156.77	156.33	152.59	149.18	145.91	141.64	138.52
Commercial/Industrial/Institutional	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71
Landscape/Recreational	34.86	46.04	46.69	51.24	53.21	54.84	56.22	56.58
Power Generation	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42
UEC Planning Area Total	274.31	299.53	297.87	304.73	309.60	313.61	315.13	315.65

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

Table A-32. Summary of gross water demands under 1-in-10-year drought conditions in the UEC Planning Area by water use category.

Water Use Category	Demand – 1-in-10-Year Drought Conditions (mgd)							
	2020	2024	2025	2030	2035	2040	2045	2050
Martin County								
Public Supply	28.51	29.16	28.66	30.36	31.91	33.43	34.71	35.79
Domestic Self-Supply	1.79	1.93	1.99	1.44	1.42	0.95	0.70	0.39
Agriculture	114.54	113.41	113.12	109.81	106.45	104.58	100.28	97.34
Commercial/Industrial/Institutional	0.36	0.24	0.24	0.25	0.26	0.27	0.27	0.28
Landscape/Recreational	21.76	30.36	30.36	31.57	32.04	32.40	32.68	32.93
Power Generation	11.81	19.61	16.01	16.01	16.01	16.01	16.01	16.01
Martin County Total	178.77	194.71	190.38	189.44	188.09	187.64	184.65	182.74
Okeechobee County^a								
Public Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Domestic Self-Supply	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Agriculture	4.87	4.87	4.87	4.77	4.77	4.77	4.77	4.77
Commercial/Industrial/Institutional	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
Landscape/Recreational	0.11	0.15	0.15	0.15	0.16	0.16	0.16	0.17
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Okeechobee County Total	5.09	5.13	5.13	5.03	5.04	5.04	5.05	5.06
St. Lucie County								
Public Supply	43.49	47.87	49.41	56.27	63.70	69.84	74.47	75.47
Domestic Self-Supply	1.95	4.93	5.67	5.47	3.47	2.49	1.65	3.49
Agriculture	66.15	66.15	65.90	65.02	64.37	63.05	62.36	62.07
Commercial/Industrial/Institutional	0.29	0.27	0.28	0.32	0.34	0.36	0.38	0.38
Landscape/Recreational	22.60	28.17	28.99	33.61	35.61	37.30	38.77	38.96
Power Generation	1.50	1.50	1.50	0.41	0.41	0.41	0.41	0.41
St. Lucie County Total	135.98	148.89	151.75	161.10	167.90	173.45	178.04	180.78
UEC Planning Area Total								
Public Supply	72.00	77.03	78.07	86.63	95.61	103.27	109.18	111.26
Domestic Self-Supply	3.81	6.93	7.73	6.98	4.96	3.51	2.42	3.95
Agriculture	185.56	184.43	183.89	179.60	175.59	172.40	167.41	164.18
Commercial/Industrial/Institutional	0.69	0.55	0.56	0.61	0.64	0.67	0.70	0.71
Landscape/Recreational	44.47	58.68	59.50	65.33	67.81	69.86	71.61	72.06
Power Generation	13.31	21.11	17.51	16.42	16.42	16.42	16.42	16.42
UEC Planning Area Total	319.84	348.73	347.26	355.57	361.03	366.13	367.74	368.58

mgd = million gallons per day; UEC = Upper East Coast.

^a Values listed are only for the area within the UEC Planning Area boundaries.

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B

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PUBLIC SUPPLY UTILITY SUMMARIES

This appendix includes summaries of the Public Supply (PS) utilities that provide 0.10 million gallons per day (mgd) or greater of gross (raw) potable water for the Upper East Coast (UEC) Planning Area (**Table B-1**). The utility summaries were updated with data from the Florida Department of Environmental Protection (FDEP) Drinking Water Database (FDEP 2024a), population estimates from the 2020 Census (United States Census Bureau 2020), the FDEP OCULUS database (FDEP 2024b), and the South Florida Water Management District (SFWMD or District) Water Use Permit database. In addition, proposed water supply projects were updated based on utility reports provided to the SFWMD in November 2025 and through direct contact with utilities in 2025 to 2026. To help understand the information in the utility summaries, a sample profile with descriptions is provided. The utility summaries are ordered alphabetically by county for easy navigation. **Figures B-1** and **B-2** show the existing and projected PS service areas and wellfields, respectively, in Martin County. **Figures B-3** and **B-4** show the existing and projected PS service areas and wellfields, respectively, in St. Lucie County. A discussion of utilities and the local governments they serve is provided at the end of the appendix. Potential future water conservation savings are not included in the utility summaries. **Chapter 3** of this plan update addresses conservation and potential water savings.

INFO

Acronyms and Abbreviations

ASR – aquifer storage and recovery

FAS – Floridan aquifer system

FDEP – Florida Department of Environmental Protection

MG – million gallons

mgd – million gallons per day

PS – Public Supply

PWS ID – Public Water System Identification Number

RO – reverse osmosis

SAS – surficial aquifer system

STOF – Seminole Tribe of Florida

UEC – Upper East Coast

WTP – water treatment plant

WWTF – wastewater treatment facility

Table B-1. Summary of the PS utilities with a capacity of 0.10 mgd or greater in the UEC Planning Area.

Supply Entity/Facility	SFWMD Permit Number	Gross (Raw) Water (mgd)			FDEP PWS ID	Rated Net (Finished) Capacity (mgd)
		Average Daily Allocation	SAS	FAS		
Martin County						
Indiantown	43-00041-W	1.17	1.17	0.00	4430667	1.29
Jupiter (Martin portion)	50-00010-W	24.41	18.80	11.71	4501491	30.00
Martin County Utilities	43-00102-W	21.00 ^a	5.92 ^a	15.09	4431891	18.80
Sailfish Point	43-00030-W	0.27	0.00	0.27	4434000	0.35
South Martin Regional Utility	43-00066-W	8.64	4.83	4.76	4430667	8.14
St. Lucie Village Parklife	43-01284-W	0.10	0.10	0.00	4431379	0.17
Stuart	43-00053-W	3.62	3.40	0.88	4430259	7.50
Tequesta (Martin portion)	50-00046-W	4.37	1.10	3.43	4501438	6.33
Martin County Total		63.58	35.32	36.14	--	72.58
St. Lucie County						
Fort Pierce Utilities Authority	56-00085-W	21.13	8.00	13.13	4560490	23.32
Harbour Ridge	56-00449-W	0.13	0.13	0.00	4565002	0.36
Meadowood Community Association	56-00462-W	0.14	0.14	0.00	4565002	0.43
Port St. Lucie	56-00142-W	51.38	5.00	46.38	4560954	41.65
Reserve Community Development District	56-00552-W	0.17	0.17	0.00	4565030	0.41
Spanish Lakes Country Club	56-00401-W	0.31	0.31	0.00	4434000	0.48
Spanish Lakes Fairways	56-00627-W	0.26	0.26	0.00	4434000	0.93
St. Lucie County Utilities	56-00406-W	9.43	0.17	9.43	4561689	0.29
St. Lucie West Services District	56-00614-W	3.10	0.00	3.10	4565030	3.60
St. Lucie County Total		86.05	14.18	72.04	--	71.47
UEC Planning Area Total		149.63	49.50	108.18	--	144.05

FAS = Floridan aquifer system; FDEP = Florida Department of Environmental Protection; mgd = million gallons per day; PWS ID = Public Water System Identification Number; SAS = surficial aquifer system; SFWMD = South Florida Water Management District.

^a This is a 20-year allocation expiring in 2035; a temporary 5-year allocation expires in 2026.

SAMPLE UTILITY NAME

Service Area: City and portions of unincorporated county

Description: This description includes water sources, type of WTPs, and other relevant information about the utility. If the utility produces reclaimed water, information regarding the quantity and projects may be included. If the utility sells or purchases bulk water, that information is listed.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				100,000	110,000	120,000	130,000
Average 2020–2024 Per Capita (gallons per day finished water)				100			
Potable Water Demands (daily average annual finished water in mgd)				10.00	11.00	12.00	13.00
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 12-34567-W (expires 2040)			
Surface Water				2.00			
Surficial Aquifer System				14.00			
Floridan Aquifer System				0.00			
Total Allocation				16.00			
FDEP Potable Water Treatment Capacity (mgd) (PWS ID# 1234567)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
Surficial Aquifer System/Surface Water				18.00	18.00	18.00	18.00
Floridan Aquifer System				0.00	2.00	3.00	3.00
Total Potable Treatment Capacity				18.00	20.00	21.00	21.00
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				1.00	1.00	4.00	4.00
Total Nonpotable Treatment Capacity				1.00	1.00	4.00	4.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
2.00 mgd Expansion of Floridan RO Treatment Plant	FAS	2029	\$14.00	2.00	2.00	2.00	
Floridan Wells and RO Treatment Plant Expansion	FAS	2037	\$4.00	0.00	1.00	1.00	
Total Potable Water			\$18.00	2.00	3.00	3.00	
Nonpotable Water							
3.00 mgd Reclaimed Water Facility	Reclaimed	2039	\$5.00	0.00	3.00	3.00	
ASR and Irrigation Supply	Stormwater	2039	\$2.00	0.00	1.00	1.00	
Total Nonpotable Water			\$7.00	0.00	4.00	4.00	
Total New Water			\$25.00	2.00	7.00	7.00	

1	Population – The 2024 permanent resident populations were determined by assigning 2020 United States Census Bureau (2020) block data to 2024 PS utility service areas. To project permanent resident populations to 2050, the relative growth rates for PS utility service areas were developed from county population projections. (See Appendix A for more information.)
2	Average 2020–2024 Per Capita (gallons per day finished water) – A PS utility’s per capita is calculated by dividing total net (finished) water produced each year from monthly operating reports submitted by utilities to the FDEP (2024a) by the utility’s permanent service area population for that year. Each utility’s per capita was calculated for 2020 to 2024, then averaged over the 5 years.
3	Potable Water Demands (daily average annual finished water in mgd) – The 2024 base year demand was calculated using the PS utility’s average 2020 to 2024 per capita multiplied by the 2024 service area permanent resident population. The projected demands for 2024 to 2050 were calculated using the utility’s average 2020 to 2024 per capita multiplied by the utility’s projected populations for those years.
4	Allocation from the SFWMD Water Use Permit – The total allocation is composed of gross (raw) surface water and groundwater (from the SAS and FAS) allocations as described in the utility’s water use permit. The 2024 allocation is assumed to continue through 2050 unless noted otherwise.
5	Total Allocation – The total gross (raw) water allocation in the water use permit. For utilities with multiple sources, total allocation may be less than the sum of the individual source allocations; this is indicated in the appropriate profiles.
6	FDEP Permitted Capacity – The total net (finished) water treatment capacity of the WTP(s), as provided by the FDEP (2024b). The treatment capacity is split into the capacity available to process water from surface water as well as the SAS and FAS.
7	Future Projected Treatment Capacity – The net (finished) water treatment capacity created by projects listed in the Project Summary (Item 10). Project treatment capacity to be completed by 2030 is shown in the 2030 column, treatment capacity to be completed between 2031 and 2040 is in the 2040 column, and treatment capacity to be completed between 2041 and 2050 is in the 2050 column.
8	Total Potable Treatment Capacity – The existing net (finished) water capacity of the WTP(s) owned/operated by the utility in addition to the volumes of net (finished) water produced by future planned projects.
9	Reclaimed Water – The capacity of the WWTF(s) to produce reclaimed water as provided by the FDEP (2024a). Additional capacity is from projects planned by the utility (listed under Item 12).
10	Potable Water Project Summary – A description of the potable water supply projects the utility is proposing to construct. Only projects that produce additional potable water (e.g., wells, WTPs) are included; maintenance or replacement projects are not included. Each project has a water source, anticipated completion date, estimated total capital cost, and projected volume of treatment capacity. Proposed projects have been screened at a planning level but must meet permit issuance criteria.
11	Total Projected Cumulative Design Capacity for Potable Water for 2030, 2040, and 2050 – The total volume of potable water supply projects expected to be completed by 2030, 2040, and 2050, respectively. The totals are added to the appropriate projected capacities in Item 7.
12	Nonpotable Water Project Summary – A description of the nonpotable water supply projects the utility is proposing to construct. Only projects that produce additional nonpotable water are included; maintenance or replacement projects are not included. Each project has a water source, anticipated completion date, estimated total capital cost, and projected volume of treatment capacity.
13	Total Projected Cumulative Design Capacity for Nonpotable Water for 2030, 2040, and 2050 – The total volume of nonpotable water supply projects expected to be completed by 2030, 2040, and 2050, respectively. If the project provides reclaimed water, totals are added to the appropriate projected capacities in Item 9.
14	Total Projected Cumulative Design Capacity for New Water for 2030, 2040, and 2050 – The total projected cost and capacity of potable and nonpotable water supply projects the utility is proposing to construct between 2024 and 2050.

MARTIN COUNTY

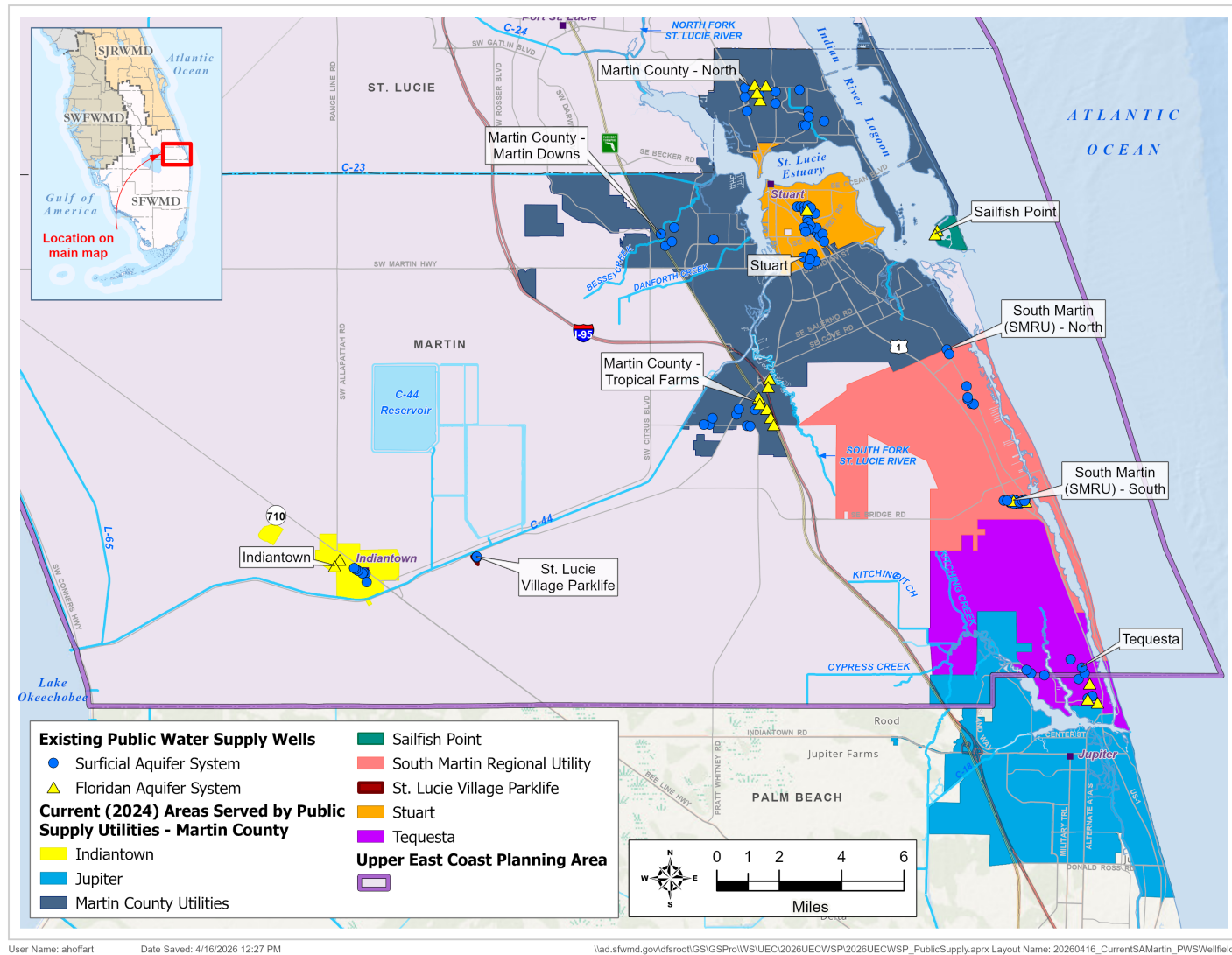
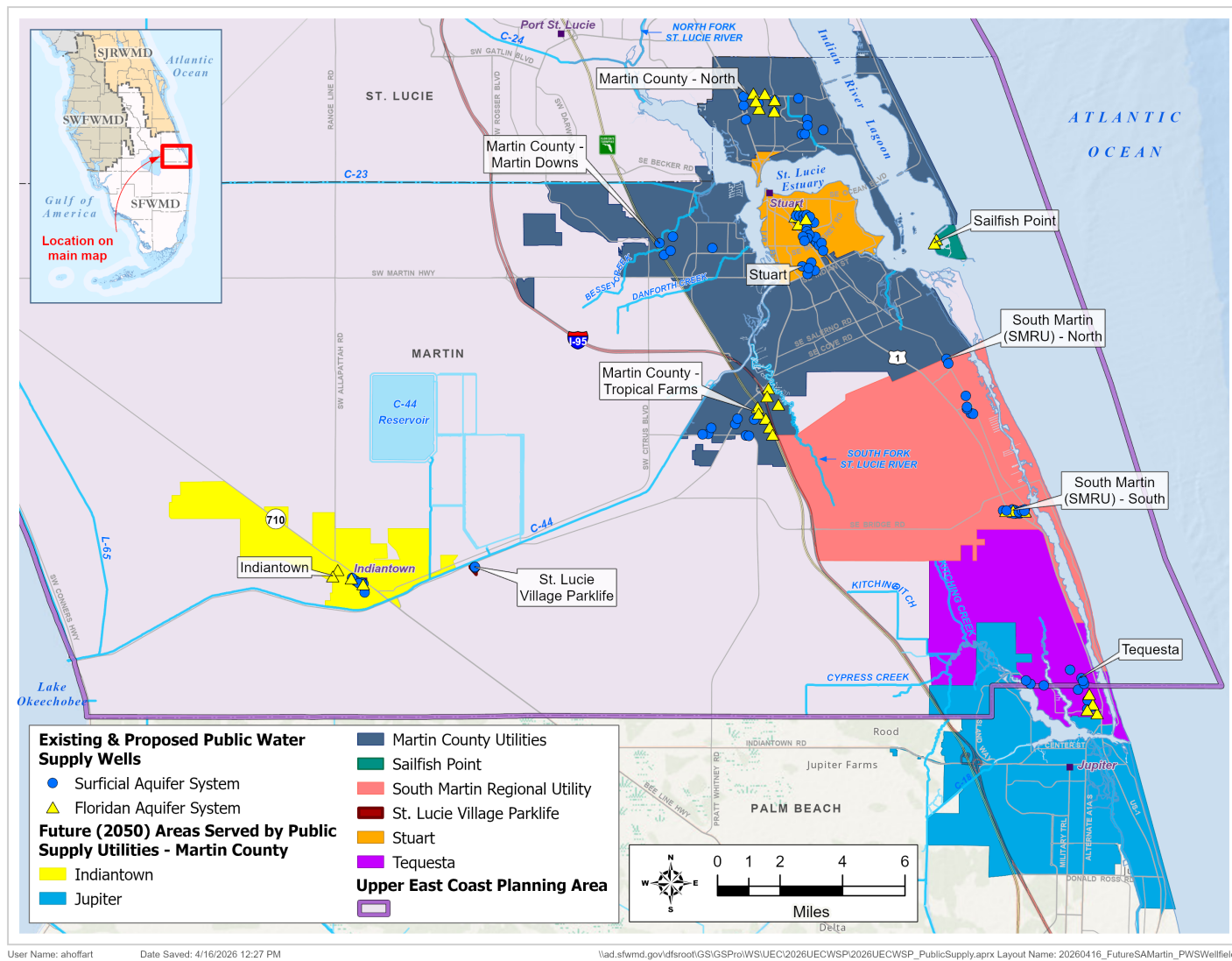


Figure B-1. Existing (2024) PS utility service areas and wellfields in Martin County.



INDIANTOWN

Service Area: Village of Indiantown, unincorporated portions of Martin County, and Indiantown Golf and Country Club

Description: Potable water supplies are obtained from Indiantown's SAS wellfield, and water is treated at Indiantown's WTP using aeration, disinfection, and chlorination.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				6,410	11,650	13,065	13,195
Average 2020-2024 Per Capita (gallons per day finished water)				94			
Potable Water Demands (daily average annual finished water in mgd)				0.60	1.10	1.23	1.24
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-00041-W (expires 2029)			
SAS				1.17			
FAS				0.00			
Total Allocation				1.17			
FDEP Potable Water Treatment Capacity (PWS ID # 4430667)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				1.29	1.29	1.29	1.29
FAS				0.00	4.00	6.00	6.00
Total Potable Treatment Capacity				1.29	5.29	7.29	7.29
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.75	2.00	2.00	2.00
Total Nonpotable Treatment Capacity				0.75	2.00	2.00	2.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
New Indiantown Dual Purpose (FAS WTP and WWTF) Deep Injection Well	FAS	2026	\$20.00	0.00 ^a	0.00 ^a	0.00 ^a	
New Indiantown4.00 mgd FAS RO WTP	FAS	2028	\$60.00	4.00	4.00	4.00	
Expand Indiantown RO WTP by 2.00 mgd	FAS	2035	\$15.00	0.00	2.00	2.00	
Total Potable Water			\$95.00	4.00	6.00	6.00	
Nonpotable Water							
Indiantown WWTF Rehabilitation and 1.25 mgd Expansion	Reclaimed	2026	\$22.50	1.25	1.25	1.25	
Indiantown WWTF Improvements to Provide 2.00 mgd of Public Access Irrigation	Reclaimed	2026	\$2.50	0.00 ^b	0.00 ^b	0.00 ^b	
Total Nonpotable Water			\$25.00	1.25	1.25	1.25	
Total New Water			\$120.00	5.25	7.25	7.25	

^a Project does not add potable water treatment capacity.

^b Project does not add reclaimed water capacity.

JUPITER

Service Area: Towns of Jupiter and Juno Beach, and unincorporated portions of Martin and Palm Beach counties

Description: Potable water supplies are obtained from three SAS wellfields (Jupiter WF-2, WF-3, and WF-4) and one FAS wellfield (Jupiter RO). SAS water is treated using membrane softening, and FAS water is treated using RO at the Jupiter Public Water System WTP.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population (Martin County portion)				2,289	2,452	2,551	2,641
Average 2020-2024 Per Capita (gallons per day finished water)				203			
Potable Water Demands (daily average annual finished water in mgd)				0.46	0.50	0.52	0.54
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 50-00010-W (expires 2030)			
SAS				18.80			
FAS				11.71			
Total Allocation				24.41 ^a			
FDEP Potable Water Treatment Capacity (PWS ID # 4501491)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				16.30	16.30	16.30	16.30
FAS				13.70	13.70	13.70	13.70
Total Potable Treatment Capacity				30.00	30.00	30.00	30.00
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water ^b				11.50	11.50	11.50	11.50
Total Nonpotable Treatment Capacity				11.50	11.50	11.50	11.50
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects ^c							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects ^c							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

^a The SAS and FAS permit allocations do not always total exactly. See the SFWMD water use permit for further information.

^b This is the estimated portion of reclaimed water produced by the Loxahatchee River District WWTF attributable to Jupiter.

^c The Town of Jupiter has utility service areas in both Martin and Palm Beach counties. This plan update only includes the portions located within unincorporated Martin County. The *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) addresses these utilities in their entirety, including population, water demand data, and water supply projects for Martin and Palm Beach counties.

MARTIN COUNTY UTILITIES

Service Area: Unincorporated Martin County, including Jensen Beach, Martin Downs, Palm City, Port Salerno, Tropical Farms, Miles Grant Golf and Country Club, Indian River Plantation, and Floridian National Golf Club; portions of City of Stuart; all of Town of Ocean Breeze; Piper’s Landing Yacht and Country Club; Town of Sewall’s Point; and the southern portion of Hutchinson Island in St. Lucie County

Description: Potable water supplies are obtained from two SAS and FAS wellfields (North Jensen and Tropical Farms) and one SAS wellfield (Martin Downs) and treated at two WTPs using RO and filtration at North Jensen and RO and membrane softening at Tropical Farms.

Bulk Water: Martin County provides up to 1.00 mgd of potable water to the City of Stuart through 2033.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				98,163	102,396	110,741	117,485
Average 2020-2024 Per Capita (gallons per day finished water)				118			
Potable Water Demands (daily average annual finished water in mgd)				11.58	12.08	13.07	13.86
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-00102-W (expires 2035)			
SAS				5.91 ^a			
FAS				15.09			
Total Allocation				21.00 ^b			
FDEP Potable Water Treatment Capacity (PWS ID # 4431891)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				5.30	3.80	3.80	3.80
FAS				13.50	18.60	18.60	18.60
Total Potable Treatment Capacity				18.80	22.40	22.40	22.40
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				8.66	8.66	8.66	8.66
Total Nonpotable Treatment Capacity				8.66	8.66	8.66	8.66
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
North Jensen 0.50 mgd RO WTP Expansion, FAS Well NRO-5, and Raw Main	FAS	2028	\$10.00	0.50	0.50	0.50	
Tropical Farms 4.60 mgd RO WTP Expansion, FAS Well TFRO-8, and Raw Main	FAS	2028	\$46.00	4.60	4.60	4.60	
Tropical Farms WWTF Advanced Wastewater Treatment Pilot Project – Potable Reuse	Reclaimed	2028	\$1.00	0.00	0.00	0.00	
Total Potable Water			\$57.00	5.10	5.10	5.10	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$57.00	5.10	5.10	5.10	

^a This is a 20-year allocation expiring in 2035. A temporary 5-year allocation of 6.68 mgd expires in 2026.

^b This is a 20-year allocation expiring in 2035. A temporary 5-year allocation of 21.77 mgd expires in 2026.

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SAILFISH POINT

Service Area: Unincorporated Martin County serving Sailfish Point development on South Hutchinson Island

Description: Potable water supplies are obtained from the Sailfish Point FAS wellfield and treated at the Sailfish Point WTP using RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				1,182	1,210	1,271	1,323
Average 2020-2024 Per Capita (gallons per day finished water)				155			
Potable Water Demands (daily average annual finished water in mgd)				0.18	0.19	0.20	0.21
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-00146-W (expires 2045)			
SAS				0.00			
FAS				0.27			
Total Allocation				0.27			
FDEP Potable Water Treatment Capacity (PWS ID # 4434000)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.00	0.00	0.00	0.00
FAS				0.35	0.35	0.35	0.35
Total Potable Treatment Capacity				0.35	0.35	0.35	0.35
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.12	0.12	0.12	0.12
Total Nonpotable Treatment Capacity				0.12	0.12	0.12	0.12
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

SOUTH MARTIN REGIONAL UTILITY

Service Area: Town of Jupiter Island and portions of southeastern unincorporated Martin County, including Hobe Sound

Description: Potable water supplies are obtained from two wellfields (North and South). SAS withdrawals from the North wellfield are treated at the North WTP using membrane softening. SAS and FAS withdrawals from the South wellfield are treated at the South WTP using aeration and filtration to treat SAS and RO to treat FAS.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				21,449	22,264	23,620	25,058
Average 2020-2024 Per Capita (gallons per day finished water)				195			
Potable Water Demands (daily average annual finished water in mgd)				4.18	4.34	4.61	4.89
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-00066-W (expires 2032)			
SAS				4.83			
FAS				4.76			
Total Allocation				8.64 ^a			
FDEP Potable Water Treatment Capacity (PWS ID # 4430624)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				6.14	6.14	6.14	6.14
FAS				2.00	4.20	4.20	4.20
Total Potable Treatment Capacity				8.14	10.34	10.34	10.34
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				1.40	1.60	1.60	1.60
Total Nonpotable Treatment Capacity				1.40	1.60	1.60	1.60
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
Expand RO WTP from 2.00 to 4.20 mgd; Add One FAS Well	FAS	2026	\$3.50	2.20	2.20	2.20	
Total Potable Water			\$3.50	2.20	2.20	2.20	
Nonpotable Water							
Expand WWTF Reclaimed Treatment Capacity by 0.20 mgd	Reclaimed	2026	\$1.26	0.20	0.20	0.20	
Total Nonpotable Water			\$1.26	0.20	0.20	0.20	
Total New Water			\$4.76	2.40	2.40	2.40	

^a The SAS and FAS permit allocations do not always total exactly. See the SFWMD water use permit for further information.

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ST. LUCIE VILLAGE PARKLIFE

Service Area: Unincorporated Martin County serving St. Lucie Village Parklife mobile home park

Description: Potable water supplies are obtained from the St. Lucie Village SAS wellfield and treated at the St. Lucie Village WTP using RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				825	830	839	847
Average 2020-2024 Per Capita (gallons per day finished water)				87			
Potable Water Demands (daily average annual finished water in mgd)				0.07	0.07	0.07	0.07
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-01284-W (expires 2028)			
SAS				0.10			
FAS				0.00			
Total Allocation				0.10			
FDEP Potable Water Treatment Capacity (PWS ID # 4431379)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.17	0.17	0.17	0.17
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.17	0.17	0.17	0.17
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.00	0.00	0.00	0.00
Total Nonpotable Treatment Capacity				0.00	0.00	0.00	0.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

STUART

Service Area: City of Stuart and unincorporated portions of Martin County

Bulk Water: A small quantity of bulk water is exchanged intermittently between Stuart and Martin County Utilities.

Description: Potable water supplies are obtained from Stuart's SAS and FAS wellfields and treated at the Stuart WTP using lime softening, ion exchange, and RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				17,775	18,030	18,759	19,517
Average 2020-2024 Per Capita (gallons per day finished water)				171			
Potable Water Demands (daily average annual finished water in mgd)				3.04	3.08	3.21	3.34
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 43-00053-W (expires 2043)			
SAS				3.40			
FAS				0.88			
Bulk Raw Water Purchase (from Martin County Utilities)				1.00 ^a			
Total Allocation (excluding bulk water)				3.62 ^b			
FDEP Potable Water Treatment Capacity (PWS ID # 4430259)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				6.00	6.00	6.00	6.00
FAS				1.50	2.00	2.00	2.00
Total Potable Treatment Capacity				7.50	8.00	8.00	8.00
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				4.00	4.00	4.00	4.00
Total Nonpotable Treatment Capacity				4.00	4.00	4.00	4.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
Stuart FAS Well 2 and Raw Water Main	FAS	2026	\$8.00	0.00 ^c	0.00 ^c	0.00 ^c	
0.50 mgd RO Facility Expansion (Phase 3)	FAS	2026	\$7.86	0.50	0.50	0.50	
Total Potable Water			\$15.86	0.50	0.50	0.50	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$15.86	0.50	0.50	0.50	

^a The City of Stuart has a 20-year Bulk Water and Wastewater Service Agreement with Martin County Utilities to supply up to 1.00 mgd of treated water, beginning in 2013.

^b The SAS and FAS permit allocations do not always total exactly. See the SFWMD water use permit for further information.

^c The project does not add water treatment capacity.

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TEQUESTA

Service Area: Village of Tequesta, towns of Jupiter Inlet Colony and Jupiter Island, and unincorporated portions of Martin and Palm Beach counties

Description: Potable water supplies are obtained from the SAS via the Tequesta East and West wellfields and the FAS via the Tequesta RO Wellfield. SAS water is treated using sand filtration, and FAS water is treated using RO at the Tequesta Water Department WTP.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population (Martin County portion)				3,589	3,611	3,647	3,684
Average 2020-2024 Per Capita (gallons per day finished water)				193			
Potable Water Demands (daily average annual finished water in mgd)				0.92	0.96	0.99	0.99
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 50-00046-W (expires 2031)			
SAS				1.10			
FAS				3.43			
Total Allocation				4.37 ^a			
FDEP Potable Water Treatment Capacity (PWS ID # 4501438)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				2.73	2.73	2.73	2.73
FAS				3.60	3.60	3.60	3.60
Total Potable Treatment Capacity				6.33	6.33	6.33	6.33
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water ^b				2.50	2.50	2.50	2.50
Total Nonpotable Treatment Capacity				2.50	2.50	2.50	2.50
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects ^c							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects ^c							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

^a The SAS and FAS permit allocations do not always total exactly. See the SFWMD water use permit for further information.

^b This is the estimated portion of reclaimed produced by the Loxahatchee River District WWTF attributable to Tequesta.

^c The Village of Tequesta has utility service areas in both Martin and Palm Beach counties. This plan update only includes the portions located within unincorporated Martin County. The *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) addresses these utilities in their entirety, including population, water demand data, and water supply projects for Martin and Palm Beach counties.

ST. LUCIE COUNTY

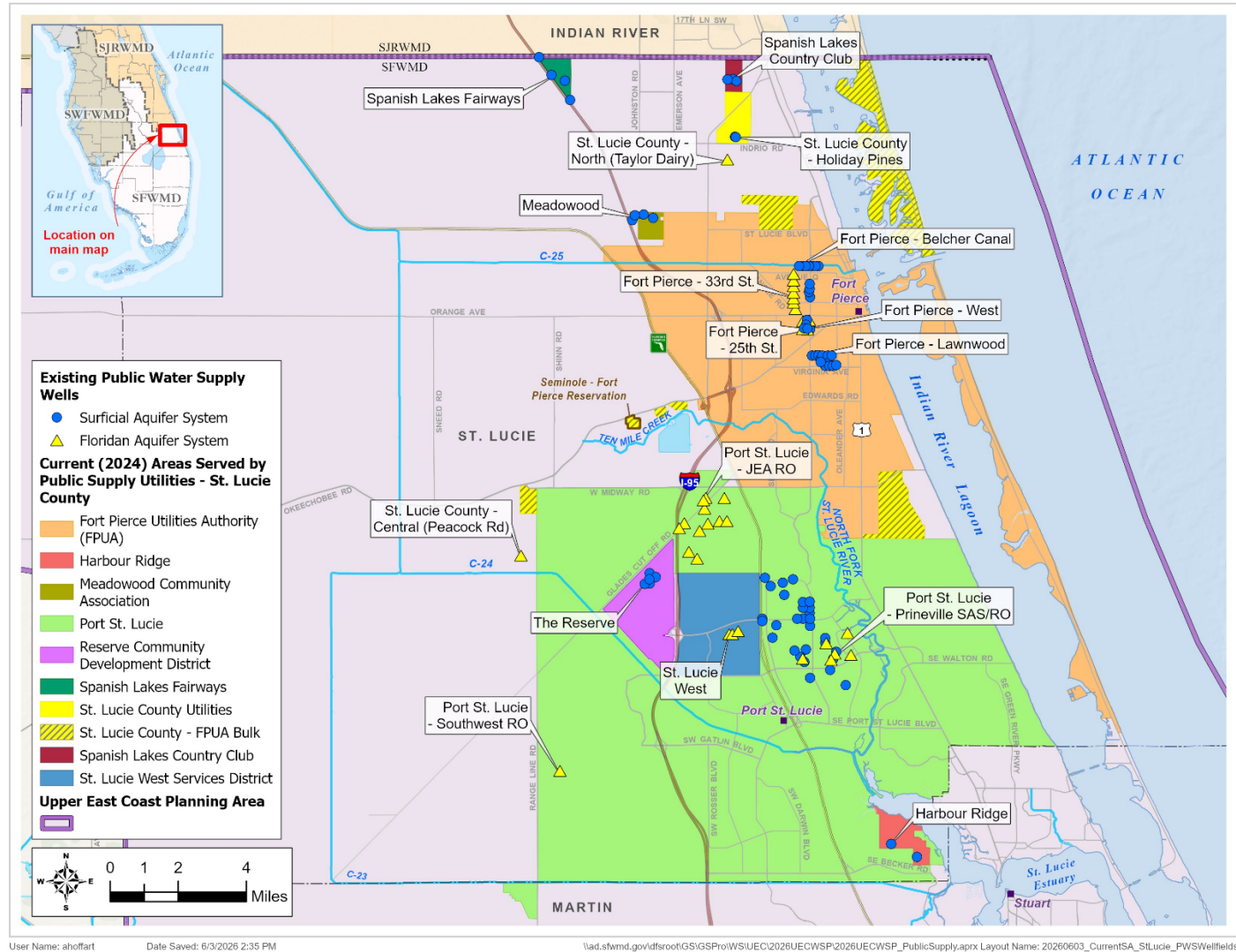


Figure B-3. Existing (2024) PS utility service areas and wellfields in St. Lucie County.

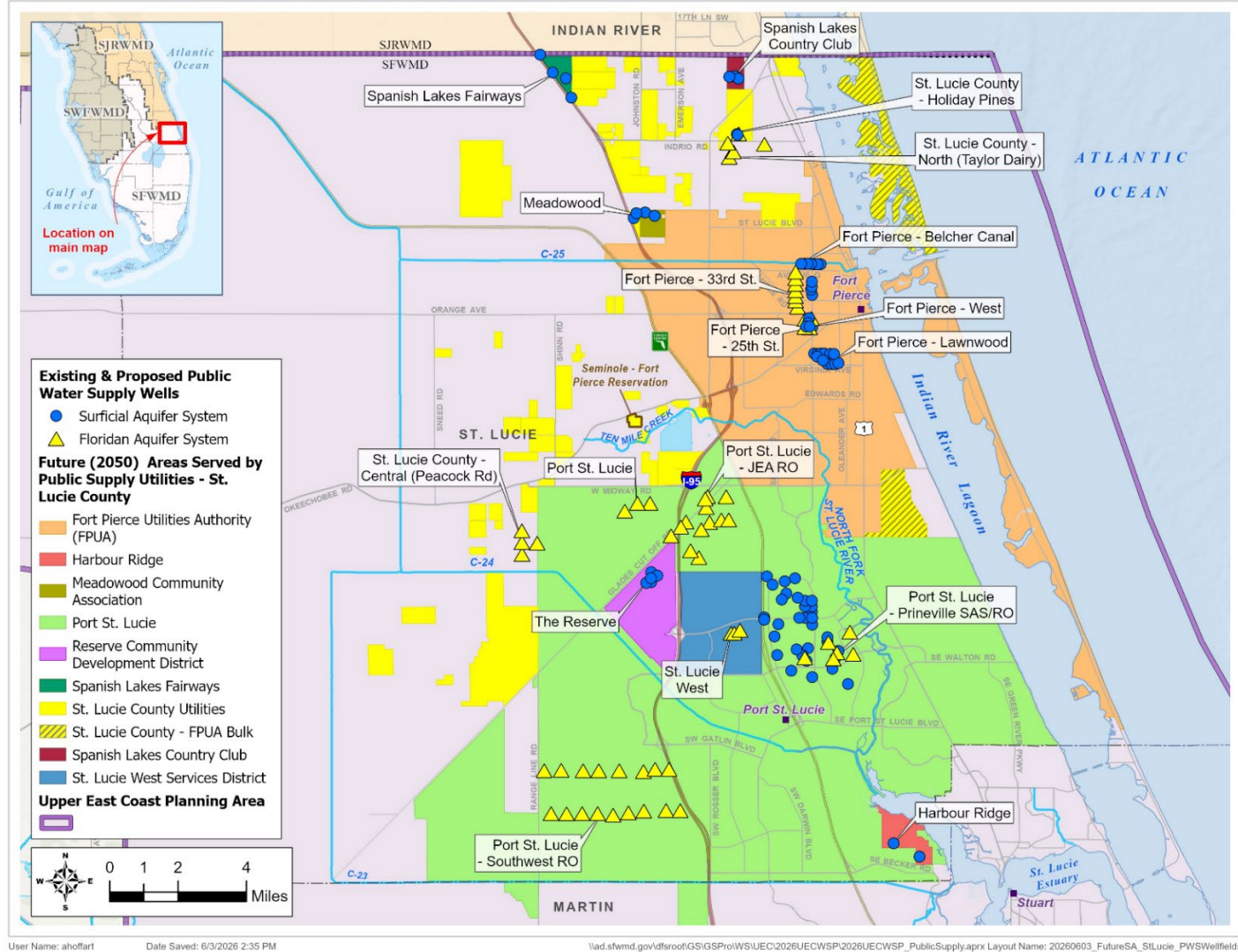


Figure B-4. Projected (2050) PS utility service areas and wellfields in St. Lucie County.

FORT PIERCE UTILITIES AUTHORITY

Service Area: City of Fort Pierce

Bulk Water: The utility provides up to 1.01 mgd of potable bulk water to St. Lucie County Utilities through a renewable interlocal agreement expiring in 2028.

Description: Potable water supplies are obtained from five wellfields: Belcher Canal (SAS), 25th Street (SAS), West (SAS and FAS), Lawnwood (SAS), and 33rd Street (FAS). The Henry A. Gahn WTP uses lime softening for SAS withdrawals and RO for FAS withdrawals.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				71,570	78,105	80,840	82,490
Average 2020-2024 Per Capita (gallons per day finished water)				128			
Potable Water Demands (daily average annual finished water in mgd)				9.16	10.00	10.35	10.56
Bulk Potable Water Demands (daily average annual finished water in mgd delivered directly to St. Lucie County Utilities)				1.01	1.01	1.01	1.01
Total Potable Water Demands (daily average annual finished water in mgd)				10.17	11.01	11.36	11.57
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00085-W (expires 2027)			
SAS				8.00			
FAS				13.13			
Total Allocation (excluding bulk water purchase)				21.13			
FDEP Potable Water Treatment Capacity (PWS ID # 4560490)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				12.99	12.99	12.99	12.99
FAS				10.33	10.33	10.33	10.33
Potable Reuse				0.00	0.00	2.50	2.50
Total Potable Treatment Capacity				23.32	23.32	25.82	25.82
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				18.00	8.00 ^a	10.50	13.00
Total Nonpotable Treatment Capacity				18.00	8.00	10.50	13.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
2.50 mgd Mainland WWTF Potable Reuse RO Treatment Train	Reclaimed	2040	\$5.00	0.00	2.50	2.50	
Total Potable Water			\$5.00	0.00	\$2.50	\$2.50	
Nonpotable Water							
3.20 MG Storage Tank for Supplemental Reclaimed Water Supply	Reclaimed	2035	\$3.00	0.00 ^b	0.00 ^b	0.00 ^b	
Mainland WWTF Expansions, 2.50 mgd (2035), 2.50 mgd (2050)	Reclaimed	2035-2050	\$5.00	0.00	2.50	5.00	
Total Nonpotable Water			\$8.00	0.00	2.50	5.00	
Total New Water			\$13.00	0.00	5.00	7.50	

^a The Island WWTF is slated for decommissioning/demolition in 2028–2029.

^b The project increases storage capacity but does not increase overall treatment capacity.

ST LUCIE

HARBOUR RIDGE

Service Area: Unincorporated St. Lucie County serving Harbour Ridge Country Club

Description: Potable water supplies are obtained from the Harbour Ridge SAS wellfield and treated at the Harbour Ridge WTP using lime softening.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				1,254	1,315	1,351	1,373
Average 2020-2024 Per Capita (gallons per day finished water)				132			
Potable Water Demands (daily average annual finished water in mgd)				0.17	0.17	0.18	0.18
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00449-W (expires 2029)			
SAS				0.13			
FAS				0.00			
Total Allocation				0.13			
FDEP Potable Water Treatment Capacity (PWS ID # 4565002)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.36	0.36	0.36	0.36
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.36	0.36	0.36	0.36
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.12	0.12	0.12	0.12
Total Nonpotable Treatment Capacity				0.12	0.12	0.12	0.12
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

MEADOWOOD COMMUNITY ASSOCIATION

Service Area: Unincorporated St. Lucie County serving Meadowood Community Association

Description: Potable water supplies are obtained from the Meadowood SAS wellfield and treated at the Meadowood WTP using lime softening.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				676	676	676	676
Average 2020-2024 Per Capita (gallons per day finished water)				126			
Potable Water Demands (daily average annual finished water in mgd)				0.09	0.09	0.09	0.09
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00462-W (expires 2032)			
SAS				0.14			
FAS				0.00			
Total Allocation				0.14			
FDEP Potable Water Treatment Capacity (PWS ID # 4565002)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.43	0.43	0.43	0.43
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.43	0.43	0.43	0.43
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.11	0.11	0.11	0.11
Total Nonpotable Treatment Capacity				0.11	0.11	0.11	0.11
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

ST LUCIE

PORT ST. LUCIE

Service Area: City of Port St. Lucie (including a portion of the Reserve development), portions of unincorporated St. Lucie County, and Martin Correctional Institution.

Description: Potable water supplies are obtained from one SAS wellfield and two FAS wellfields. The Prineville WTP uses lime softening and RO to treat SAS and FAS water from the Prineville wellfield. The James E. Anderson WTP uses RO to treat FAS water from the James E. Anderson wellfield.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				225,452	261,992	314,987	351,002
Average 2020-2024 Per Capita (gallons per day finished water)				94			
Potable Water Demands (daily average annual finished water in mgd)				21.19	24.63	29.61	32.99
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00142-W (expires 2028)			
SAS				5.00			
FAS				46.38			
Total Allocation				51.38			
FDEP Potable Water Treatment Capacity (PWS ID # 4560954)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
Surface Water				0.00	0.00	10.00	10.00
SAS				8.00	8.00	8.00	8.00
FAS				33.65	43.65	43.65	43.65
Total Potable Treatment Capacity				41.65	51.65	61.65	61.65
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				18.00	18.00	30.00	30.00
ASR Storage Capacity				0.00	0.00	10.00	10.00
Surface Water Storage Capacity				0.00	0.00	10.00	10.00
Total Nonpotable Treatment Capacity				18.00	18.00	50.00	50.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
FAS Well F-19	FAS	2025	\$3.29	0.00 ^a	0.00 ^a	0.00 ^a	
Prineville Deep Injection Well	FAS	2026	\$17.00	0.00 ^a	0.00 ^a	0.00 ^a	
James E. Anderson WTP FAS Wells F-37, F-38, and F-39	FAS	2027	\$17.53	0.00 ^a	0.00 ^a	0.00 ^a	
Western Raw Water Main James E. Anderson FAS	FAS	2025	\$10.19	0.00 ^a	0.00 ^a	0.00 ^a	
Discovery Five FAS Wells and Raw Water Main	FAS	2029	\$61.36	0.00 ^a	0.00 ^a	0.00 ^a	
10.00 mgd Discovery FAS RO WTP	FAS	2029	\$89.90	10.00	10.00	10.00	
Discovery FAS RO 10.00 mgd WTP Deep Injection Well	FAS	2031	\$9.35	0.00 ^a	0.00 ^a	0.00 ^a	
10.00 mgd Discovery Surface Water RO WTP	Surface Water	2037	\$172.60	0.00	10.00	10.00	
Total Potable Water			\$381.22	10.00	20.00	20.00	

PORT ST. LUCIE (CONTINUED)

Project Summary						
Water Supply Project	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)		
				2030	2040	2050
Nonpotable Water						
Area 7A – 730 Acre Storage Component of McCarty Ranch Project Capturing Excess Stormwater from the C-23 Canal	Surface Water	2025	\$10.40	0.00 ^a	0.00 ^a	0.00 ^a
Area 7B – 730 Acre Storage Component of McCarty Ranch Project Capturing Excess Stormwater from the C-23 Canal	Surface Water	2032	\$10.62	0.00 ^a	0.00 ^a	0.00 ^a
Dredging of McCarty Ranch South Lake Capturing Excess Stormwater from the C-23 Canal	Surface Water	2035	\$6.20	0.00	10.00 ^b	10.00 ^b
McCarty Ranch ASR Wells Phase 1 Initial Construction and Testing	Surface Water/ASR	2035	\$10.90	0.00	0.00	0.00
McCarty Ranch ASR Wells Phase 2 10.00 mgd Storage	Surface Water/ASR	2040	\$12.40	0.00	10.00	10.00
Westport to Glades 6.00 mgd Force Main	Reclaimed	2028	\$17.51	0.00 ^a	0.00 ^a	0.00 ^a
Glades WWTF 12.00 mgd Deep Injection Well	Reclaimed	2027	\$16.00	0.00 ^a	0.00 ^a	0.00 ^a
Glades WWTF 12.00 mgd High Service Pump	Reclaimed	2031	\$6.50	0.00 ^a	0.00 ^a	0.00 ^a
Glades WWTF 12.00 MG Storage	Reclaimed	2031	\$32.00	0.00 ^a	0.00 ^a	0.00 ^a
Far West Reclaimed Water Main, 9.00 mgd	Reclaimed	2036	\$10.31	0.00 ^a	0.00 ^a	0.00 ^a
Glades 12 to 24 mgd WWTF Expansion	Reclaimed	2031	\$400.00	0.00	12.00	12.00
Total Nonpotable Water			\$516.84	0.00	32.00	32.00
Total New Water			\$898.06	10.00	52.00	52.00

^a The project adds withdrawal, distribution, or storage capacity but does not increase the overall treatment capacity.

^b This estimated surface water storage capacity is based on the modeled recoverable volume with the ASR wells and the total surface water storage within the McCarty Ranch Water Quality Restoration Project Areas 1–7 and the McCarty Ranch South Lake Reservoir (Tetra Tech 2019).

RESERVE COMMUNITY DEVELOPMENT DISTRICT

Service Area: The Reserve Community Development District located within the City of Port St. Lucie

Bulk Water: Up to 0.50 mgd of bulk potable water is purchased from St. Lucie West Services District.

Description: Potable water supplies are obtained from the Reserve Community Development District SAS wellfield and treated at the Reserve Community Development District WTP using lime softening.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				3,608	3,673	3,784	3,898
Average 2020-2024 Per Capita (gallons per day finished water)				114			
Potable Water Demands (daily average annual finished water in mgd)				0.41	0.42	0.43	0.44
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00552-W (expires 2029)			
SAS				0.17			
FAS				0.00			
Bulk Finished Water Purchased from St. Lucie West Services District				0.50			
Total Allocation (excluding bulk purchase)				0.17			
FDEP Potable Water Treatment Capacity (PWS ID # 4565030)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.41	0.41	0.41	0.41
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.41	0.41	0.41	0.41
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.00	0.00	0.00	0.00
Total Nonpotable Treatment Capacity				0.00	0.00	0.00	0.00
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

SPANISH LAKES COUNTRY CLUB

Service Area: Unincorporated St. Lucie County serving Spanish Lakes Country Club

Description: Potable water supplies are obtained from the Spanish Lakes Country Club SAS wellfield and treated at the Spanish Lakes Country Club WTP using RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				1,646	1,687	1,762	1,798
Average 2020-2024 Per Capita (gallons per day finished water)				104			
Potable Water Demands (daily average annual finished water in mgd)				0.17	0.18	0.18	0.19
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00401-W (expires 2026)			
SAS				0.31			
FAS				0.00			
Total Allocation				0.31			
FDEP Potable Water Treatment Capacity (PWS ID # 4434000)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.48	0.48	0.48	0.48
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.48	0.48	0.48	0.48
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.16	0.16	0.16	0.16
Total Nonpotable Treatment Capacity				0.16	0.16	0.16	0.16
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

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SPANISH LAKES FAIRWAYS

Service Area: Unincorporated St. Lucie County serving Spanish Lakes Fairways

Description: Potable water supplies are obtained from the Spanish Lakes Fairways SAS wellfield and treated at the Spanish Lakes Fairways WTP using RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				2,217	2,269	2,309	2,336
Average 2020-2024 Per Capita (gallons per day finished water)				105			
Potable Water Demands (daily average annual finished water in mgd)				0.23	0.24	0.24	0.25
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00627-W (expires 2044)			
SAS				0.26			
FAS				0.00			
Total Allocation				0.26			
FDEP Potable Water Treatment Capacity (PWS ID # 4434000)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.93	0.93	0.93	0.93
FAS				0.00	0.00	0.00	0.00
Total Potable Treatment Capacity				0.93	0.93	0.93	0.93
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				0.25	0.25	0.25	0.25
Total Nonpotable Treatment Capacity				0.25	0.25	0.25	0.25
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
No Projects							
Total Potable Water			\$0.00	0.00	0.00	0.00	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$0.00	0.00	0.00	0.00	

ST. LUCIE COUNTY UTILITIES

Service Area: Unincorporated portions of St. Lucie County, including North Hutchinson Island and the STOF Fort Pierce Reservation.

Bulk Water: St. Lucie County Utilities receives up to 1.01 mgd potable bulk water from Fort Pierce Utilities Authority through a renewable interlocal agreement expiring in 2028.

Description: Potable water supplies are obtained from the Holiday Pines SAS wellfield and treated at Holiday Pines WTP using membrane softening. The county plans to serve a portion of the bulk demand and additional demand using the FAS.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population ^a				18,526	27,693	64,189	66,972
Average 2020-2024 Per Capita (gallons per day finished water)				100			
Potable Water Demands (daily average annual finished water in mgd)				1.85	2.77	6.42	6.70
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00406-W (expires 2055)			
SAS				0.17			
FAS				9.43			
Bulk Finished Water Purchase (from Fort Pierce Utilities Authority)				1.01			
Total Allocation (excluding bulk water purchase)				9.43			
FDEP Potable Water Treatment Capacity (PWS ID # 4431891)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.29	0.00 ^b	0.00 ^b	0.00 ^b
FAS				0	4.00	8.00	8.00
Total Potable Treatment Capacity				0.29	4.00	8.00	8.00
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				2.75	9.15	13.15	13.15
Total Nonpotable Treatment Capacity				2.75	9.15	13.15	13.15
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
New North County Regional 2.00 mgd RO WTP and FAS Wells (2027) and 2.00 mgd Expansion (2032)	FAS	2026-2032	\$46.00	2.00	4.00	4.00	
New Central County Regional 2.00 mgd RO WTP and FAS Wells (2030) and 2.00 mgd Expansion (2040)	FAS	2030-2040	\$46.00	2.00	4.00	4.00	
Total Potable Water			\$92.00	4.00	8.00	8.00	

ST. LUCIE COUNTY UTILITIES (CONTINUED)

Project Summary						
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)		
				2030	2040	2050
Nonpotable Water						
Central County 0.50 mgd Modification of Tropicana Industrial WWTF and 1.50 mgd Expansion – Phase 1	Reclaimed	2027	\$36.00	2.00	2.00	2.00
Central County Regional WWTF Expansion from 2.00 to 4.00 mgd – Phase 2	Reclaimed	2036	\$20.00	0.00	2.00	2.00
Holiday Pines WWTF 0.60 mgd to 1.20 mgd Expansion – Phase 2	Reclaimed	2028	\$24.80	0.60	0.60	0.60
Holiday Pines WWTF Expansion from 1.20 to 3.00 mgd – Phase 3	Reclaimed	2030	\$30.00	1.80	1.80	1.80
Total Nonpotable Water			\$160.80	6.40	10.40	10.40
Total New Water			\$252.80	10.40	18.40	18.40

^a The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from St. Lucie County. However, for discussion purposes, information relating to the Seminole Tribe of Florida Fort Pierce Reservation is included in the calculations for St. Lucie County.

^b The Holiday Pines WTP will be replaced by the North County Regional WTP by 2030.

ST. LUCIE WEST SERVICES DISTRICT

Service Area: The St. Lucie West development located within the City of Port St. Lucie

Bulk Water: Up to 0.50 mgd of bulk potable water is provided to the Reserve Community Development District.

Description: Potable water supplies are obtained from the St. Lucie West Services District FAS wellfield and treated at the St. Lucie West Services District WTP using RO.

Population and Finished Water Demand							
				Existing	Projected		
				2024	2030	2040	2050
Population				13,436	13,607	13,707	13,796
Average 2020-2024 Per Capita (gallons per day finished water)				128			
Potable Water Demands (daily average annual finished water in mgd)				1.72	1.74	1.75	1.77
Bulk Potable Water Demands (daily average annual finished water in mgd delivered directly to the Reserve Community Development District)				0.30	0.30	0.30	0.31
Total Potable Water Demands (daily average annual finished water in mgd)				2.02	2.04	2.05	2.08
SFWMD Water Use Permitted Allocation (mgd)							
Potable Water Source				Permit Number 56-00614-W (expires 2039)			
SAS				0.00			
FAS				3.10			
Total Allocation				3.10			
FDEP Potable Water Treatment Capacity (PWS ID # 4565030)							
Permitted Capacity by Source				Cumulative Facility & Project Capacity (mgd)			
				Existing	Projected		
				2024	2030	2040	2050
SAS				0.00	0.00	0.00	0.00
FAS				3.60	4.80	4.80	4.80
Total Potable Treatment Capacity				3.60	4.80	4.80	4.80
Nonpotable Alternative Water Source Treatment Capacity (mgd)							
Reclaimed Water				2.60	2.60	2.60	2.60
Total Nonpotable Treatment Capacity				2.60	2.60	2.60	2.60
Project Summary							
Water Supply Projects	Source	Completion Date	Total Capital Cost (\$ million)	Projected Cumulative Design Capacity (mgd)			
				2030	2040	2050	
Potable Water							
St. Lucie West Services District 1.20 mgd RO WTP Expansion, FAS Well, and Deep Injection Well	FAS	2028	\$36.00	1.20	1.20	1.20	
Total Potable Water			\$36.00	1.20	1.20	1.20	
Nonpotable Water							
No Projects							
Total Nonpotable Water			\$0.00	0.00	0.00	0.00	
Total New Water			\$36.00	1.20	1.20	1.20	

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UTILITIES SERVING LOCAL GOVERNMENTS

Table B-2 identifies the local governments within the UEC Planning Area and the PS utilities with treatment capacity and water use of 0.10 mgd or greater. The first column in **Table B-2** lists the name of the local government, and the second column identifies the local government(s) or private PS utility, or utilities, providing gross (raw) or net (finished) water to the local government.

Table B-3 identifies the PS utilities providing gross (raw) or net (finished) water to the local governments within the UEC Planning Area. The first column of **Table B-3** lists the name of the PS utility, the second column provides the type of utility, and the third column identifies the incorporated and unincorporated portions of the UEC Planning Area within that PS utility's service area.

Table B-2. Local and tribal governments served by utilities/entities in the UEC Planning Area.

Local and Tribal Governments	Utilities/Entities Serving Local and Tribal Governments
Martin County	
Indiantown, Village of	N/A
Jupiter, Town of ^a	N/A
Jupiter Island, Town of	South Martin Regional Utility (owned by Town of Jupiter Island)
Martin County (unincorporated)	South Martin Regional Utility, City of Stuart, Town of Jupiter, and Village of Tequesta, City of Port St. Lucie
Ocean Breeze, Town of	Martin County Utilities
Sewall's Point, Town of	Martin County Utilities
Stuart, City of	Martin County Utilities
Tequesta, Village of ^a	N/A
Okeechobee County	
Okeechobee County ^b (unincorporated)	N/A
St. Lucie County	
Fort Pierce, City of	N/A
Port St. Lucie, City of	St. Lucie West Services District
St. Lucie County (unincorporated)	Fort Pierce Utilities Authority, Reserve Community Development District
St. Lucie Village	Fort Pierce Utilities Authority
STOF – Fort Pierce Reservation	St. Lucie County Utilities via bulk agreement with Fort Pierce Utilities Authority

^a The Town of Jupiter and Village of Tequesta have utility service areas in both Martin and Palm Beach counties. This plan update only includes the portions located within unincorporated Martin County. The *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) addresses these utilities in their entirety, including population, water demand data, and water supply projects for Martin and Palm Beach counties.

^b Utilities in Okeechobee County are addressed in the *2024 Lower Kissimmee Basin Water Supply Plan Update* (SFWMD 2024b). Presently, there are no utilities in the northeastern portion of Okeechobee County within the UEC Planning Area boundary.

Table B-3. Types of utilities/entities serving local and tribal governments in the UEC Planning Area.

Utilities/Entities	Utilities/Entities Type	Local and Tribal Governments Served
Martin County		
Indiantown, Village of	Local Government	Village of Indiantown
Jupiter, Town of ^a	Local Government	Unincorporated Martin County
Martin County Utilities	Local Government	Unincorporated Martin County, City of Stuart, Town of Ocean Breeze, Town of Sewall's Point, City of Fort Pierce, and Floridian Golf Resort (located in St. Lucie County)
Port St. Lucie, City of	Local Government	Unincorporated Martin County (serving Martin Correctional Institution)
Sailfish Point	Privately Owned	Unincorporated Martin County (serving Sailfish Point development)
South Martin Regional Utility	Local Government	Town of Jupiter Island and unincorporated Martin County (including Hobe Sound)
Stuart, City of	Local Government	City of Stuart and unincorporated Martin County
Tequesta, Village of ^a	Local Government	Unincorporated Martin County
St. Lucie County		
Fort Pierce Utilities Authority	Local Government	City of Fort Pierce, St. Lucie Village, and bulk water to St. Lucie County Utilities
Harbour Ridge	Privately Owned	Unincorporated St. Lucie County (serving Harbour Ridge Country Club)
Meadowood Community Association	Privately Owned	Unincorporated St. Lucie County (serving Meadowood)
Port St. Lucie Utility Systems Department, City of	Local Government	City of Port St. Lucie, unincorporated Martin County, and St. Lucie County
Reserve Community Development District	Special District	Unincorporated St. Lucie County (serving a portion of The Reserve development)
Spanish Lakes Country Club	Privately Owned	Unincorporated St. Lucie County (serving Spanish Lakes Country Club Village)
Spanish Lakes Fairways	Privately Owned	Unincorporated St. Lucie County (serving Spanish Lakes Fairways)
St. Lucie County Utilities District	Local Government	Unincorporated St. Lucie County and STOF – Fort Pierce Reservation
St. Lucie West Services District	Special District	City of Port St. Lucie (serving St. Lucie West development and The Reserve development)

^a The Town of Jupiter and Village of Tequesta have utility service areas in both Martin and Palm Beach counties. This plan update only includes the portions located within unincorporated Martin County. The *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) addresses these utilities in their entirety, including population, water demand data, and water supply projects for Martin and Palm Beach counties.

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C

St. Lucie Estuary MFL and Prevention Strategy

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MINIMUM FLOWS AND MINIMUM WATER LEVELS

The South Florida Water Management District (SFWMD or District) adopts minimum flows and minimum water levels (MFLs) to establish the point at which water resources, or the ecology of the area, will experience significant harm from further withdrawals. Significant harm is defined in Rule 40E-8.021, Florida Administrative Code (F.A.C.) and explained further in the Water Resource Protection Standards section of **Chapter 4**. Additionally, the SFWMD adopts prevention and recovery strategies with MFLs to prevent the MFL from being violated in the future or to recover the waterbody to meet the MFL as soon as practicable.

ST. LUCIE ESTUARY

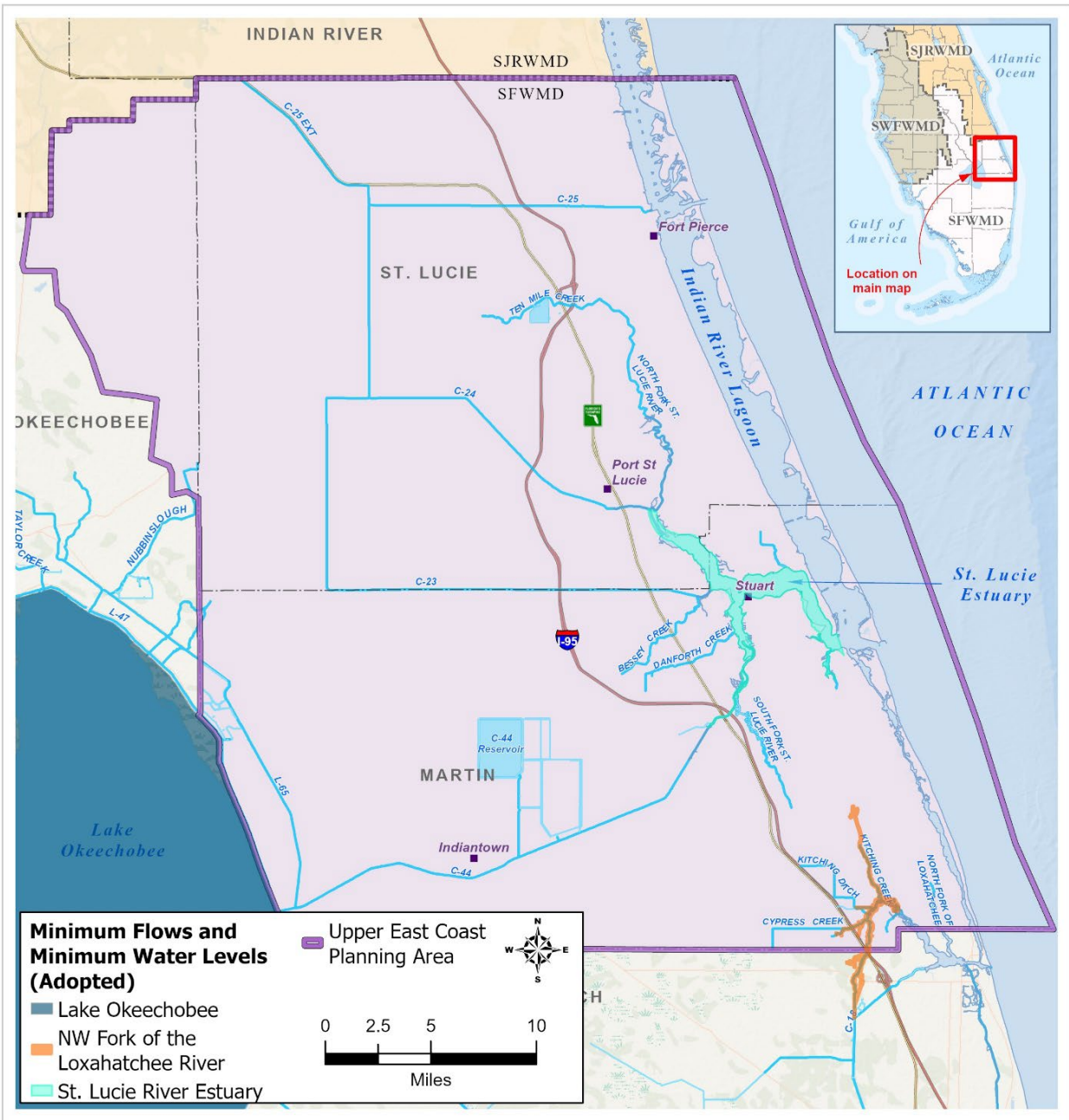
The District adopts MFLs to protect the specific water resource functions of a waterbody. In the Upper East Coast (UEC) Planning Area, the SFWMD has adopted an MFL for the St. Lucie Estuary (Rule 40E-8.341, F.A.C.) (**Figure C-1**). The MFL criteria and prevention strategy adopted for the St. Lucie Estuary are discussed in this appendix. Further information on MFLs and prevention and recovery strategies can be found in the *2026–2029 Support Document for Water Supply Plan Updates* (2026–2029 Support Document; SFWMD 2026).

MFL Criteria

Subsection 40E-8.021(29), F.A.C., defines the St. Lucie Estuary MFL waterbody (**Figures C-1 and C-2**) as the surface water body south of the confluence of the St. Lucie River North Fork and the C-24 Canal; north of the confluence of the St. Lucie River South Fork and the C-44 Canal; and west of the western boundary of the Intracoastal Waterway, exclusive of canals.

In 2002, the SFWMD adopted an MFL for the St. Lucie Estuary (Rule 40E-8.341, F.A.C.) based on the determination that significant harm occurs to the oligohaline zone of the estuary when net freshwater flows to the estuary are reduced. The criteria are intended to protect the estuary's valued ecosystem components from significant harm (as defined in Rule 40E-8.021, F.A.C.). A valued ecosystem component can be a species, community, or set of environmental conditions and associated biological communities that are critical to maintaining the integrity of an ecosystem. The valued ecosystem components identified for the St. Lucie Estuary include organisms inhabiting the oligohaline zone (i.e., submerged aquatic vegetation, phytoplankton, zooplankton, macroinvertebrates, and larval and juvenile fish and shellfish).

To ensure adequate freshwater deliveries to the North Fork and the downstream estuary, a minimum mean monthly flow criterion of 28 cubic feet per second (cfs) at the Gordy Road structure (**Figure C-2**) was adopted as the MFL. An MFL exceedance occurs when this minimum flow criterion is not met. An MFL violation occurs when the mean monthly flow at the Gordy Road structure declines below 28 cfs for two consecutive months during a 365-day period for two consecutive years. Further details about the MFL for the St. Lucie Estuary and information on all MFLs and prevention and recovery strategies adopted in the SFWMD can be found in Chapter 40E-8, F.A.C., and on the SFWMD webpage <http://www.sfwmd.gov/mfls>.



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Figure C-1. Adopted minimum flows and minimum water levels in or affecting portions of the UEC Planning Area.

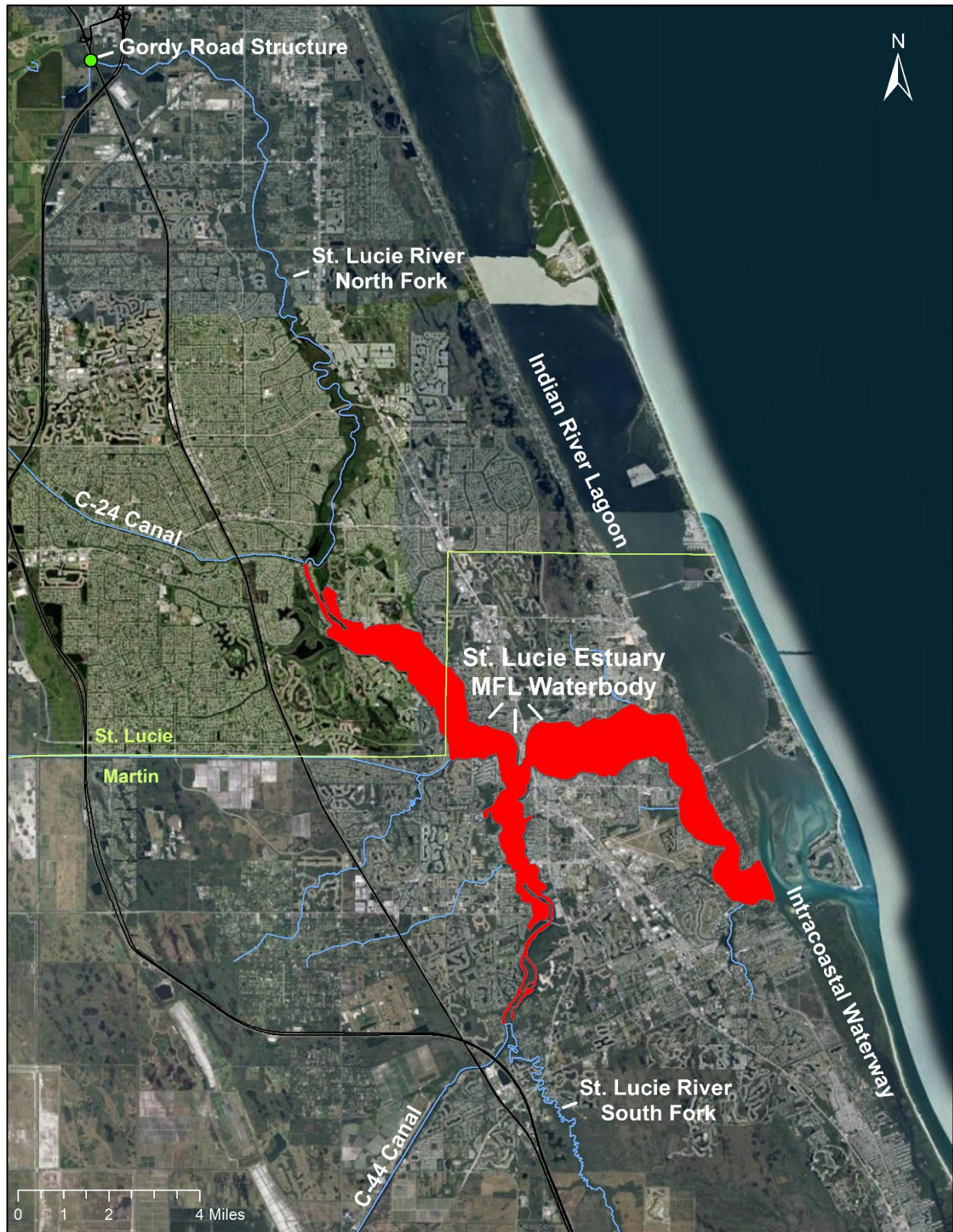


Figure C-2. St. Lucie Estuary minimum flow and minimum water level water body.

MFL Performance History

A review of historical flow data obtained from the Gordy Road Structure beginning in 2002 when the St. Lucie Estuary MFL was adopted, as shown in **Figure C-3**, indicates that a violation of the MFL has not occurred, despite periods of drought exceeding 1-in-10-year drought conditions. One exceedance has occurred in the data in 2022.

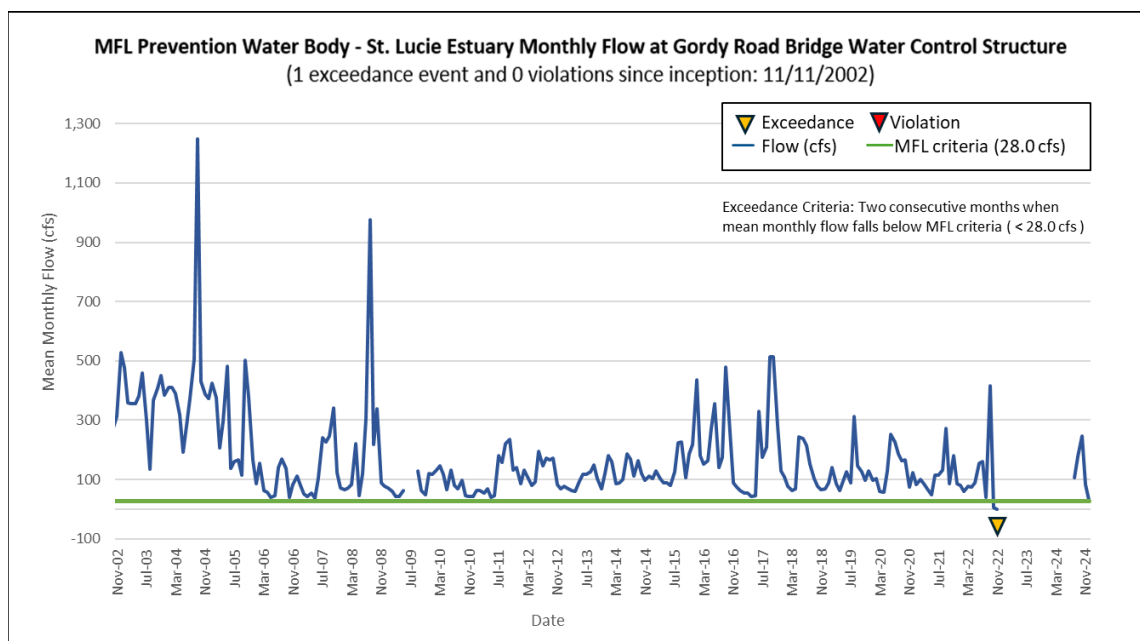


Figure C-3. St. Lucie Estuary MFL exceedances and violations since the inception of the MFL in 2002.

Prevention Strategy

A prevention strategy for the St. Lucie Estuary, described in Subsection 40E-8.421(5), F.A.C., was adopted simultaneously with the MFL rule to minimize the likelihood that a violation of the estuary's MFL criteria would occur in the future. The prevention strategy for the St. Lucie Estuary remains the same as originally established and consists of the following major components:

- ◆ Discharges from the North Fork will be managed within the operational protocols of the SFWMD Ten Mile Creek Project. Flow targets will be consistent with the Comprehensive Everglades Restoration Plan (CERP) performance requirements for the Indian River Lagoon.
- ◆ A research and monitoring strategy for the North and South Forks of the St. Lucie River has been implemented in coordination with the UEC water supply plan updates.

To meet the flow target component, the SFWMD is implementing the CERP Indian River Lagoon – South (IRL-S) Project, which is briefly described below and in more detail in **Chapter 7** of the plan update. Research and monitoring in the North and South Forks of the St. Lucie River also are discussed below. Additional details about the prevention strategy for the St. Lucie Estuary can be found at <http://www.sfwmd.gov/mfls>.

SFWMD Ten Mile Creek Project

The SFWMD Ten Mile Creek Project is located in St. Lucie County near Fort Pierce, adjacent to Ten Mile Creek, which is a tributary to the North Fork of the St. Lucie River. The project's Water Preserve Area consists of a 526-acre reservoir and 132-acre stormwater treatment area (STA) (**Figure C-4**). Moved into operation in 2017, the Ten Mile Creek Project is designed to help control the quantity, quality, and timing of water deliveries to the St. Lucie River and Estuary. Excess water flowing over the Gordy Road structure is captured in the reservoir, then routed through the STA to improve the water quality, before being released back to Ten Mile Creek, which flows to the St. Lucie River. Approximately 2,200 acre-feet of water, or 716 million gallons, can be stored in the reservoir and sent through the project's wetlands before flowing back to Ten Mile Creek. Additional information about the SFWMD Ten Mile Creek Project is provided in **Chapter 7** of the plan update.



Figure C-4. Ten Mile Creek Project components.

CERP Indian River Lagoon – South Project

The CERP IRL-S Project is designed to improve habitat and water quality in the St. Lucie Estuary and Indian River Lagoon by reducing the volume and frequency of damaging wet-season freshwater discharges to tide and restoring a more natural volume, timing, and distribution of freshwater flows. Structural changes proposed for the watershed are designed to provide additional retention basins (aboveground reservoirs), improved water conveyance facilities, and operational strategies within the watershed. The changes will capture, store, and attenuate excess water previously discharged directly to tide during the wet season. During the dry season, the captured water will be redistributed via its historical flow pathways to be discharged down the North and South Forks of the St. Lucie River to the St. Lucie Estuary and Indian River Lagoon. The objectives of the retention basins are to help reduce the volume and frequency of damaging freshwater discharges to the St. Lucie Estuary and restore a more natural volume, timing, and distribution of freshwater flow to the estuary, enhancing the opportunity for recovery from high water flows. The project may provide water supply for agriculture to offset reliance on the Floridan aquifer system. The following components of the CERP IRL-S Project (**Figure C-5**) are currently in design, under construction, or operational testing has commenced. These are discussed in more detail in **Chapter 7**.

C-23/C-24 Basin Components:

- ◆ C-23/C-24 North and South Reservoirs and C-23/C-24 STA
- ◆ Cypress Creek Complex Natural Areas
- ◆ Allapattah Complex Natural Areas
- ◆ C-23 Estuary Discharge Diversion

C-25, North Fork Basin Components:

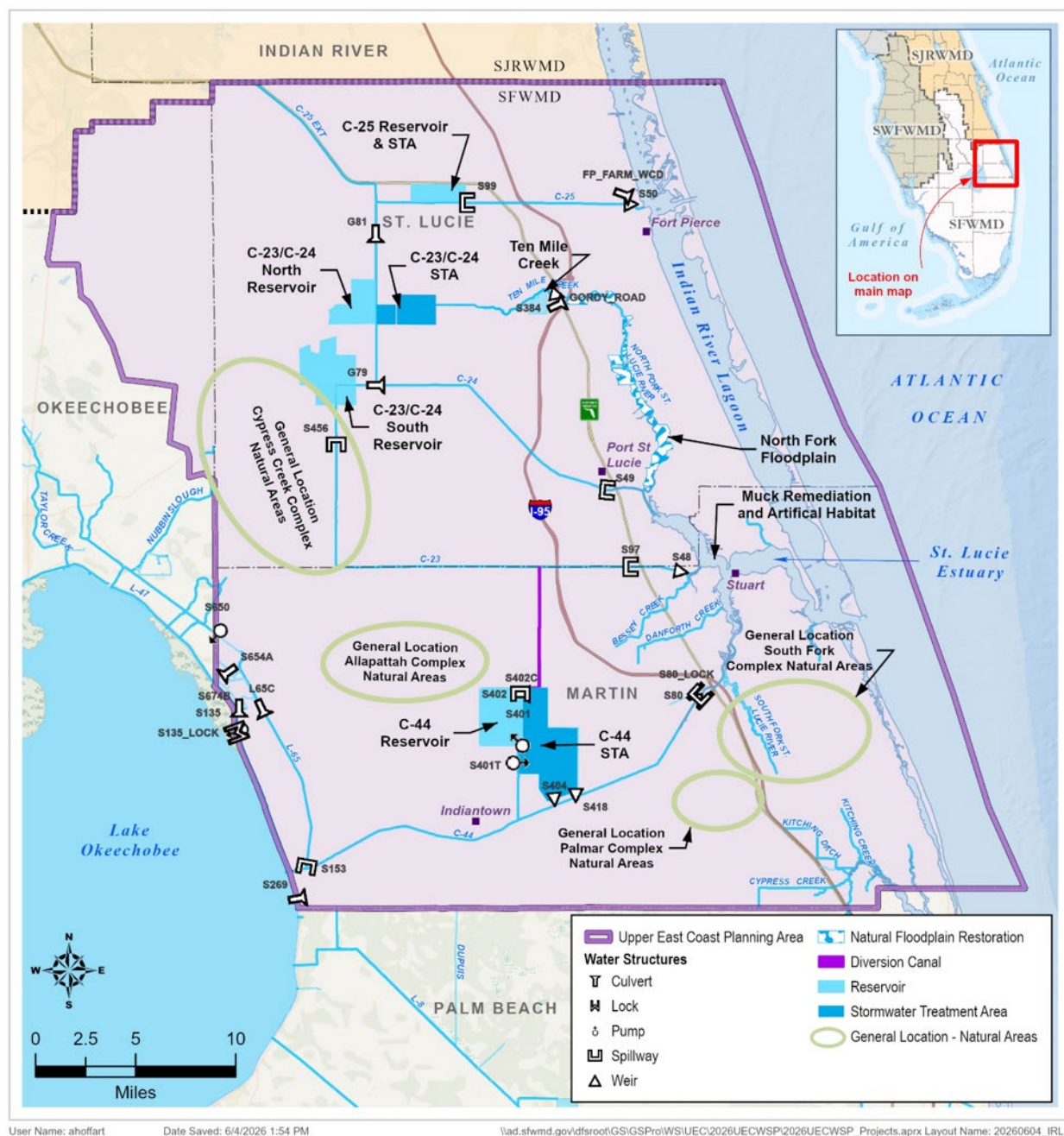
- ◆ C-25 Reservoir and STA
- ◆ Natural Lands, North Fork Floodplain Restoration

C-44, South Fork Basin Components:

- ◆ C-44 Reservoir and STA
- ◆ Allapattah Complex Natural Areas
- ◆ Palmar Complex Natural Areas
- ◆ South Fork Complex Natural Areas

While all project components will support the MFL water body as a whole, the specific components below ensure the MFL will continue to be met at the MFL compliance point (Gordy Road structure):

- ◆ C-23/C-24 North Reservoir and STA
- ◆ Natural Lands, North Fork Floodplain Restoration



Research and Monitoring in the North and South Forks

Depending on source and magnitude, inflows to the St. Lucie Estuary can affect water quality and ecological resources. Changes to natural water flow and water quality gradients within an estuary due to modified water management operations or other anthropogenic activities can impact the distribution and dynamics of many estuarine communities. To address such concerns, ongoing research and monitoring are conducted in the estuarine portions of the St. Lucie Estuary (North and South Forks of the St. Lucie River; **Figure C-6**), as outlined in Volume I – Chapter 8C, Part II of the *2025 South Florida Environmental Report* (Parker et al. 2025). In brief, the research program monitors the following: 1) salinity, 2) water quality, and 3) benthic habitats (oysters and seagrass). Surface and bottom salinity measurements are recorded every 15 minutes at three stations and averaged to produce a water column daily average time series. Water quality samples are collected monthly at 10 stations and tested for concentrations of chlorophyll a, total phosphorus, and total nitrogen. Salinity and water quality conditions are important considerations for the health of ecological indicator species, such as oysters and seagrasses, because excursions outside of tolerable ranges can lead to increased disease, predation rates, and even death (Parker and Radigan 2020).

Oysters are monitored in the St. Lucie Estuary as an indicator species for the CERP Restoration Coordination and Verification (RECOVER) program. Oyster density, disease prevalence and intensity, and juvenile recruitment have been continuously monitored at three stations in the North Fork and three stations in the South Fork since 2005. Density counts are collected biannually (in the spring and fall), while juvenile recruitment and disease prevalence and intensity are measured monthly. Seagrass habitats are assessed at two monitoring sites within the St. Lucie Estuary. During the wet season (May to October), seagrass monitoring occurs monthly; during the dry season, monitoring occurs in November, March, and April. Results of the monitoring program are published annually in the *South Florida Environmental Report* available at <https://www.sfwmd.gov/sfer>.



Figure C-6. St. Lucie Estuary monitoring locations for salinity (US1 and A1A), water quality (HR1, SE03, and SE11), oysters, and seagrass (Willoughby Creek and St. Lucie Inlet) (From Kahn et al. 2021).

Summary of Analyses Supporting Continued MFL Prevention Strategy

Regional Modeling of Past Climatic Conditions

The Regional Simulation Model Basin (RSMBN) is a specific application of the Regional Simulation Model (RSM) that covers the spatial extent of the Lake Okeechobee watershed, including the Everglades Agricultural Area (EAA) and Northern Estuaries (Caloosahatchee and St. Lucie rivers). The RSMBN was used to simulate the response of features, such as the Ten Mile Creek Water Preserve Area (TMC WPA), using rainfall and other relevant hydrologic stresses over a 52-year period from 1965 through 2016. For this analysis, the RSMBN conceptualization of the TMC WPA was refined with updated hydrologic conditions, infrastructure, and operational protocols. Specifically, the infrastructure representation was updated to explicitly simulate the Ten Mile Creek Reservoir and associated STA.

The hydrology of the Ten Mile Creek basin runoff was estimated with a deep learning model (a neural network framework), which has been successfully applied to basins in other RSM modeling projects. A machine learning based emulator (sequence-to-sequence [Seq2Seq])

was first trained using data observations from spatial rainfall and flow monitoring during non-construction periods for the Ten Mile Creek. A Seq2Seq encoder-decoder architecture for time series was applied to estimate the Ten Mile Creek basin runoff by mapping a historical window of sequential data points to a multistep future window (Hu et al. 2023). In addition, the infrastructure and operational protocols of the Ten Mile Creek Reservoir and STA were updated to reflect the as-built infrastructure and the current operation plan (SFWMD 2019). Lastly, the reservoir outflow protocol was added to the RSMBN to mimic observed relationships between Ten Mile Creek Reservoir stages and outflow from the reservoir to the STA.

The model, subject to historical climatic data for the existing conditions baseline scenario, resulted in a single, stage time series for each simulation. The model simulation results are summarized below and were evaluated using two analytical methods: deterministic and probabilistic. Additional details on the analyses are available in the modeling technical document (SFWMD 2024a) and the analytical methods document (SFWMD 2024b).

Analyses of Simulated MFL Exceedances and Violations

Deterministic Modeling Analysis

The traditional (deterministic) approach applied the MFL exceedance and violation criteria from the MFL rule to the single, stage time series for each simulation that was subjected to historical climatic data. The sum of MFL criteria for exceedances and violations of each scenario was then calculated to evaluate MFL performance across the proposed set of projects. Using the updated hydrology, infrastructure, and operational protocols (**Figure C-7**) in the model resulted in a modeled output of 2 exceedances and 1 violation over the 52-year period of simulation.

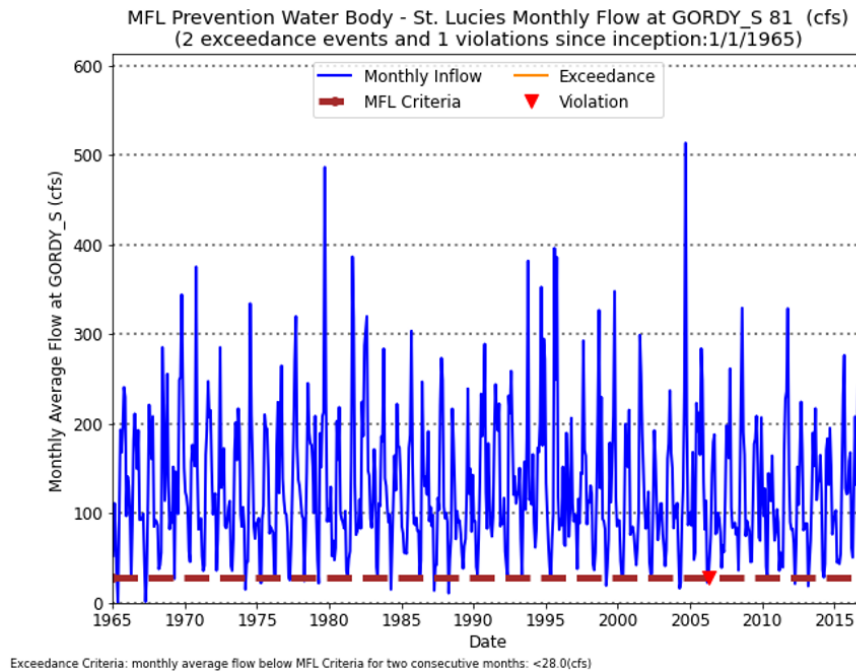


Figure C-7. MFL model simulated exceedances and violations under LOSOM + EAA Reservoir + LOCAR + ASR (1965 to 2016).

Probabilistic Modeling Analysis

The deterministic approach, as applied above, bases the likelihood of experiencing a violation in the next 20 years on one simulation using historical rainfall conditions. A probabilistic approach, however, uses the characteristics of historical rainfall but introduces a randomization of the sequence of the rainfall time series, that when simulated many times, can generate a risk profile of a violation occurring into the future. Section 373.0421, Florida Statutes (F.S.), Establishment and Implementation of Minimum Flows and Minimum Water Levels, specifies that evaluation of an MFL waterbody should be prospective, meaning that analysis is conducted into the future, in this case 20 years. The probabilistic approach complies with statutory requirements of the 20-year prospective evaluation and incorporates uncertainty in rainfall conditions.

Figure C-8 represents the Atlantic Multidecadal Oscillation (AMO) index and global average temperature of the North Atlantic Ocean. The positive numbers represent the warm phases, and the negative numbers are the cool phases. Since the mid-1990s, the AMO has been in the warm phase, which historically has meant more plentiful rainfall in Central and South Florida when the North Atlantic Ocean is in its warm phase and conversely more persistent droughts and wildfires than in the cool phase. Climate scientists at the National Oceanic and Atmospheric Administration (NOAA) have noted that the 20-year switch back to the cool phase is overdue since 2015; however, climate change may extend the duration of the warm phase indefinitely due to the warmer global ocean waters (Mann et al. 2020). For the 20-year projection of the probabilistic method, it has been assumed that the AMO warm phase will continue during this period.

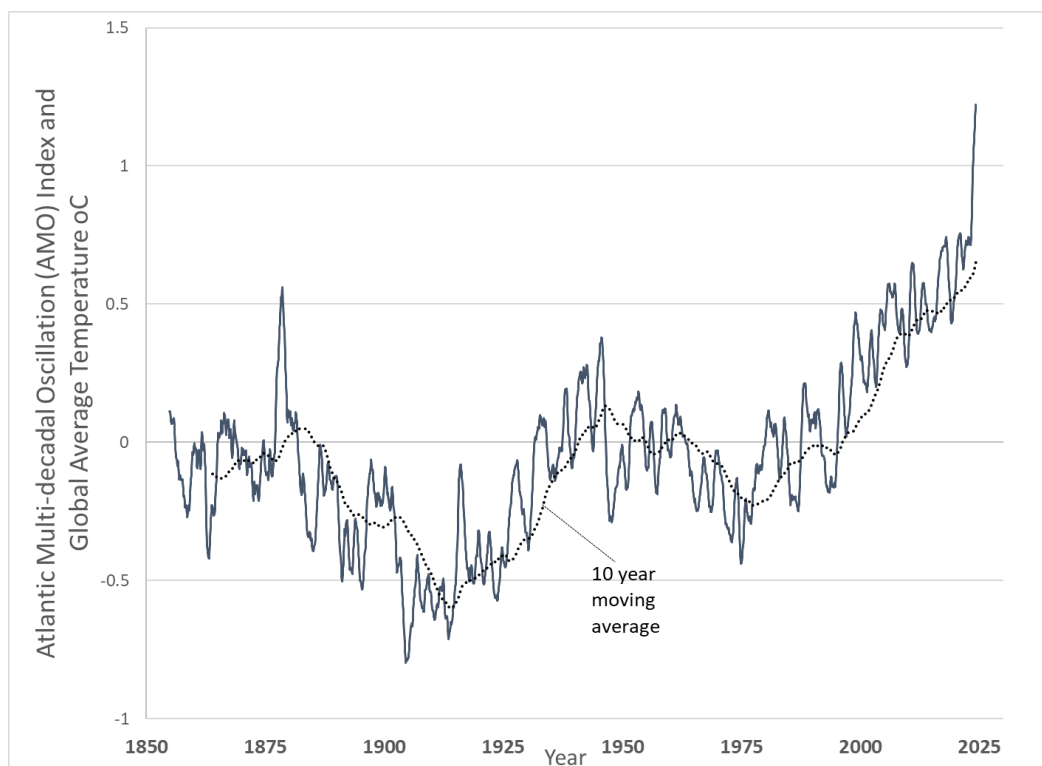


Figure C-8. Atlantic Multidecadal Oscillation phases from the mid-1800s to present.

In comparison, the previous probabilistic modeling analysis from the 2023–2024 Lower East Coast Water Supply Plan Update demonstrated the practical value of probabilistic MFL evaluation and showed that future performance can be expressed as a risk distribution rather than a single binary outcome. It is important to note the same probabilistic modeling framework was applied to the Upper East Coast Water Supply Plan. However, it does not require that one stochastic formulation be used in every application. Instead, model complexity is explicitly tied to the information carried by the exceedance and violation record produced by the physically based simulation.

Stochastic models have a hierarchy based on availability of information. A well-informed stochastic model is justified by the availability of event records, and model complexity should decrease as information declines (**Table C-1**). In other words, use the most detailed model supported by the available data and simplify the model as data limitations increase. The stochastic analysis should discontinue when the available record is insufficient to support it.

Table C-1. Stochastic model hierarchy and information availability.

Information Level (Available Event Record)	Recommended Representation	Use When	Interpretation
High	Non-homogeneous Poisson process (NHPP)	The event record supports time-varying intensity, seasonality, or other systematic rate structure.	Highest stochastic complexity supported by the data.
Moderate	Homogeneous Poisson process (HPP)	The record supports estimation of an average event rate, but not a defensible time-varying intensity.	Simplified constant-rate representation.
Limited	Qualitative characterization / performance reporting	The event record is too sparse for defensible stochastic calibration, diagnostics, and inference.	Terminal information-limited state; stochastic inference is suspended and observed performance is reported.

The stochastic workflow is appropriate only when the simulated event record contains enough information to support calibration and inference. As management actions improve system performance, exceedances and violations may become progressively rarer. As information becomes limiting, diagnostic power weakens and uncertainty becomes high. At some point, the event record can become so sparse that model parameters remain mathematically computable but are no longer statistically informative enough to support reliable stochastic inference or prediction.

This transition should not be interpreted as model failure. It is the expected consequence of successful Resource Protection. Fewer exceedances and violations are unfavorable for model fitting but favorable for system performance and compliance. The objective of the management program is not to preserve enough events to sustain a stochastic model, but to reduce their occurrence.

Based on information availability, uncertainty screening for a moderate availability of information, a homogeneous Poisson process (HPP), observed over a period of record T with n events, the event-rate estimate is as follows:

$$\hat{\lambda} = n/T$$

A first-order standard error for the rate estimate is as follows:

$$SE(\hat{\lambda}) = \sqrt{n}/T$$

The relative standard error is approximately:

$$RSE(\hat{\lambda}) = 1/\sqrt{n}$$

These expressions are useful as a first-order screening measure, not as a universal cutoff. Absolute uncertainty reflects both the number of observed events and the length of the period of record, while relative uncertainty is driven primarily by the number of events. Record length remains important for representativeness, stationarity, and management context. The District Managers may therefore define an acceptable uncertainty threshold appropriate to the Resource Protection decision, while considering the rate estimate, event count, period of record, diagnostic capability, and practical significance of observed system performance together.

When information is inadequate for stochastic inference, the framework transitions intentionally to qualitative characterization, with performance reporting replacing stochastic inference. The terminal-state protocol consists of four actions:

1. Report the observed event rate, $\hat{\lambda} = n/T$, as a descriptive summary of system performance rather than as a predictive intensity.
2. Declare explicitly that the event record is information-limited and too sparse to support reliable stochastic inference.
3. Preserve the Resource Protection meaning of the result: very few events weaken model fitting but strengthen the evidence of improved compliance and system performance.
4. Retain the ability to resume formal HPP/NHPP modeling if future regulation changes or new observations increase the number of events and restore sufficient information.

More importantly, the model exists to support management, not to preserve events for its own sake. When the event record becomes too sparse for inference, that data scarcity is itself evidence of improved Resource Protection.

In conclusion, this expanded protocol preserves the central concept of the probabilistic modeling analysis used in the 2023-2024 Lower East Coast Water Supply Plan while extending it across the full life cycle of MFL stochastic modeling. A physically based simulation first establishes the event-generating record for the regulation scenario being evaluated. When the record is sufficiently informative, an NHPP or HPP is calibrated, diagnosed, and then used to generate an ensemble of 20-year outcomes. As management success reduces event occurrence and the information content of the record declines, the framework simplifies the stochastic representation. Once the available record can no longer support defensible stochastic inference, the framework transitions to qualitative characterization and performance reporting rather than forcing an increasingly uncertain model. This progression provides a consistent basis for prospective 20-year MFL assessment across both event-rich and event-sparse management conditions.

Additional Considerations

- ◆ The St. Lucie Estuary MFL and prevention strategy were adopted by the SFWMD in 2002 and have not been modified since the *2021 Upper East Coast Water Supply Plan Update* (2021 UEC Plan Update). There have been no violations of the minimum mean monthly flow criterion of 28 cubic feet per second at the Gordy Road structure.
- ◆ Demands for surface water for agricultural irrigation are projected to decline in basins contributing flows to the estuary.
- ◆ The CERP IRL-S Project and additional water resource development projects (Chapter 7) are being constructed and operated in the St. Lucie Estuary watershed that will improve the quality, quantity, distribution, and timing of flows to the estuary.
- ◆ Climate uncertainty affects the ability to develop projections that accurately model the potential for MFL violations. Over the 20-year planning horizon, significant impacts from climate uncertainty are less likely to occur, and current assessments do not fully capture these effects due to global model complexity and limited data representing future rainfall and climate conditions in Florida. To address these limitations, a Statewide Coupled Ocean–Atmosphere Regional Climate Model is being developed through a partnership between the SFWMD and several project collaborators to improve characterization of future rainfall, climate, and hydrologic conditions across the state.
- ◆ Chapter 40E-8, F.A.C., Minimum Flows and Levels, is not intended to drought-proof a water body, so there is an expectation that MFLs may still be violated during extreme drought or water shortage events despite the best efforts contained in the prevention strategy.
- ◆ Most MFL waterbodies in the State of Florida have been established with the intent of limiting the negative effects of water withdrawals on the established threshold MFL water levels or flows.
- ◆ The RSMBN model has been peer reviewed and certified for use in CERP planning projects by the USACE. The model for other CERP projects have simulated similar storage features, and uncertainties have been analyzed and documented.

ANALYSES CONCLUSIONS

For the 2026 UEC Plan Update, District staff conducted a review of the scientific and technical data and water resource conditions utilized to establish the MFL for the St. Lucie Estuary pursuant to Sections 373.042 and 373.709, F.S., and Rule 40E-8.011, F.A.C. The District has determined that the MFL is based upon the best available scientific and technical data; therefore, no revision to the MFL criteria or prevention strategy is necessary at this time.

Based on projected declining surface water demands in basins contributing flows to the estuary, the planned CERP IRL-S Project components and additional water resource development projects, the results of the analysis, and the continued implementation of the prevention strategy, the MFL criteria are not anticipated to be exceeded through the 2050 planning period when rainfall deficits do not exceed 1-in-10-year drought conditions.

SUMMARY

- ◆ The adopted MFL criteria and prevention strategy for the St. Lucie Estuary implemented in the UEC Planning Area and have not been modified since the 2021 UEC Plan Update.
- ◆ The St. Lucie Estuary MFL is being met at the compliance point (Gordy Road structure) and is anticipated to continue to be met through the 2050 planning period.
- ◆ Components of the MFL prevention strategy are being planned, constructed, or implemented to continue supporting the MFL for the St. Lucie Estuary.

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D

**Groundwater Monitoring, Sea
Level Rise and Other Changing
Hydrologic and Climate
Conditions, Utilities Vulnerable to
Dry Conditions, and
Groundwater Modeling**

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Several sources of groundwater data were reviewed during development of this *2026 Upper East Coast Water Supply Plan Update* (2026 UEC Plan Update). **Chapter 6** provides an assessment of historical and current conditions of the region's water resources using water availability and hydrologic data (e.g., groundwater elevation, water quality) from surface water and groundwater from the surficial and Floridan aquifer systems (SAS and FAS) monitoring sites throughout the UEC Planning Area. Monitoring data and maps in **Chapter 6** also show the current location of the saltwater interface in relation to water supply sources. **Appendix D** provides analyses and interpretation of the following data:

- ◆ Supplemental hydrographs from select SAS and FAS monitor wells
- ◆ Climate change and sea level rise
- ◆ Coastal utilities vulnerable to saltwater intrusion during dry periods
- ◆ Results of the East Coast Surficial Model (ECSM)
- ◆ Results of the updated East Coast Floridan Model (ECFM)

Historical and current hydrologic, meteorologic, hydrogeologic, and water quality data for the 16 counties within the South Florida Water Management District (SFWMD or District) are available through the SFWMD's corporate environmental database, DBHYDRO Insights, on the SFWMD webpage <https://insights.sfwmd.gov>.

GROUNDWATER MONITORING

Hydrographs show changes in groundwater elevations over time. Seasonal fluctuations in SAS and FAS groundwater elevations are shown in these hydrographs; however, no notable upward or downward trends in groundwater elevations are evident over the available period of record. Hydrographs for selected monitor wells in Martin and St. Lucie counties that are considered representative of regional conditions are presented and discussed in **Chapter 6**. Additional hydrographs are provided in this section.

Surficial Aquifer System Groundwater Elevations

As discussed in **Chapter 6**, 12 SAS monitor wells in the UEC Planning Area were chosen as representative of long-term trends in regional water levels (**Figure D-1**; **Table D-1**, included here for reference, and in **Chapter 6**). Overall, groundwater elevations in the SAS appear stable, and none show trends indicating water supply is being negatively affected (**Figures D-2 to D-6**).

Table D-1. Minimum, maximum, and average groundwater elevations for select surficial aquifer system monitor wells in the UEC Planning Area.

Well Name*	Total Depth (ft bls)	Minimum Elevation (ft NAVD88)	Maximum Elevation (ft NAVD88)	Average Elevation (ft NAVD88)	Period of Record
Martin					
M-1024	83.00	-0.39	6.60	1.67	10/01/2007 to 12/31/2024
M-1048	80.00	22.87	32.21	27.21	10/01/2007 to 12/31/2024
M-1261	20.00	4.10	13.03	8.49	10/01/2007 to 12/31/2024
M-1255	39.00	22.19	27.03	24.06	10/01/2007 to 12/31/2024
M-1073	56.62	0.79	9.55	3.76	03/27/2008 to 12/31/2024
SAV4-GW	22.50	5.65	14.17	10.99	01/01/1997 to 12/31/2024
St. Lucie					
STL-42	13.00	22.82	27.39	24.31	10/01/2007 to 12/31/2024
STL-176	30.00	8.68	16.90	12.70	10/01/2007 to 05/08/2024
STL-185	118.00	19.45	26.55	23.53	10/01/2007 to 12/31/2024
STL-214	70.00	15.95	24.39	19.77	10/01/2007 to 12/31/2024
*STL-264	90.00	16.28	20.18	17.83	10/01/2007 to 03/21/2021
STL-213	126.00	7.10	15.11	10.08	10/01/2007 to 12/31/2024

bls = below land surface; ft = feet; NAVD88 = North American Vertical Datum of 1988.

* STL-264 became inactive on 03/21/2021 and no longer records data. STL-213 is used for the current data representation.

Note: Hydrographs for the bolded wells are included in **Appendix D**. Remaining wells are presented in **Chapter 6**.

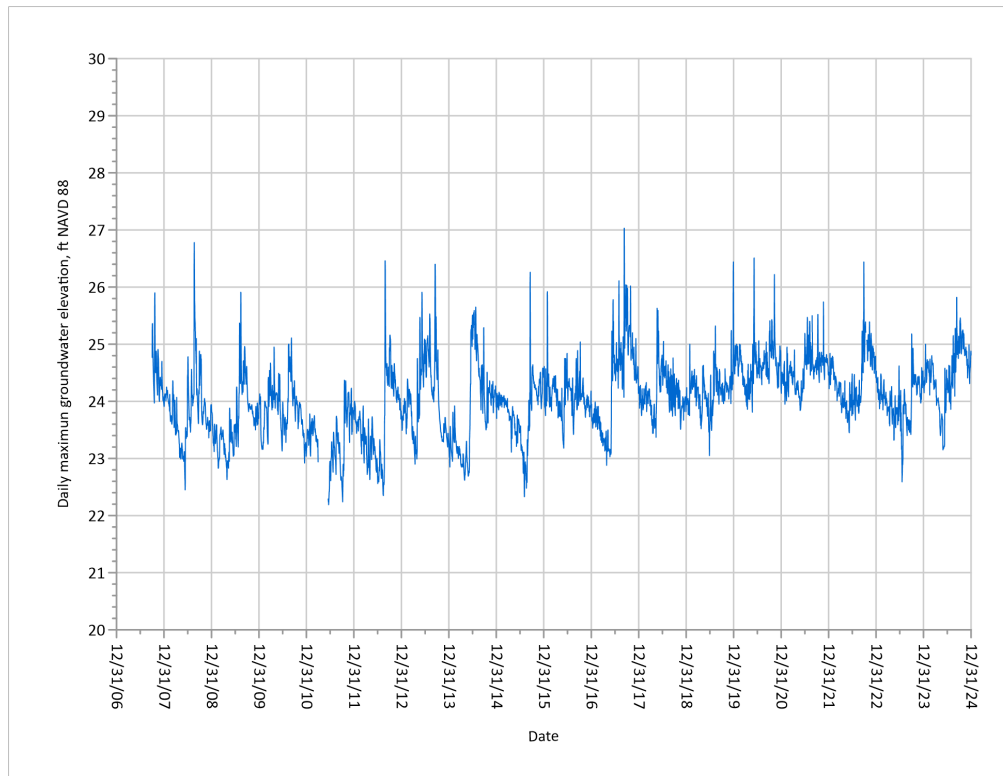


Figure D-2. Groundwater elevations in surficial aquifer system monitor well M-1255, northwestern Martin County.

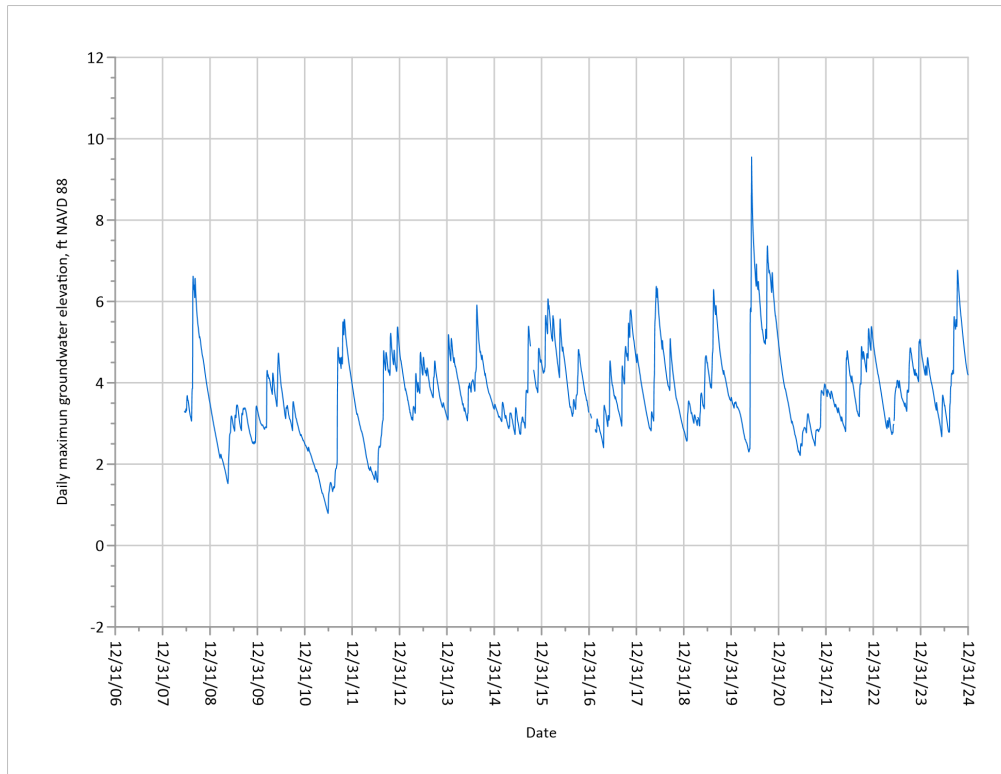


Figure D-3. Groundwater elevations in surficial aquifer system monitor well M-1073, southern coastal Martin County.

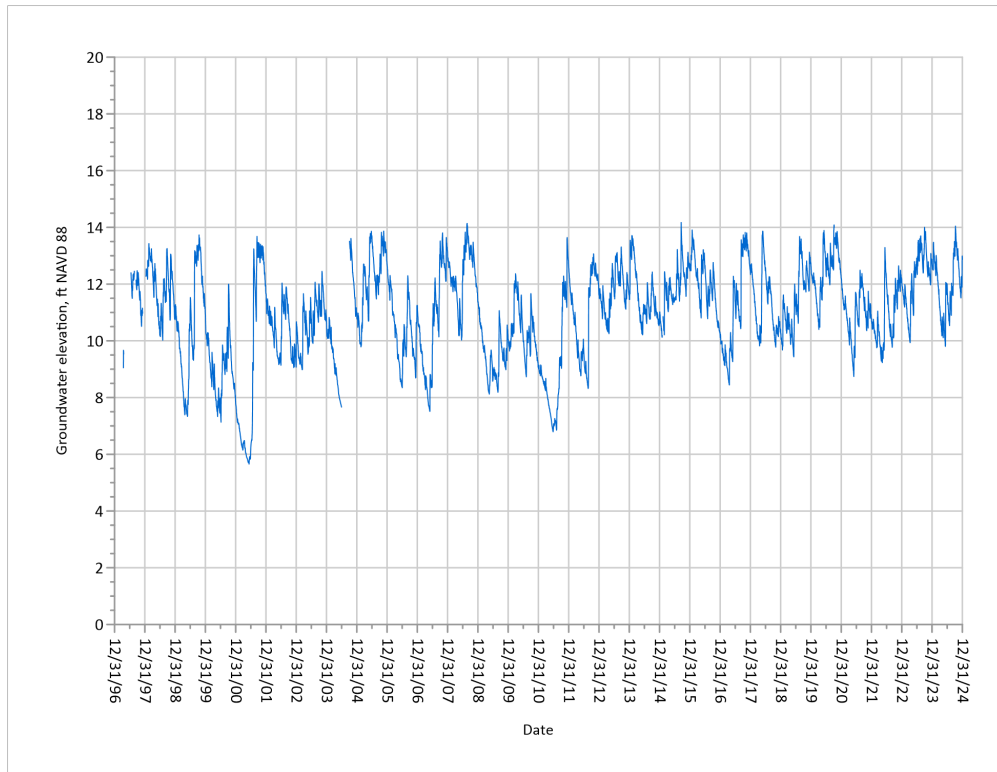


Figure D-4. Groundwater elevations in surficial aquifer system monitor well SAV4-GW, northeastern coastal Martin County

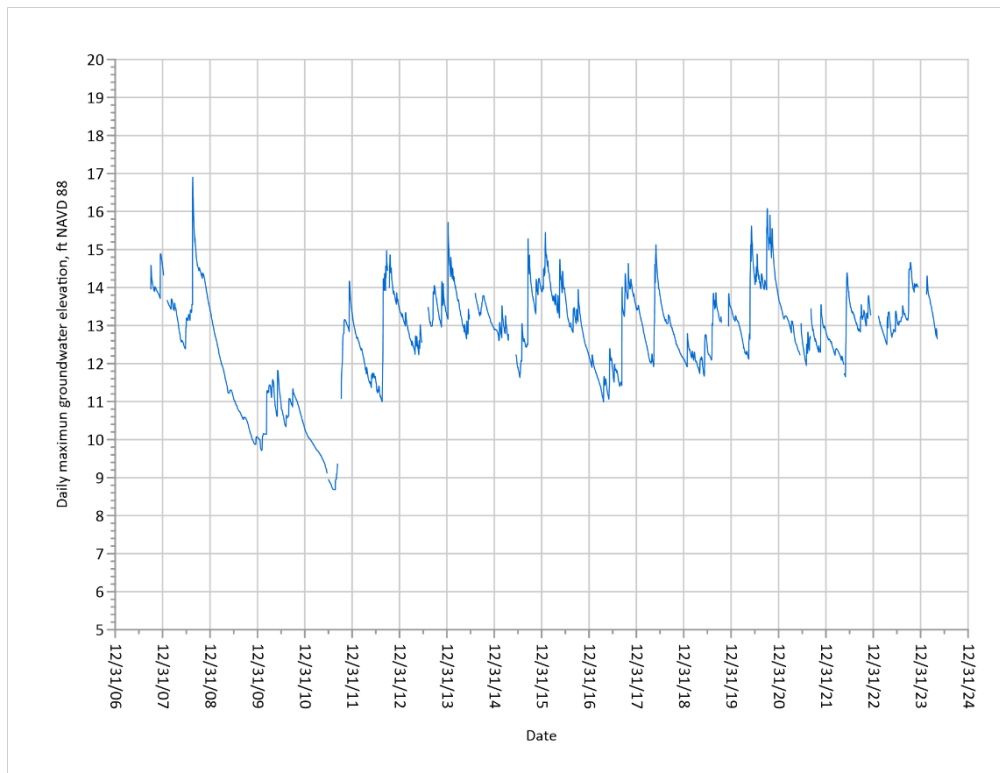


Figure D-5. Groundwater elevations in surficial aquifer system monitor well STL-176, southeastern coastal St. Lucie County.

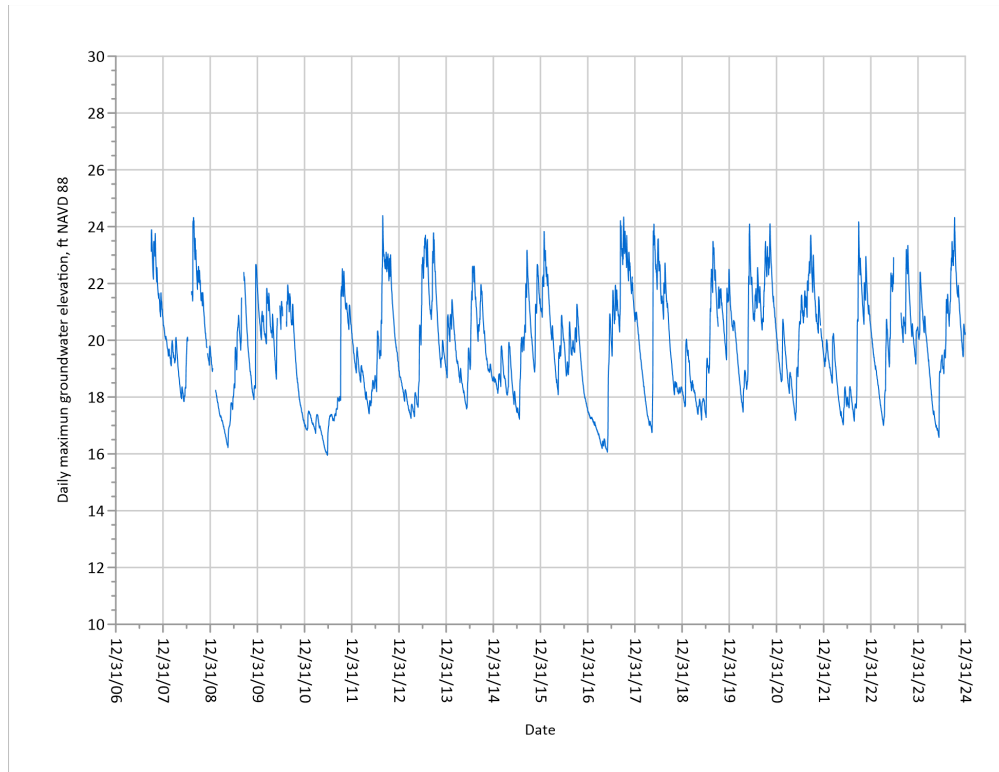


Figure D-6. Groundwater elevations in surficial aquifer system monitor well STL-214, south central St. Lucie County.

Floridan Aquifer System Groundwater Elevations

As discussed in **Chapter 6**, 10 FAS monitor wells in the UEC Planning Area were chosen as representative of long-term trends in regional water levels (**Figure D-7**; **Table D-2**, included here for reference, and in **Chapter 6**). **Figures D-8** and **D-9** present hydrographs for FAS monitor wells. There are seasonal variations in groundwater elevations in the FAS. Wells MF-52RU (open to the Upper Floridan aquifer [UFA]) and MF-52RL (open to the Avon Park permeable zone [APPZ]) show no significant upward or downward trend in groundwater elevations (**Figure D-8**). SLF-21 (open to the UFA) shows more seasonal fluctuations than the MF-52 wells and displays a steadily declining groundwater elevation trend since 2016 (**Figure D-9**).

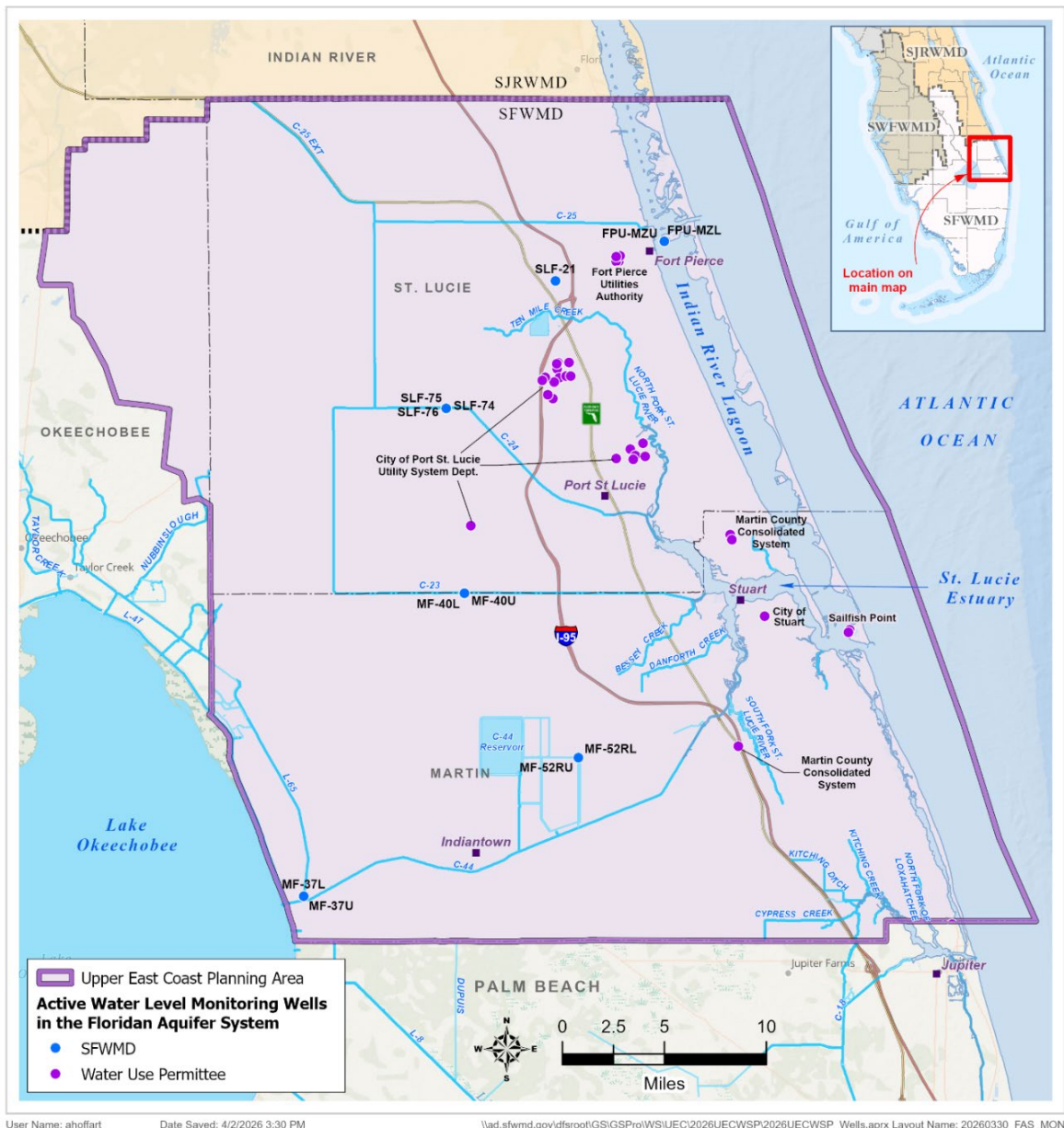


Figure D-7. Active Floridan aquifer system monitor wells in the UEC Planning Area.

Table D-2. Floridan aquifer system monitor wells with long-term groundwater elevation data.

Well Name	Open Hole Depth Interval (ft bls)	Minimum Elevation (ft NAVD88)	Maximum Elevation (ft NAVD88)	Average Elevation (ft NAVD88)	Period of Record
Martin					
MF-37U*	765 – 1,039	49.42	53.41	51.59	05/01/2008 to 09/05/2023
MF-37L*	1,486 – 1,690	47.84	51.96	50.28	05/01/2008 to 09/05/2023
MF-40U*	790 – 970	33.26	49.90	48.02	02/04/2009 to 12/31/2024
MF-40L*	1,100 – 1,200	26.85	61.22	47.76	02/04/2009 to 12/31/2024
MF-52RU*	652 – 802.6	48.13	51.03	49.44	02/09/2017 to 12/31/2024
MF-52RL*	1,206 – 1,450	48.34	51.40	49.67	02/09/2017 to 12/31/2024
St. Lucie					
SLF-21	156 – 707	29.12	36.88	33.41	08/23/2002 to 12/31/2024
SLF-74	1,068 – 1,450	33.48	42.14	39.39	08/20/2002 to 12/31/2024
SLF-75	480 – 700	36.64	42.86	39.88	08/20/2002 to 12/31/2024
SLF-76	790 – 860	36.67	42.79	40.01	08/20/2002 to 12/31/2024

bls = below land surface; ft = feet; NAVD88 = North American Vertical Datum of 1988.

* Paired well; L denotes the well is open to the Avon Park permeable zone, and U denotes the well is open to the Upper Floridan aquifer.

Note: Hydrographs for the bolded wells are included in **Appendix D**. Remaining wells are presented in **Chapter 6**.

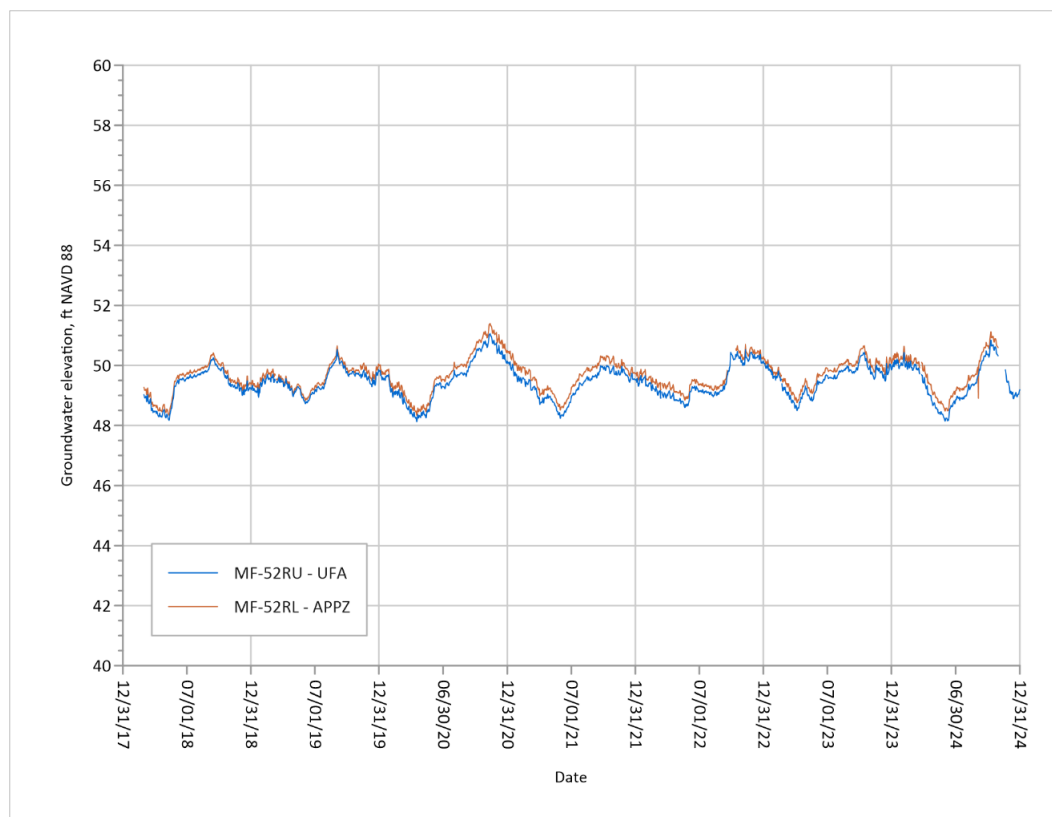


Figure D-8. Groundwater elevations in Floridan aquifer system monitor wells MF-52RU (open to the UFA) and MF-52RL (open to the APPZ), central Martin County.

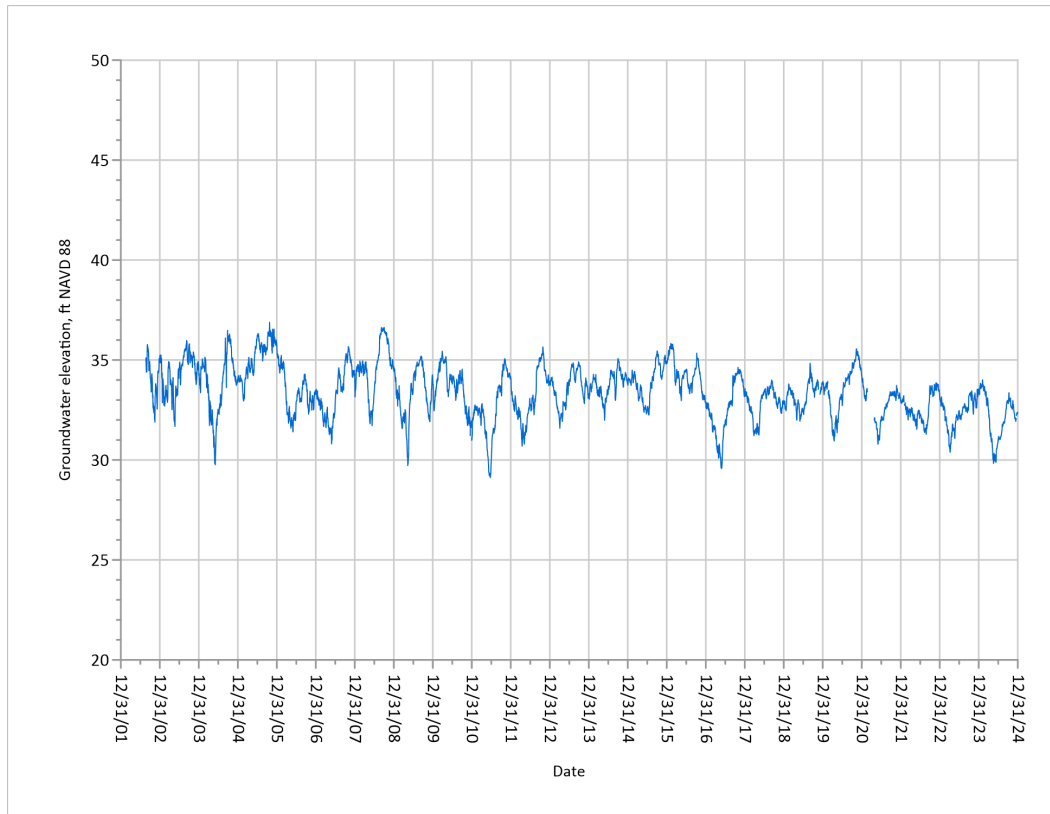


Figure D-9. Groundwater elevations in Floridan aquifer system monitor well SLF-21 (open to the UFA), north central St. Lucie County.

SEA LEVEL RISE AND OTHER CHANGING HYDROLOGIC AND CLIMATE CONDITIONS

Sea level rise and other changing hydrologic and climate conditions are issues of concern globally and especially in coastal regions such as South Florida. Because of its location, regional variability in climate, hydrology, geology, topography, natural resources, and dense coastal populations, South Florida is particularly vulnerable to their potential effects. Sea level rise and changes in temperature and rainfall patterns, among other evolving conditions, affect the implementation of the SFWMD's mission elements to safeguard and restore South Florida's water resources and ecosystems, protect communities from flooding, and meet the region's water needs. The SFWMD's resiliency efforts focus on 1) using science and advanced technical analyses to characterize changing conditions on water resources management, in general, and future water supply sources, and 2) continuing to successfully implement the agency's mission through continuous infrastructure investments, supported by robust technical analyses, planning, and adaptive management. Over the last decade, the SFWMD has implemented strategies to build resiliency by developing tools and models to assess current and future conditions, maintaining and optimizing its operations, and implementing key infrastructure projects. These efforts require collaboration and cooperation with local and tribal governments; other regional, state, and federal agencies; universities; nongovernmental entities; a wide array of stakeholders; and citizens throughout South Florida.

In accomplishing its mission, and supporting the implementation of the above stated goal, the SFWMD is improving its understanding of historic, current, and future water supply conditions through the assessment of sea level rise impacts on water supply. These potential impacts will be analyzed as part of the ECSM modeling effort to support both the UEC and Lower East Coast (LEC) water supply plans, and development of a longer-term (50-year horizon) Water Supply Vulnerability Assessment (WSVA).

Historical Observations, Current Conditions, and Future Projections

The SFWMD keeps up with the latest science by utilizing the best available datasets for historical observations and best available models for current conditions and future projections. Historical data for temperature, rainfall, and evapotranspiration are collected by the SFWMD and federal partners — the National Oceanic and Atmospheric Administration (NOAA) and the United States Geological Survey (USGS). These data are available on DBHYDRO Insights on the SFWMD webpage <https://insights.sfwmd.gov>.

As part of resiliency initiatives, the SFWMD has been assessing water and climate resilience metrics to document trends and track shifts in observed water and climate data. These efforts support the SFWMD's assessment of current and future climate condition scenarios, operational decisions, and resiliency priorities. The water and climate resilience metrics and related data analyses are featured on the Resilience Metrics Hub (SFWMD 2021). The Resilience Metrics Hub is continually updated with information, data, and analyses to support interpretation of long-term trends in water and climate data that assist resiliency planning. This effort supports the SFWMD's resiliency goals of ensuring ecosystem restoration, flood protection, and water supply mission elements while accounting for current and future climate conditions.

In anticipation of how changes in temperature, rainfall, and evapotranspiration patterns may affect water supply and other SFWMD resiliency efforts, SFWMD partnered with the USGS Caribbean–Florida Water Science Center and Florida International University (FIU) Sea Level Solutions Center to assess and develop rainfall and evapotranspiration datasets to support regional and subregional planning and modeling efforts. The future conditions datasets are derived from global circulation models, including empirical and physics-based models that incorporate elements of dynamics, chemistry, and biology of the atmosphere, biosphere, and the oceans as well as greenhouse gas emission scenarios. These global circulation models have large scales (100 to 250 kilometers) and, therefore, need to be downscaled to regional and subregional levels.

Figure D-10 provides an overview of the methodology used to select climate models for developing future climate datasets. Preliminary projections of annual and seasonal climate conditions are generated using both statistically and dynamically downscaled datasets. These downscaled datasets are evaluated through statistical analysis and compared with one another and with observational datasets to assess their performance and consistency. The interpretation and applicability of key findings and model performance characteristics are documented and used to select a representative model or set of models that capture the range of projected climate conditions and associated uncertainties for scenario selection in the region and/or study area.

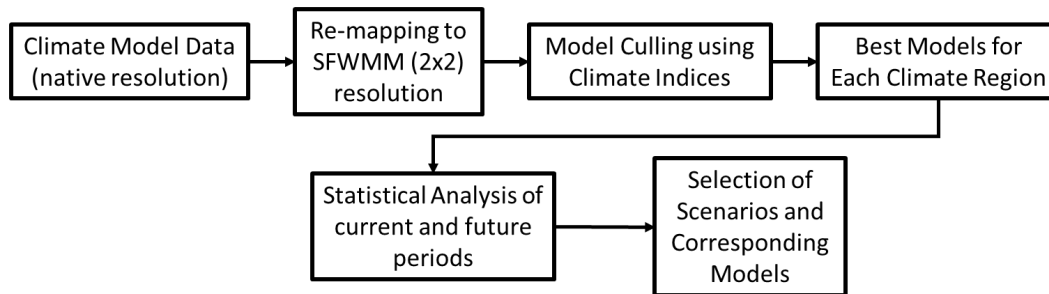


Figure D-10. Overview of approach for selecting models for future climate scenarios.

The USGS, in partnership with the SFWMD and FIU, developed extreme wet (Irizarry-Ortiz and Haider 2023) and dry (Irizarry-Ortiz 2024) conditions datasets. The results of these efforts are detailed in the sections below. There will be further data development and assessments to determine how to best represent long-term future conditions. The eventual future hydrologic and climate datasets will be processed and used throughout SFWMD's modeling efforts, including the WSVA. Additional regional future conditions temperature, rainfall, and evapotranspiration projections may be developed to fully address future scenario uncertainty and will support the needs and outputs of regional groundwater and surface water models. The results from annual analyses of the datasets will continue to be updated and made available through the Resilience Metrics Hub (SFWMD 2021).

The Florida Flood Hub for Applied Research and Innovation (FFH), established by the State of Florida within the University of South Florida's College of Marine Science, plays a central role in coordinating efforts between academic research institutions and state agencies to advance statewide resiliency efforts. Funded by the Resilient Florida Program and mandated by Section 380.0933, Florida Statutes (F.S.), the FFH leads the Rainfall Workgroup to develop estimates on changes to the depth, duration, and frequency of extreme rainfall events with the goal of improving short-term forecasts and longer-term projections, while guiding comprehensive water management efforts throughout the state. With funding support from the Florida Department of Environmental Protection (FDEP), the Florida Department of Transportation, and the SFWMD, the FFH is currently developing the Statewide Coupled Ocean–Atmosphere Regional Climate Model. This model uses technical work developed by the University of Miami, Florida State University, and the USGS to capture mechanisms and conditions of rainfall and other related hydrologic and climate variables specific to Florida (Jacoby et al. 2026).

Air Temperature Rise, Precipitation Regimes, and Storm Frequency

Global mean temperatures are projected to continue increasing over coming decades. The most recent World Meteorological Organization (WMO) near-term predictions indicate annual global mean temperatures during 2026 to 2030 are expected to be approximately 1.3°C to 1.9°C above the 1850 to 1900 average (WMO 2026). Warmer air temperatures might result in increasing evapotranspiration and lower surface water levels (e.g., in lakes, canals, rivers); increased irrigation demands; and impacts to stormwater runoff, soil moisture, groundwater recharge, and water quality. Additionally, increased air temperatures contribute to sea level rise through thermal expansion of ocean waters and through glacial melt releasing large volumes of water into the oceans.

As shown in **Figure D-11**, the average daily maximum temperature for St. Lucie County was projected to increase in the 2020s in the range of 83 to 87°F (28.3 to 30.5°C). In 2025, the average daily maximum temperature was 83°F (28.3°C) in Fort Pierce. By 2050, the range of possible temperatures is predicted to increase to between 84.9°F and 88.8°F (29.4 to 31.6°C). **Figure D-11** is generated from a climate toolkit developed by an interagency team, including NOAA, National Aeronautics and Space Administration (NASA), USGS, United States Environmental Protection Agency (USEPA), United States Bureau of Reclamation (USBR), National Environmental Modeling and Analysis Center (NEMAC) at the University of North Carolina, and the United States Global Change Research Program (USGCRP).

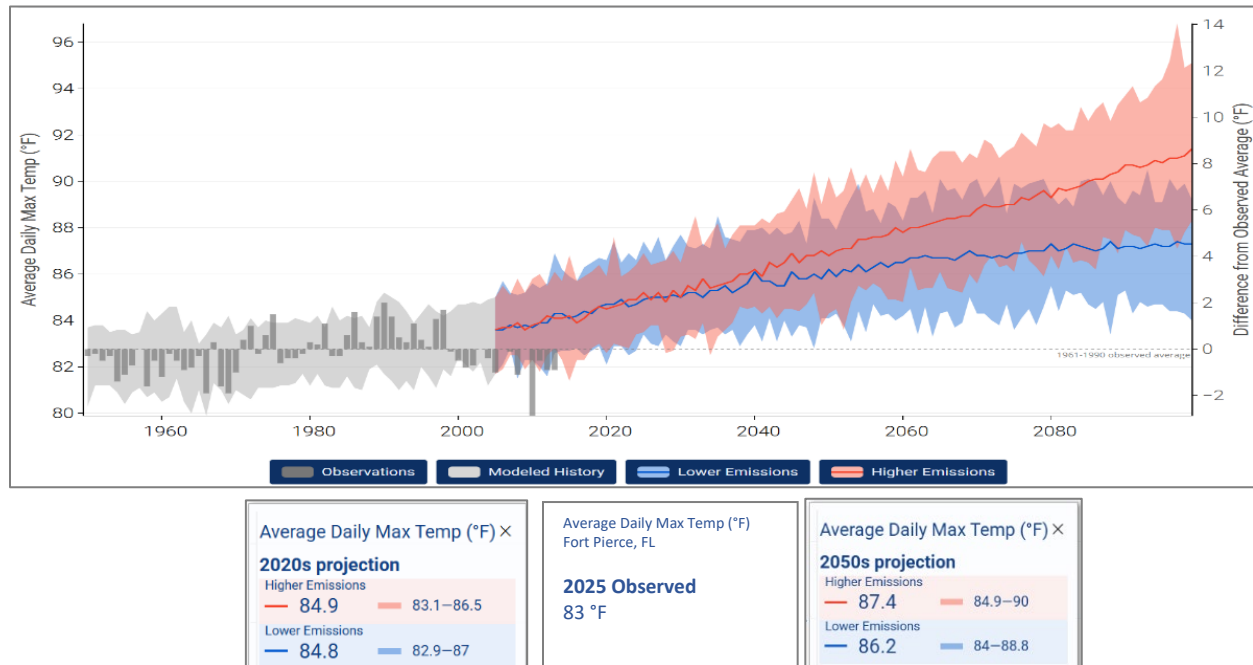


Figure D-11. Projected average daily maximum temperature in St. Lucie County, Florida (Data from NOAA et al. 2026).

Rainfall Patterns and Extrema

The effects of changing rainfall patterns will likely have a significant impact on future regional water supplies. The SFWMD is focused on understanding evolving conditions and anticipating future conditions through the above-mentioned water and climate resilience metrics studies, which examine temporal and spatial rainfall duration, frequency, and intensity. A 2026 update to the initial 2022 regional rainfall wet season analysis (Cortez et al. 2022) evaluated the entire period of record for all the SFWMD’s rainfall basins. In the UEC Planning Area, the Martin–St. Lucie rainfall basin shows a statistically significant downward trend in the late wet season (October) (**Figure D-12**; Salazar et al. 2026) and an increasing trend in the 5-day maxima/5-year return frequency. The downward trend indicates drier conditions going into the dry season, while the upward trend indicates increasing longer-duration rainfall extremes in that area.

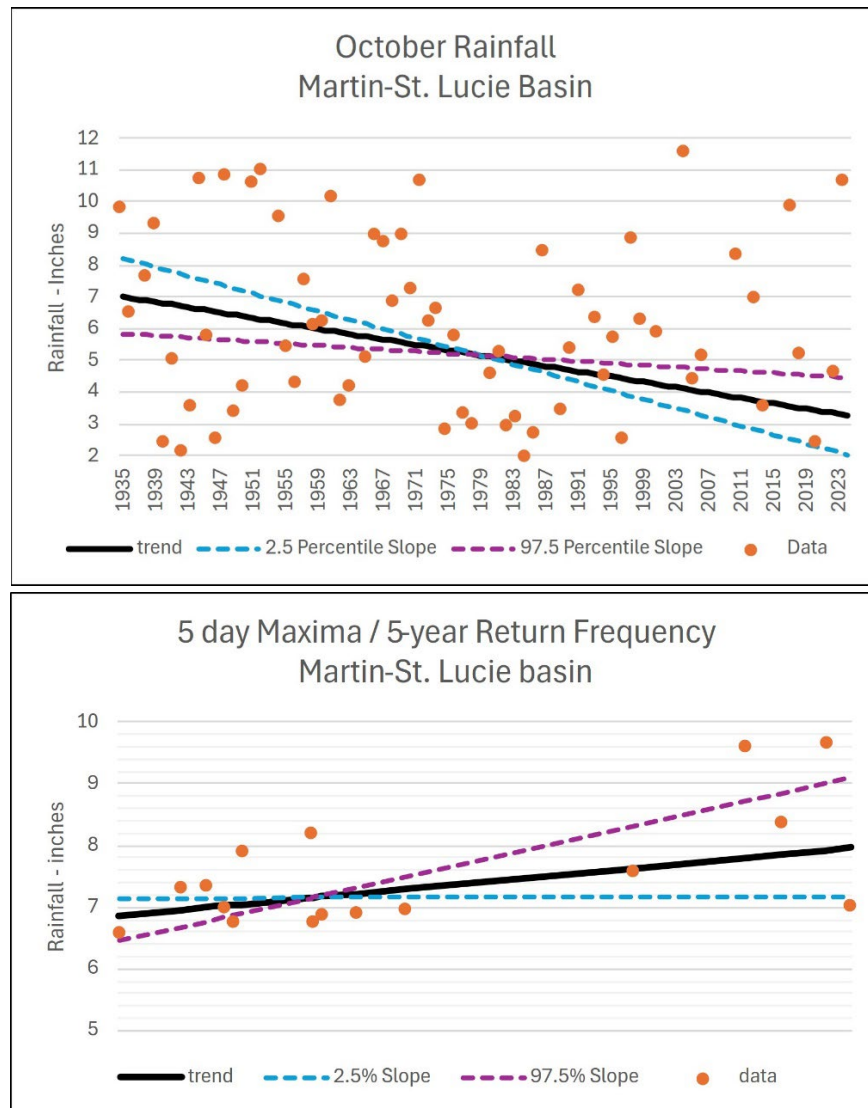


Figure D-12. Trend analyses of average October rainfall and 5-day maxima/5-year return frequency in Martin-St. Lucie Basin, period of record 1935 to 2024.

The Statewide Coupled Ocean-Atmosphere Regional Climate Model effort will provide insight into potential shifts in rainfall seasonality, including changes in the average onset and duration of the wet and dry seasons. Development of projections accounting for nonstationary conditions is under way and will be applied in the SFWMD WSA.

Sea Level Rise

The effects of sea level rise are most easily observed in the UEC Planning Area as they relate to flooding events, such as those caused by high tides, heavy rainfall, and storm surge. This was apparent during Hurricane Matthew in 2016, when the combination of some of these factors resulted in significant flooding and coastal erosion. Perhaps less apparent is the effect sea level rise can have on South Florida's drinking water supplies. Sea level rise may affect water supply through the inland movement of the saltwater interface (see **Chapter 6**). As the rate of sea level rise continues to increase, saltwater intrusion may require some coastal

wellfields in the UEC Planning Area to be relocated farther inland, change treatment processes, or be replaced by alternative water supply (AWS) sources.

In general, canal stages are maintained lower than land surface, so they can drain the surrounding areas in response to heavy rains. Coastal canal stages are maintained higher than sea level to prevent saltwater from moving inland. If canal water levels cannot be maintained higher than sea level, then salinity control structures are closed to prevent entry of saltwater into fresh surface water bodies. There are four coastal structures (S-48, S-49, S-50, and S-80) in the UEC Planning Area (**Figure D-13**). Tidal levels on the seaward side of the structures are measured at S-80 and the St Lucie River. The upstream stages at these structures are maintained above 10 feet National Geodetic Vertical Datum of 1929 (NGVD29), and minimal effects from sea level rise are expected through the planning horizon.

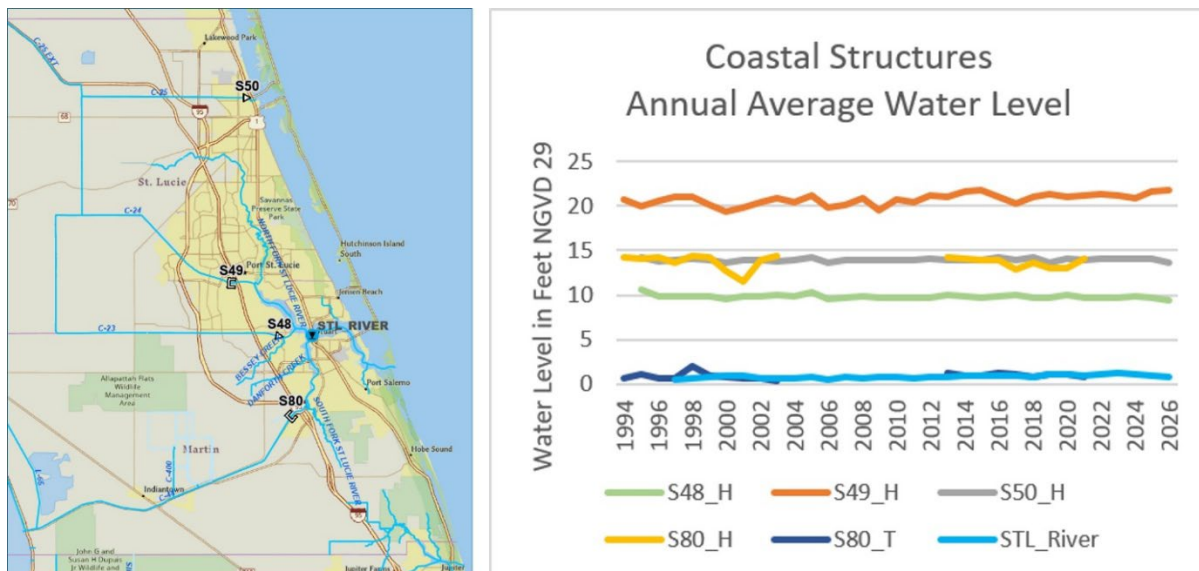


Figure D-13. Coastal canal structures and tidal gauges in the UEC Planning Area.

Global mean sea level rise is caused by thermal expansion and an increase in the volume of water in the oceans from melting glaciers and other sources. The gradual increase in sea level has been observed in sediment, tide gauge, and satellite altimetry records. Tide gauge records from Virginia Key in Miami and the St. Lucie River (**Figure D-14**) show that relative sea level is rising along the Florida coastline. The historical rate of sea level rise at Virginia Key presented by NOAA is 3.2 millimeters per year based on long-term data from 1931 to 2026. It is important to note that a longer period of record with linear averaging shows a flatter trend line, yet if the acceleration and nonlinear trends are examined, the rate of sea level rise increases. This nonlinearity emphasizes the need for applying projections rather than trends to water management planning.

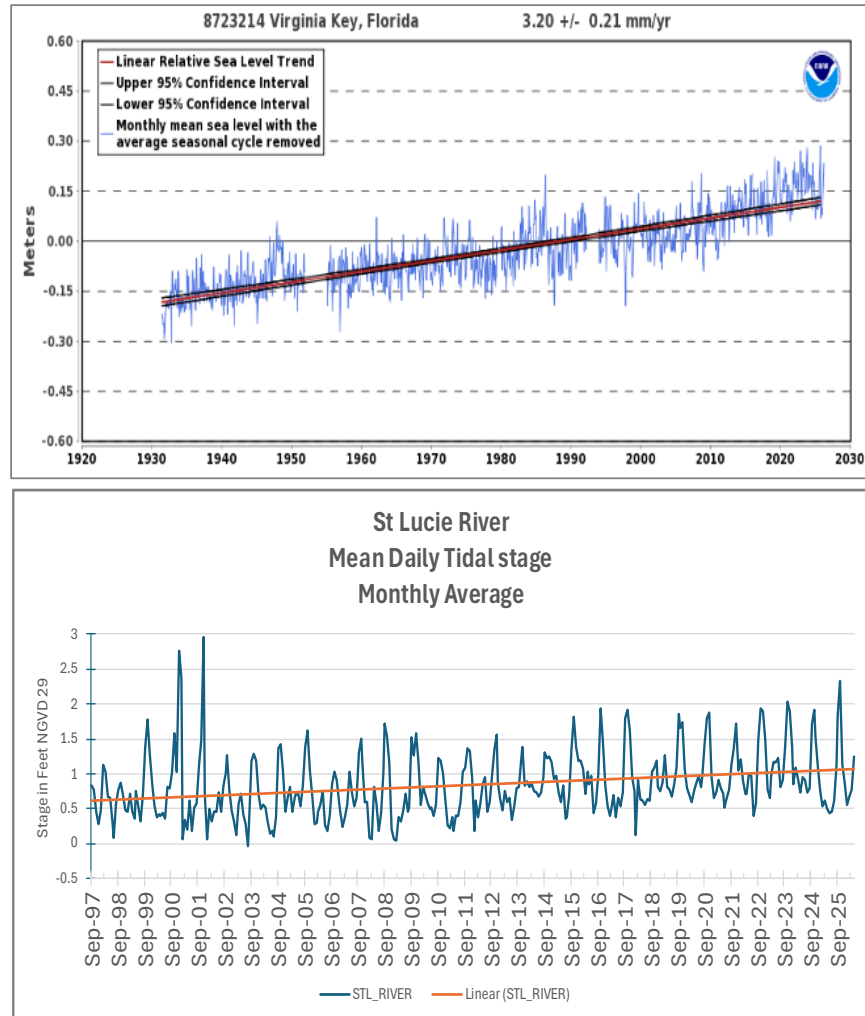


Figure D-14. Historical sea level measurements from the Virginia Key, Florida and St. Lucie River tide gauges.

The FDEP has established the Comprehensive Statewide Flooding and Sea Level Rise Resiliency Plan, to strengthen Florida’s ability to plan for and mitigate the impacts of flooding and sea level rise. In accordance with Section 380.093, F.S. (for projects initiated after July 1, 2024), flood vulnerability assessments must utilize, at a minimum, the NOAA 2022 (Sweet et al. 2022) intermediate-low and intermediate sea level rise scenarios relative to 2000, along with at least two planning horizons: 20 years and 50 years into the future. This corresponds to the planning periods around 2040–2045 and 2070–2075, referencing the nearest NOAA tide gauge stations.

- The FFH Sea Level Change Workgroup evaluates global, national, and state-level data to provide projections of changing sea levels that underpin vulnerability assessments and risk analyses to guide more effective policies, capital improvement projects, and other resilience-related investments and interventions. The workgroup developed sea level rise projections for the State of Florida based on two key sources: NOAA 2022 (Sweet et al. 2022) and FDEP (2025).

Figure D-15 includes the lines from the NOAA 2022 (Sweet et al. 2022) projections and colored squares for the FDEP (2025) projections. The sea level rise adjustment values from these datasets are the recommended and primary data sources for calculating future sea level conditions at NOAA tide gauges and other project specific sites, including District operated coastal structures for resiliency planning. Based on the FFH best estimate projections, sea level is estimated to increase in southeastern Florida between 8 to 12 inches by 2050.

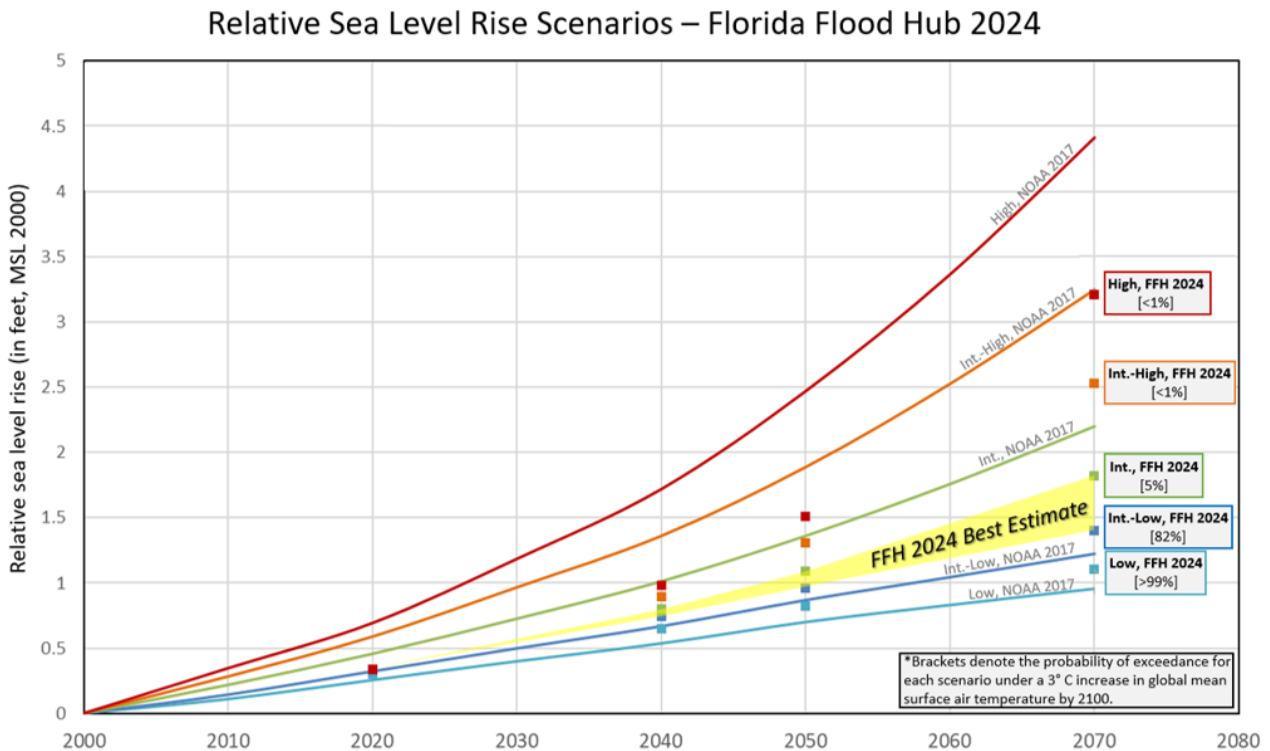


Figure D-15. Relative sea level rise scenarios (FDEP 2025).

The sea level rise projections are intended to be used for regional planning purposes when considering sea level rise over short- and long-term planning horizons and in infrastructure design. Most regional and local planners should use the projection in the intermediate range of curves of **Figure D-15** although using the high end of this range will be more conservative and provide an additional level of protection.

In response to observed and projected sea level rise, the SFWMD is actively monitoring and mapping the location of the saltwater interface within coastal freshwater aquifers. Completed every 5 years, the saltwater interface mapping effort identifies any movement of saltwater inland, which can put water supply at risk. The maps and other groundwater quality data are available in the Saltwater Intrusion in Coastal Aquifers story map on the Resilience Metrics Hub (Smith and Cortez 2026). Increased chloride levels can impact water supply operations and ecosystems. **Chapter 6** provides further information on the saltwater interface mapping effort and the most recent map of the estimated position of the saltwater interface in Martin and St. Lucie counties.

Water Supply Vulnerability Assessment

The SFWMD is conducting the WSVA aimed at understanding how future growth, climate, and hydrologic conditions impact the regional water supply over a 50-year period. In addition to utilizing the ECSM, the SFWMD is developing future conditions temperature, rainfall, and evapotranspiration datasets to support scenario formulation for the ECSM and surface water regional models, such as the South Florida Water Management Model (SFWMM) and Regional Simulation Model (RSM). The WSVA analyses and results for the LEC will be completed and released after the 2026 UEC Plan Update. The WSVA results will be considered in the 2028 LEC Plan Update and will be integrated into the SFWMD resiliency efforts. The assessment is based on SFWMD water supply plan methodologies by independently analyzing effects of future climate conditions and sea level rise on demands related to population growth, irrigation withdrawals, and availability of water supply sources. For more information, go to <https://www.sfwmd.gov/our-work/sea-level-rise-and-flood-resiliency-plan>.

Current and Future Adaptive Management Strategies

The SFWMD has been evaluating changing climate and hydrologic conditions, including sea level rise, since 2008 to determine the best short- and long-term strategies to address water resource management needs (SFWMD 2009, Obeysekera et al. 2011). Long-established networks of rainfall and surface water flow data, with real-time automation, provide continuous data to monitor changes in local hydrology. In addition, an extensive network of coastal and inland surface water and groundwater monitoring sites has been established to collect and analyze water level and quality data, including information about saltwater intrusion.

Coastal monitoring wells and data from water users track the location and movement of the saltwater interface, which is affected by several factors, including sea level rise and groundwater withdrawals (**Figure D-16**). Every 5 years, the SFWMD uses the monitor data to estimate the location of the saltwater interface in its coastal aquifers. Comparison of 2009, 2014, 2019, and 2024 saltwater interface maps show a regionally dynamic interface with little inland or seaward movement in the UEC Planning Area (see **Chapter 6**).

As introduced above, the SFWMD is advancing the Water and Climate Resilience Metrics effort to track and document trends and shifts in water and climate data monitored across the region by the SFWMD. Findings of metrics' analyses are published annually in Chapter 2B of the *South Florida Environmental Report* and can be accessed on the SFWMD webpage <https://www.sfwmd.gov/our-work/water-and-climate-resilience-metrics>. The analyses of trends and shifts in observed data, along with the collective experience and best professional judgment of SFWMD technical staff, serve as the foundation for more robust infrastructure planning and operational decisions.

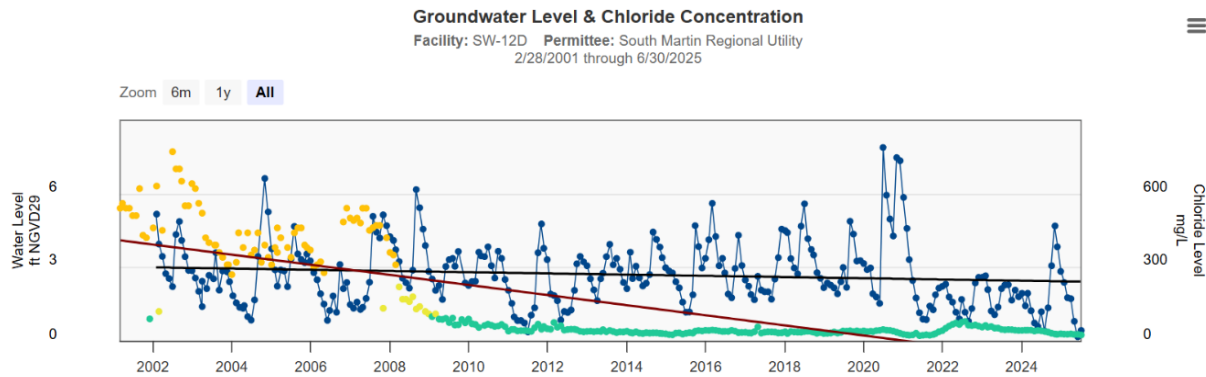


Figure D-16. Saltwater intrusion monitoring data example.

The SFWMD is the nonfederal sponsor of the Central and Southern Florida (C&SF) Project authorized by the Flood Control Act of 1948, primarily for the purposes of flood control, water supply, and prevention of saltwater intrusion. Utilizing some of the inputs from the Resilience Metrics Hub (SFWMD 2021) and other relevant data, the SFWMD is assessing flood vulnerabilities of the C&SF water management system and determining appropriate adaptation measures. Initiated in 2015, the SFWMD's Flood Protection Level of Service (FPLOS) Program evaluates the effectiveness of flood control assets (e.g., canals, structures, and pump stations) to determine their ability to continue meeting the flood protection needs of the region under current and future conditions, including sea level rise and extreme rainfall projections. The program assesses vulnerabilities in the regional flood control system and recommends adaptation strategies within the primary, secondary, and tertiary flood control system. FPLOS Phase I and Phase II assessments are ongoing for Martin and St. Lucie counties.

The SFWMD has developed its Sea Level Rise and Flood Resiliency Plan through ongoing coordination with local governments, stakeholders, and communities to address the impacts of changing conditions, including sea level rise and extreme rainfall events, on the SFWMD's critical assets, water management operations, water supplies, and water resources. The plan and annual project updates can be found in the SFWMD Sea Level Rise and Flood Resiliency Plan – Projects Dashboard available on the SFWMD webpage <https://www.sfwmd.gov/our-work/sea-level-rise-and-flood-resiliency-plan>. The dashboard features an interactive map that provides stakeholders and the public with an easy way to view project locations and access the latest project-specific information. This is the first SFWMD initiative to compile a comprehensive portfolio of project components moving into implementation stages, based on recommendations from extensive flood vulnerability assessments, adaptation planning, and event-based impact areas. These projects are designed not only to protect communities by reducing flood risk, adapting to sea level rise, and safeguarding water resources and critical infrastructure, but also to strengthen the economy and support ecosystems across South Florida.

Water supply resiliency efforts are currently focused on advancing the approach proposed for the WSA. Scenario runs and related technical analyses for the LEC Planning Area are currently under way and will be extended to the UEC in the future. This assessment includes long-term future population, hydrologic, and climate projections and delineates potential impacts on water supply availability.

UTILITIES VULNERABLE TO DRY CONDITIONS

The inland movement of seawater primarily affects coastal communities. The entire east coast of Florida is particularly susceptible to lateral saltwater intrusion due to the following factors:

- ◆ Proximity to the Atlantic Ocean, inlets, and lagoons
- ◆ Numerous coastal wellfields
- ◆ Drainage canals that lower the water table, which reduces the water pressure exerted against the saltwater interface
- ◆ Canals without coastal water control structures to inhibit inland movement of seawater
- ◆ Rising sea levels

In 2007, the SFWMD identified PS utilities with water supply sources near the saltwater interface that could be vulnerable to saltwater intrusion or reduced availability during severe drought conditions (SFWMD 2007). The purpose of the SFWMD's evaluation was to increase awareness of the potential for saltwater intrusion in the SAS due to a lowered water table, reduced precipitation, and resulting diminished aquifer recharge. The SFWMD identified PS utilities' existing water supply sources, including AWS sources; planned projects; and initiatives to diversify water supply sources, reduce vulnerability, and ensure a more reliable water supply during future dry periods. These considerations are for water supply planning purposes only and do not constitute any regulatory determination or agency action regarding the utilities noted herein.

Considerations used in this evaluation include whether the utility had wellfields near a saltwater source (e.g., ocean, relict seawater), the availability of other water sources (e.g., inland wellfield, AWS sources, interconnects with other utilities), and the ability of the alternatives to help meet demands. The following utilities, listed north to south in the UEC Planning Area, have an SAS wellfield near the saltwater interface but also have access to other water sources (e.g., inland wellfield, AWS sources, interconnects with other utilities) during drought conditions:

- ◆ Fort Pierce Utilities Authority
- ◆ Martin County Utilities
- ◆ Stuart
- ◆ South Martin Regional Utility

Wellfields along the coast are particularly susceptible to saltwater intrusion during water shortages. Utilities can respond to the threat of saltwater intrusion by the following methods:

- ◆ Shifting pumpage to inland wells to reduce demand on coastal wells
- ◆ Reducing withdrawals from the SAS by using the FAS as an AWS source
- ◆ Employing additional water conservation methods to reduce overall water demand
- ◆ Expanding water reuse programs to reduce potable and self-supplied SAS withdrawals used for irrigation

GROUNDWATER MODELING

The SFWMD has developed two models that include the UEC Planning Area: the ECSM and the ECFM (**Figure D-17**). The ECSM and the ECFM are density-dependent groundwater flow and solute transport models of the SAS and FAS, respectively. The models simulate regional groundwater levels, flows, and water quality in the SAS and FAS in response to withdrawals. The models were developed for regional water supply planning purposes and use the best available data on aquifer characteristics and water quality.

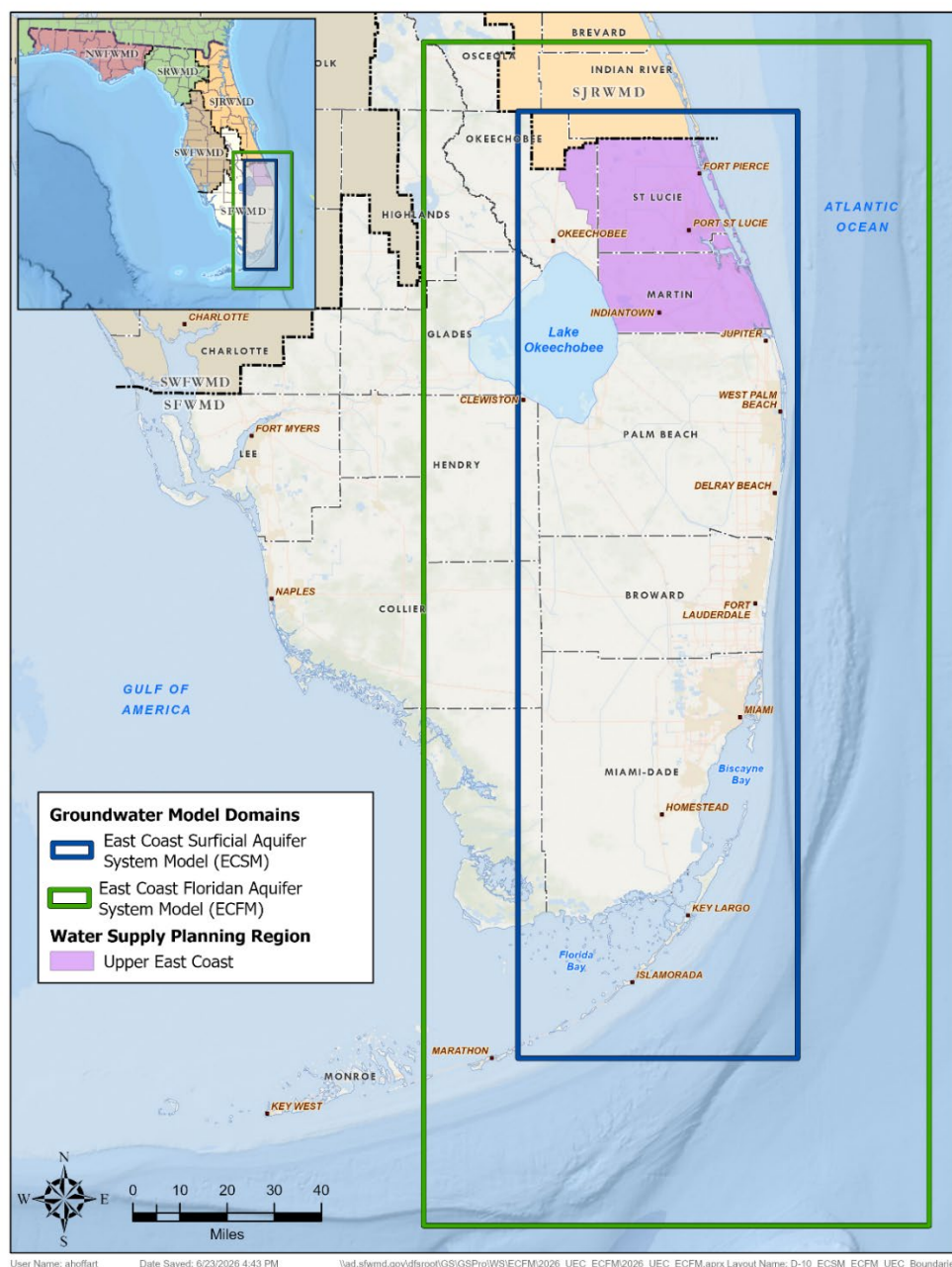


Figure D-17. Model boundaries for the East Coast Surficial Model and East Coast Floridan Model.

Model Scenarios

Model scenarios were designed to evaluate the 20-year planning horizon.

- ◆ The first scenario analyzed the potential impacts of pumping the 2024 water use demands for each model's period of simulation.
- ◆ The second scenario analyzed the potential impacts of pumping the 2050 projected water use demands for each model's period of simulation
- ◆ The third scenario analyzed the potential cumulative impact of pumping the 2050 projected water use demand plus sea level rise, projected for 2050 based on the NOAA 2022 Intermediate curve. Actual demands for 2024 and projected demands for 2050 were used.
- ◆ Existing and proposed well locations were determined using information in water use permits when available. For proposed PS wells not yet drilled, information was provided by utilities.
- ◆ Actual well by well withdrawals were used for the 2024 simulation, except for agricultural irrigation withdrawals, which were evenly distributed among existing wells. For the 2050 simulation, total demand for each user typically was distributed evenly among the user's existing and proposed wells. Historical use patterns were considered, along with wells removed from service or minimally used, when distributing demands.

Many PS utilities have implemented specific wellfield operation strategies to manage water quality changes, including rotating wells, reducing withdrawals, and resting wells for longer periods of time. Because of the regional nature of the models and utility-specific operations, these strategies were not simulated in the model.

Model Limitations

The ECSM and ECFM are both regional groundwater models, designed to evaluate planning level scenarios. While both models will evaluate demands from 2024 and 2050, the models do not simulate the annual demand growth that would typically occur. Instead, the scenarios use the 2024 or 2050 demands repeated annually over the entire period of simulation, 32-years or 24-years for ECSM and ECFM, respectively. Additionally, regional groundwater models have large cell sizes, and despite actual spatial distance between wells, both models may place multiple wells in a single model cell, at the center of the cell. This aggregates all withdrawals and has a tendency to exaggerate water level drawdowns and water quality degradation. Regional groundwater models may not capture local heterogeneity in the aquifer and therefore model results should be used only for overall planning purposes. Water level and water quality values from the scenarios should not be considered absolute, instead, analysis should be based on the changes in water levels and water quality between scenarios.

East Coast Surficial Model

The ECSM is a regional groundwater flow and solute transport model of the SAS, encompassing the District's UEC and Lower East Coast planning areas (**Figure D-17**). The model was designed with five layers (**Figure D-18**), representing the SAS, and model cells are 1,000 feet by 1,000 feet in size. The ECSM does not simulate the FAS. The model was calibrated with data from 1985 through 2016 (Obeysekera et al. 2026). An independent peer review panel was convened during model conceptualization and peer review was finalized in 2026 (Guo and Sukop, 2026). The model uses total dissolved solids (TDS) concentrations to track changes in water quality; in the SAS, when chlorides are less than 250 mg/L, chlorides generally make up approximately 10 to 25% of the TDS.

Age		Model	Q	Stratigraphy				Hydrostratigraphy	
Period	Epoch	Layer	Unit						
Quaternary	Holocene	Layer 1		Lake Flirt Marl, Undifferentiated Soil and Sand				Water Table Aquifer	
	Pleistocene		Q5 Q4	Pamlico Sand					
				Miami Limestone					
		Layer 2	Q3 Q2	Fort Thompson Formation	Key Largo Limestone	Anastasia Formation		Semiconfining Unit	
	Caloosahatchee Formation								
Tertiary	Pliocene	Layer 4		Tamiami Formation	Pinecrest Sand Member			Gray Limestone Aquifer	
		Layer 5			Ochopee Limestone Member				

Figure D-18. East Coast Surficial Model layers.

The ECSM was developed for regional water supply planning purposes and uses the best available data on aquifer characteristics and water quality. Water use data included the locations of existing wells in addition to reported, estimated, or projected use. For future wells, location information was provided by permittees. To support this plan update, the ECSM simulated 2024 and 2050 SAS demands in the UEC Planning Area. Information regarding major users of the SAS adjacent to the UEC Planning Area, including Hobart and Oslo wellfields (Indian River Utilities), Vero Beach, Okeechobee Clean Energy Center, Jupiter, Tequesta, and Seacoast Utility Authority, was updated to accurately identify any cumulative potential impacts to the SAS from areas beyond the planning area boundary.

Model Scenarios

The period of simulation for the ECSM is 32 years and uses the historic climate period from 1985 to 2016. Three modeling scenarios were conducted using the ECSM. The first scenario analyzed the potential impacts of 32 years of pumping the 2024 SAS volumes, referred to as the 2024 scenario. The second scenario evaluated the potential impacts of pumping the 2050

SAS volumes for 32 years, referred to as the 2050 scenario. The third scenario evaluated the potential impacts of pumping the 2050 SAS volumes with sea level rise for 32 years, referred to as the 2050SLR scenario. SAS groundwater withdrawals for the third scenario which includes sea level rise are the same as the 2050 scenario. All scenarios started with the same water level (potentiometric surface elevations) and TDS data values. These starting data were extracted from the final stress period (SP) of the calibration period (December 2016). The results from 2024, 2050, and 2050SLR simulations use water levels, TDS concentrations, and flow properties from the last stress period of the three scenarios and were then compared to each other to identify changes in water levels, water quality, and flows. A summary of the SAS groundwater withdrawals used in the scenarios is provided in **Table D-3**.

Table D-3. Average surficial aquifer system withdrawals (in mgd) simulated in the UEC Planning Area in the East Coast Surficial Model scenarios.

Water Use Category	2024	2050
Public Supply	18.33	27.55
Domestic Self Supply	6.23	3.59
Agriculture	8.53	8.97
Commercial/Industrial/Institutional	0.41	0.51
Landscape/Recreational	10.22	10.23
Power Generation	0.73	0.73
Total	44.45	51.58

mgd = million gallons per day.

Model Setup

To effectively model the three scenarios for the 2026 UEC Water Supply Plan Update, model input files were modified as follows:

- Well packages were updated based on 2024 historical or estimated demands and 2050 projected demands.
- Stages in primary district canals such as the C-23, C-24, C-25 and C-44 were updated based on the Regional Simulation Model Basins (RSMBN). The RSMBN provides flow through primary canals. Flow and stage relationships were used to calculate river stages based on RSMBN simulated flows for the 2024, 2050, and 2050SLR scenarios.
- The 2050 and 2050SLR scenarios include the C-44 Reservoir. The C-44 Reservoir is simulated using the General Head Boundary package, using stages from RSMBN future scenarios.
- The tidal condition, modeled using time-varying constant heads in the Atlantic Ocean, Indian River Lagoon, the St. Lucie Estuary, the Intracoastal Waterway, and Jupiter Sound, were modified for the 2024, 2050, and 2050SLR scenarios.

Model Results

Figure D-19 to Figure D-33 show the change in water level in the SAS between the 2024 and 2050, 2024 and 2050SLR, and 2050 and 2050SLR scenarios for Layers 1 to 5 of the SAS. **Figure D-34 to Figure D-48** show the water levels for Layers 1 through 5 of the SAS on the final day of the 32-year simulation period, SP 11688, for 2024, 2050, and 2050SLR. **Figure D-49 to Figure D-63** show the water quality for Layers 1 through 5 of the SAS on the final day of the 32-year simulation period, SP 11688, for 2024, 2050, and 2050SLR. **Figure D-64 to Figure D-78** show the change in water quality in the SAS between the 2024 and 2050, 2024 and 2050SLR, and 2050 and 2050SLR scenarios for Layers 1 to 5 of the SAS. **Table D-4** provides a summary of the range of water levels and water quality for each of the model scenarios.

Table D-4. Summary of East Coast Surficial Model results for water levels and water quality (i.e., total dissolved solids concentrations).

Parameter	Range of Values in Surficial Aquifer System ^a
2024 Scenario	
Water Level (feet NGVD29)	-13.3 to 63.2
Total Dissolved Solids (mg/L)	7 to 3,282
2050 Scenario	
Water Level (feet NGVD29)	-12.7 to 63.2
Total Dissolved Solids (mg/L)	7 to 3,280
2050SLR Scenario	
Water Level (feet NGVD29)	-12.5 to 63.2
Total Dissolved Solids (mg/L)	7 to 3,280
2050 to 2024 Change	
Water Level Decline (feet)	-9.2 to 5.8
Total Dissolved Solids Increase (mg/L)	-753 to 1,981
2050SLR to 2024 Change	
Water Level Decline (feet)	-8.9 to 5.8
Total Dissolved Solids Increase (mg/L)	-753 to 2,576
2050SLR to 2050 Change	
Water Level Decline (feet)	0 to 0.6
Total Dissolved Solids Increase (mg/L)	-298 to 905

mg/L = milligrams per liter; NGVD29 = National Geodetic Vertical Datum of 1929.

Positive value indicates the rebound of water level and degradation of water quality.

^a Lowest and highest values from model (UEC) domain. Positive values indicate an increase in water level.

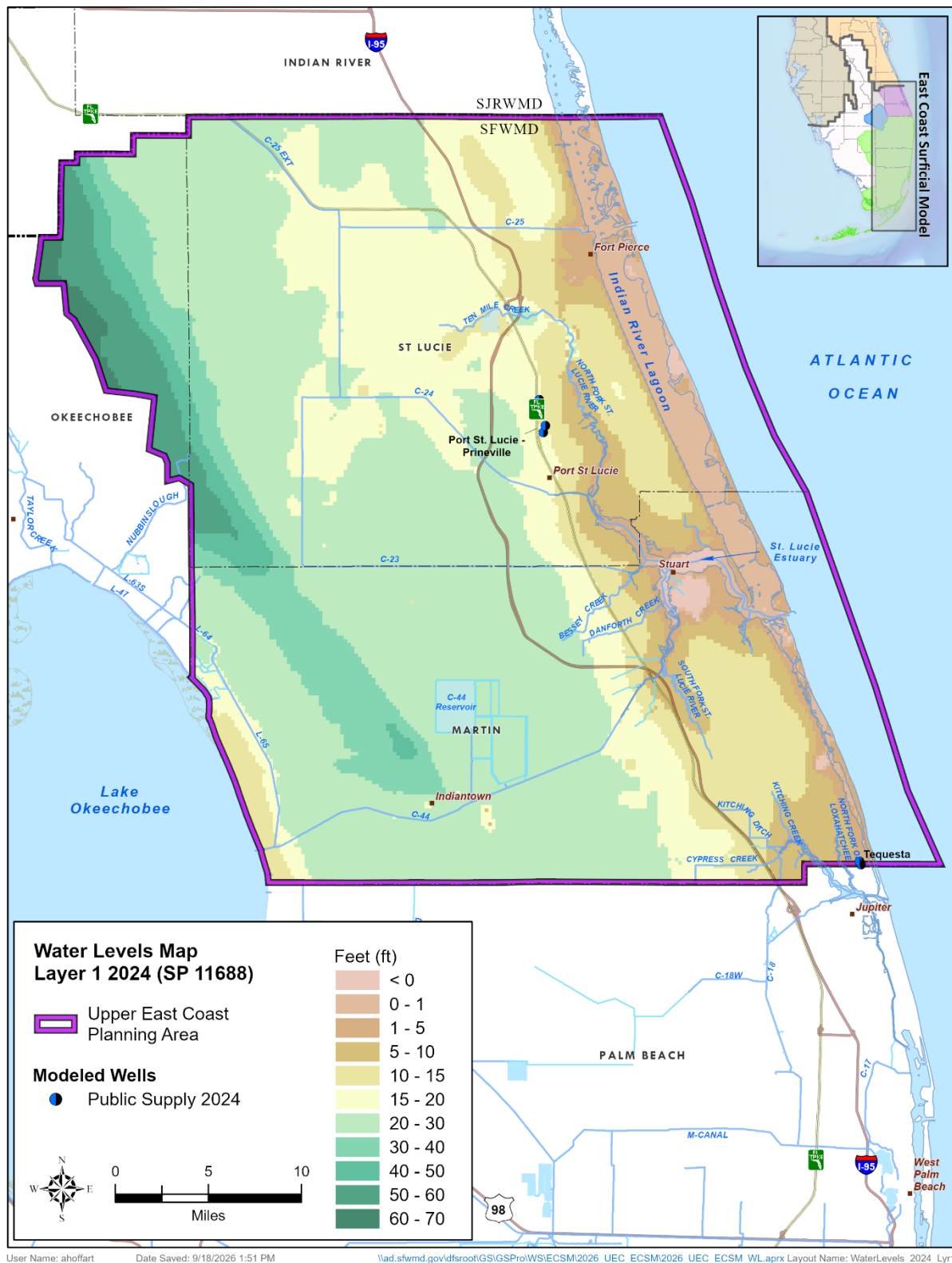


Figure D-19. Water levels in the surficial aquifer system (Layer 1) at the end of the 2024 scenario.

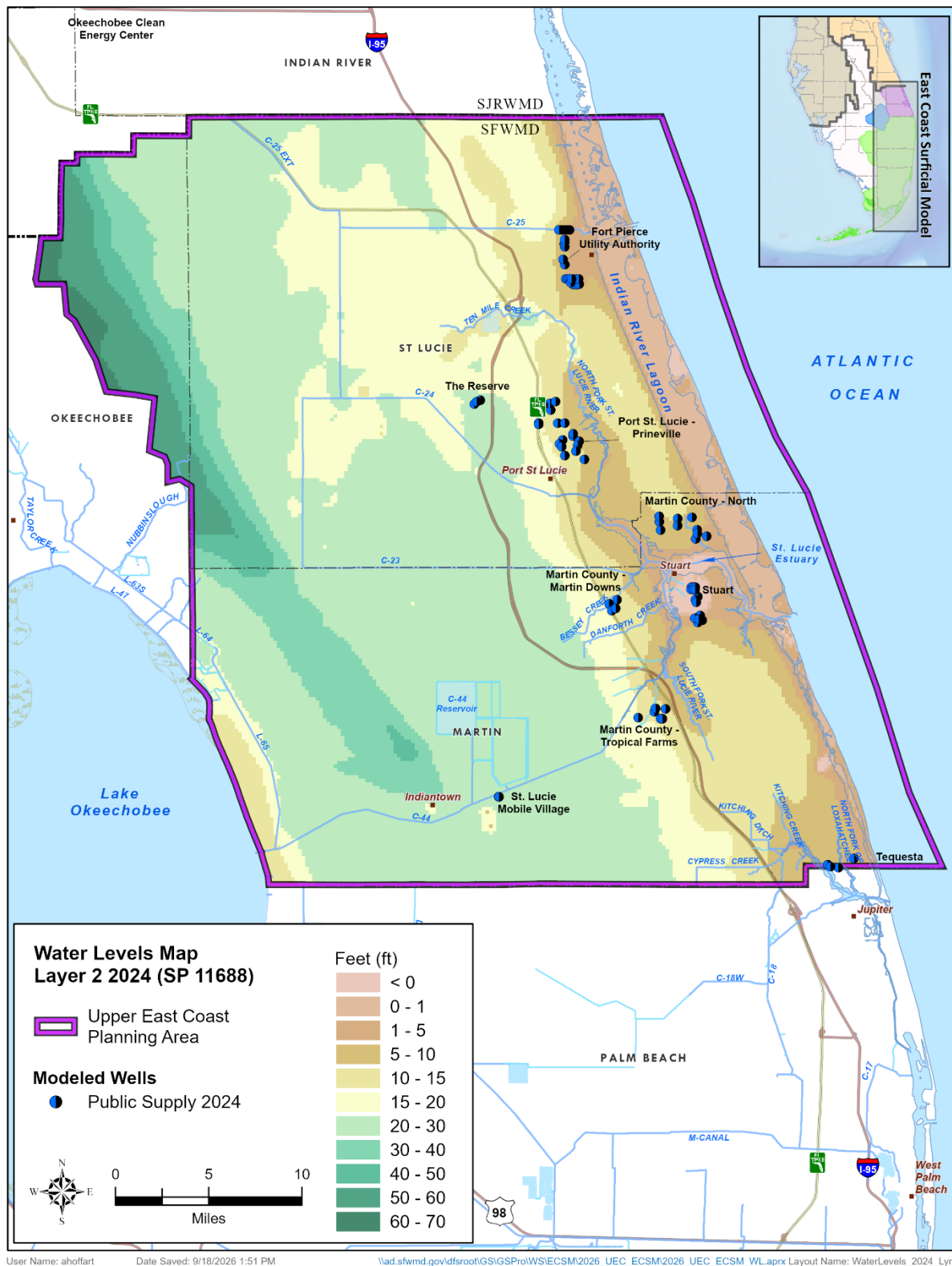


Figure D-20. Water levels in the surficial aquifer system (Layer 2) at the end of the 2024 scenario.

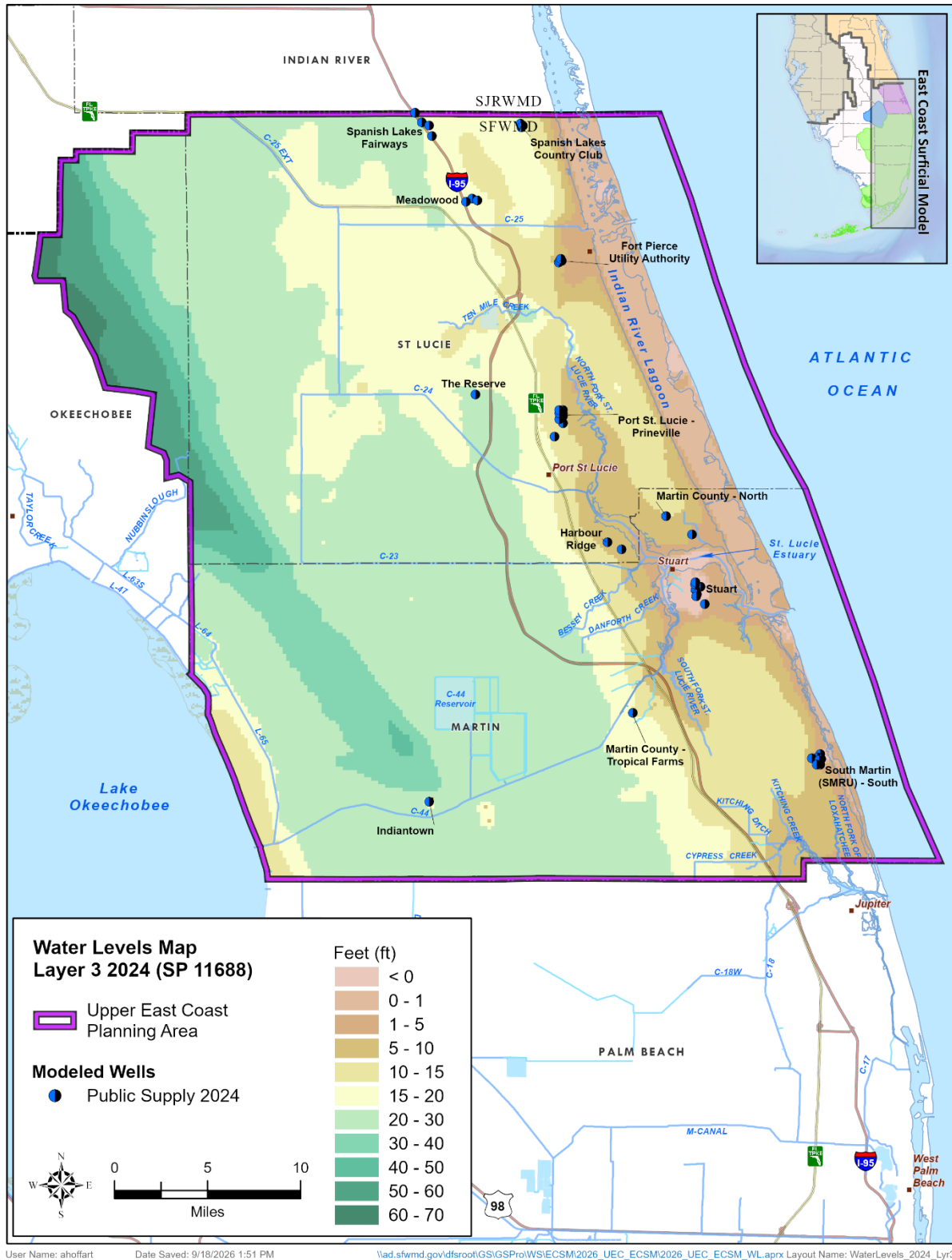


Figure D-21. Water levels in the surficial aquifer system (Layer 3) at the end of the 2024 scenario.

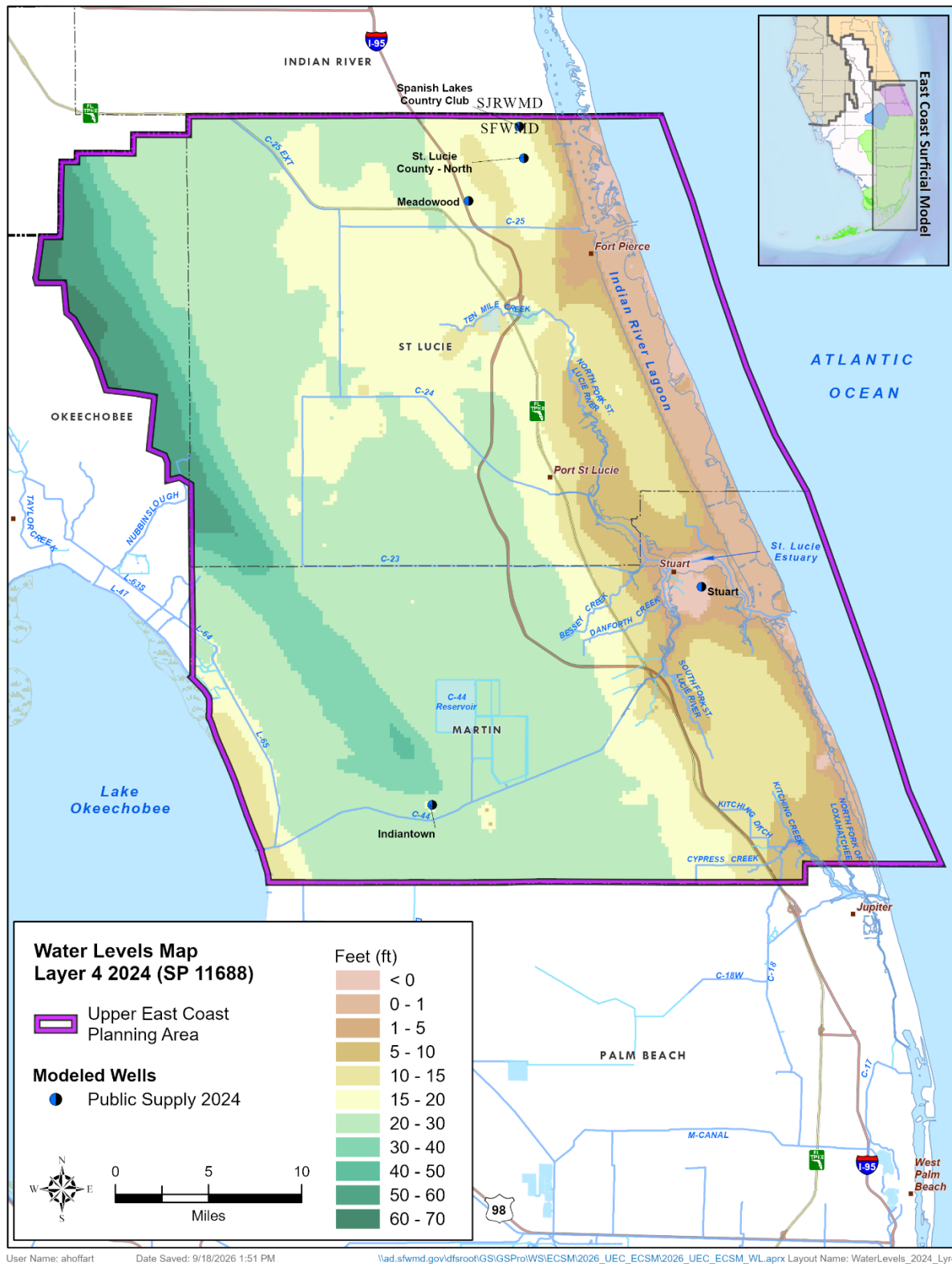


Figure D-22. Water levels in the surficial aquifer system (Layer 4) at the end of the 2024 scenario.

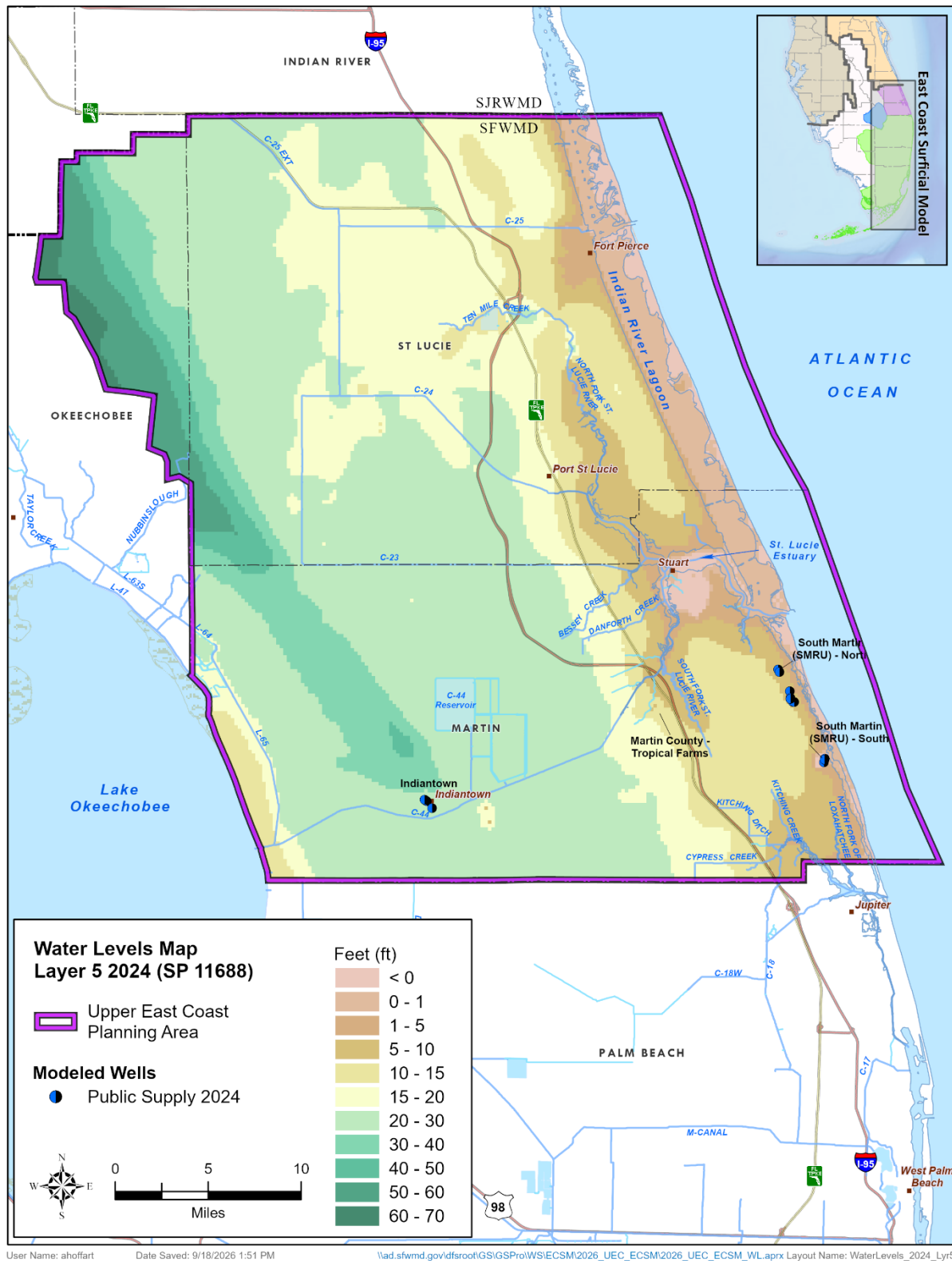


Figure D-23. Water levels in the surficial aquifer system (Layer 5) at the end of the 2024 scenario.

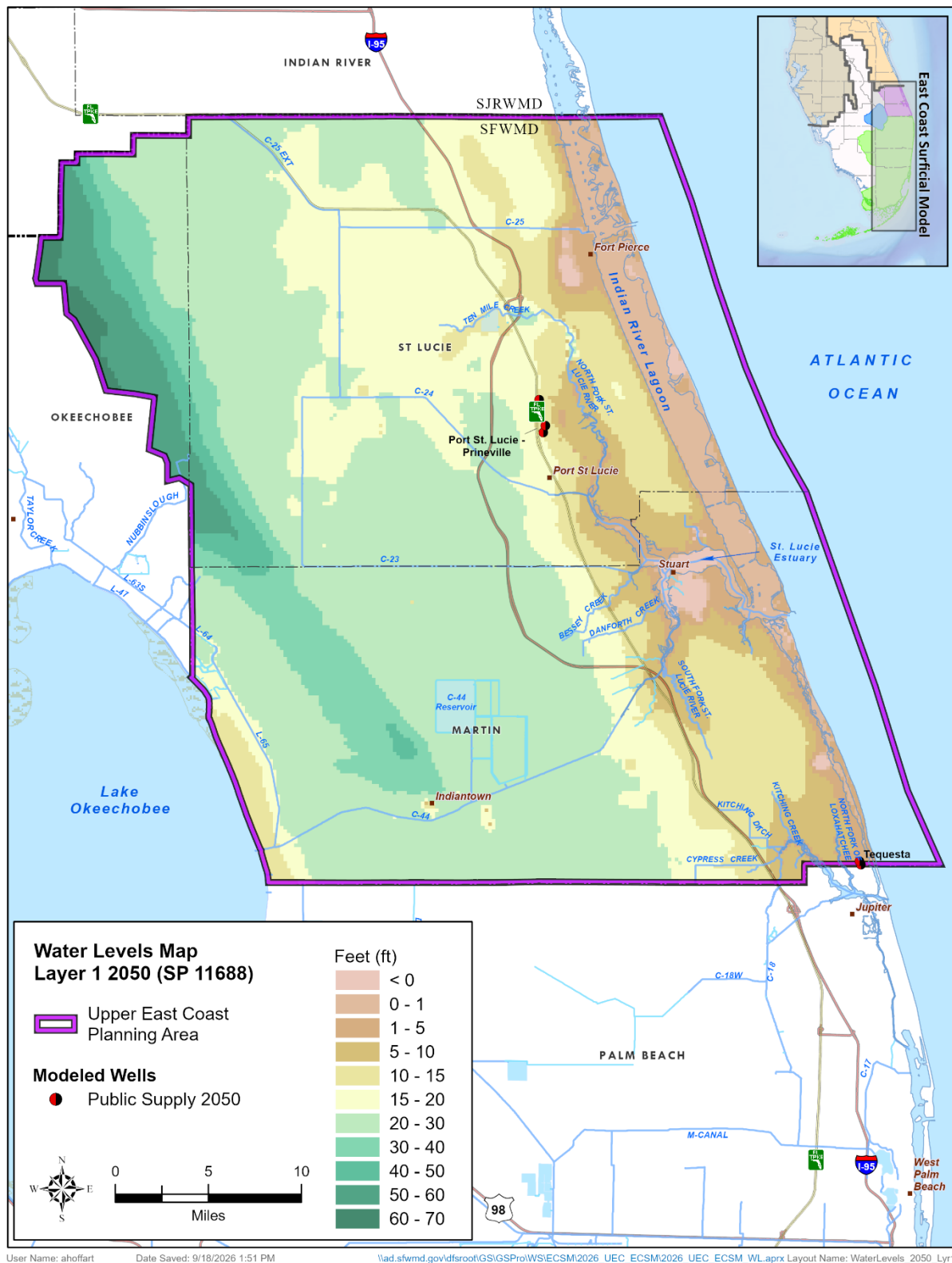


Figure D-24. Water levels in the surficial aquifer system (Layer 1) at the end of the 2050 scenario.

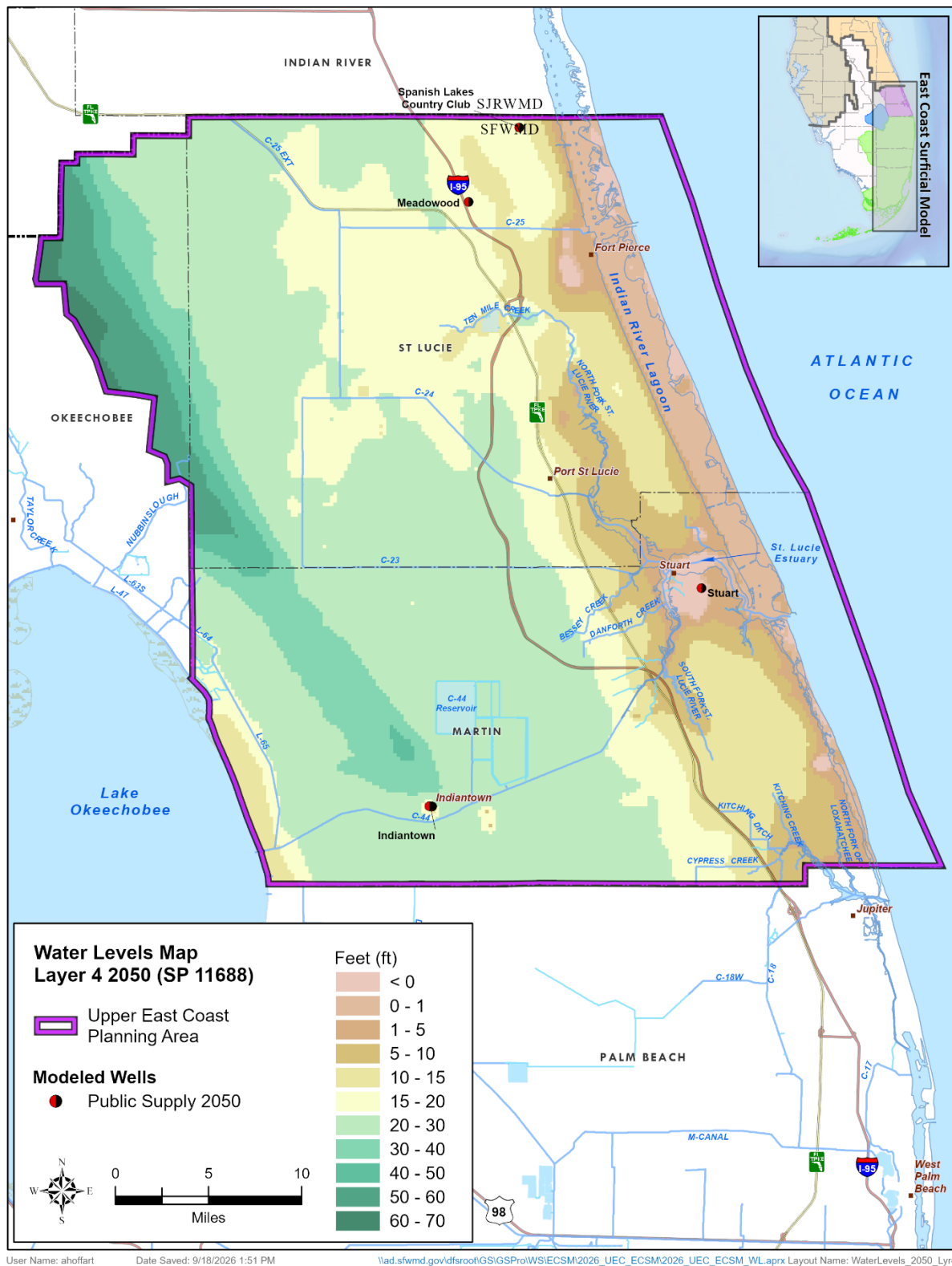


Figure D-27. Water levels in the surficial aquifer system (Layer 4) at the end of the 2050 scenario.

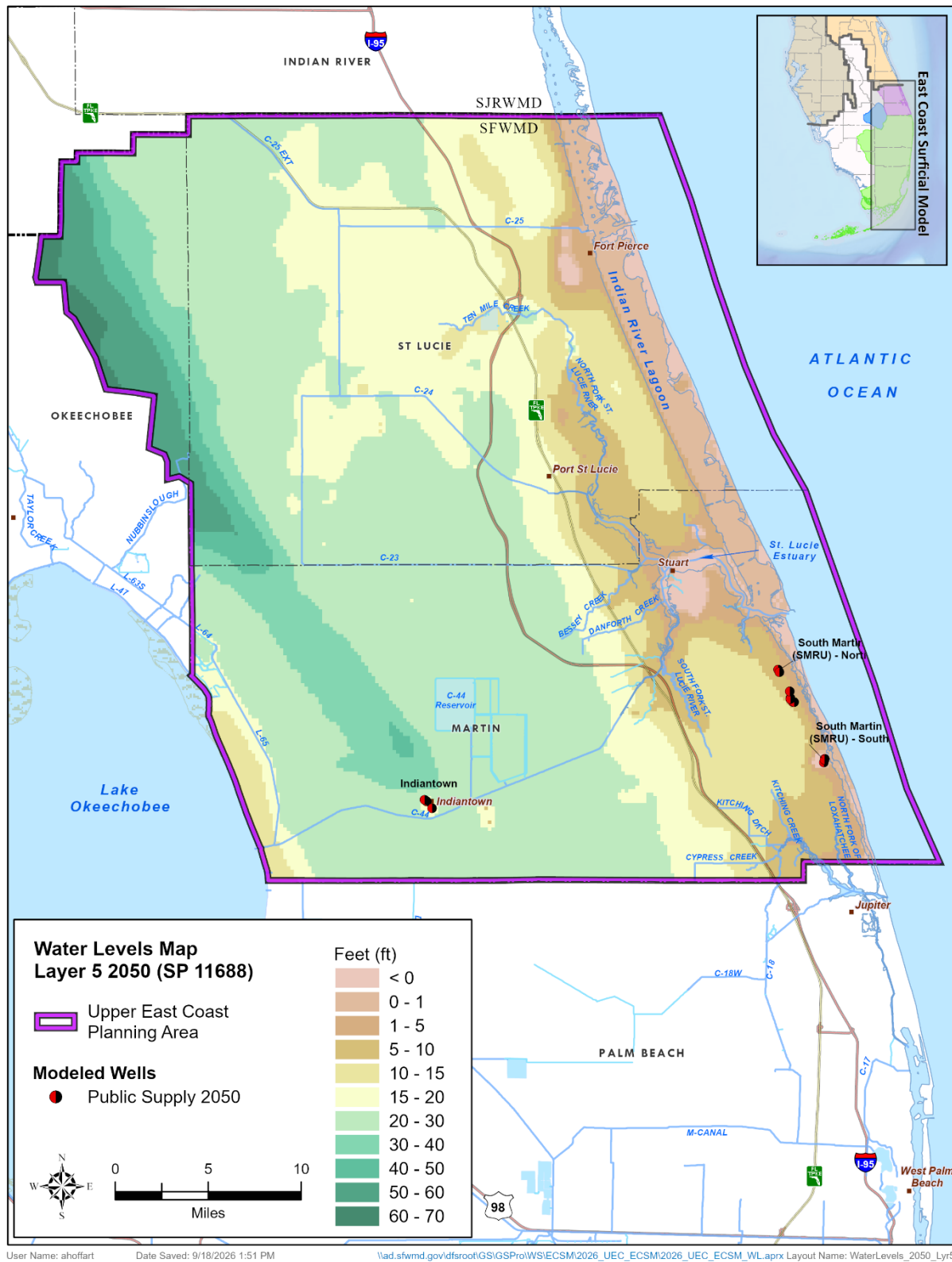


Figure D-28. Water levels in the surficial aquifer system (Layer 5) at the end of the 2050 scenario.

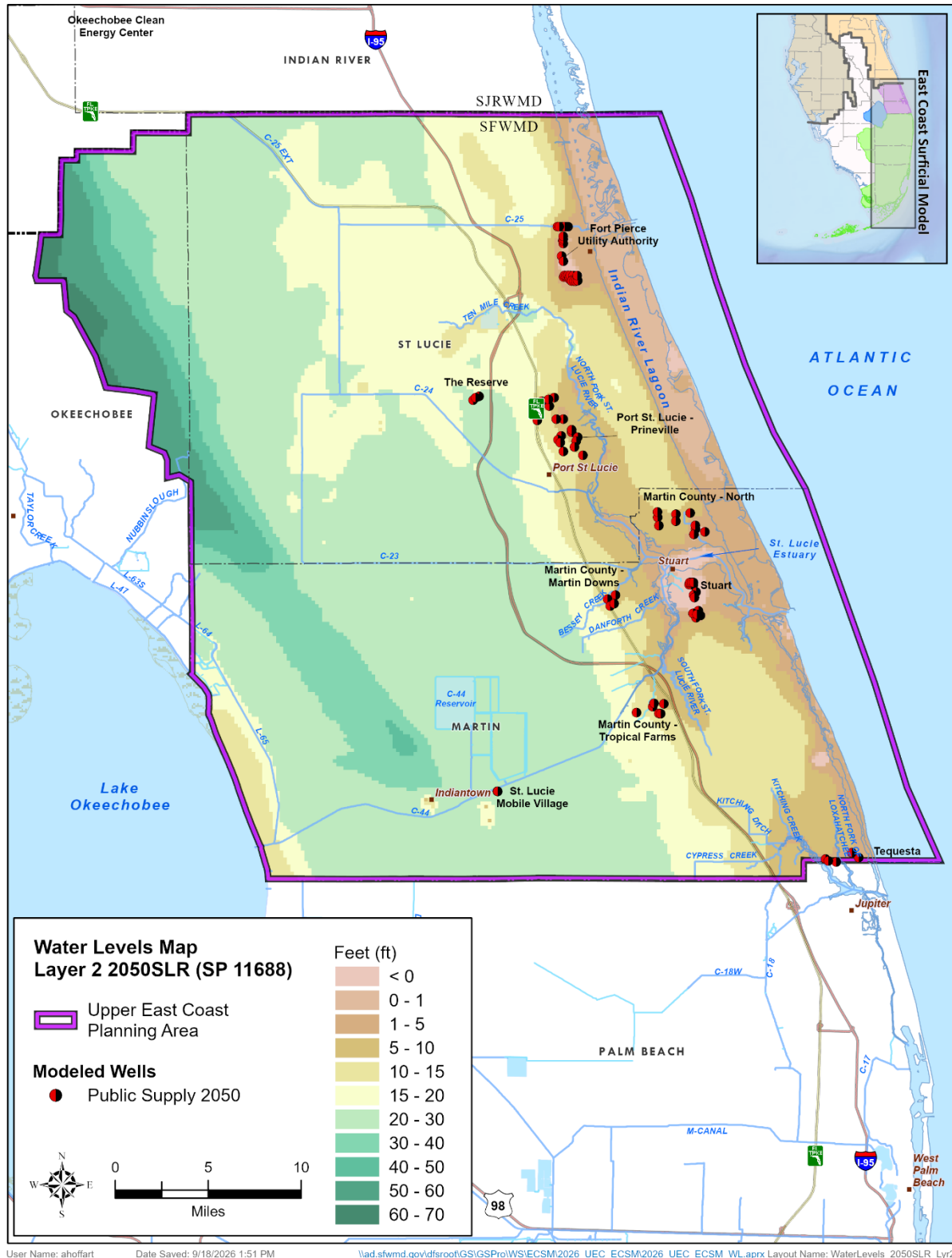


Figure D-30. Water levels in the surficial aquifer system (Layer 2) at the end of the 2050SLR scenario.

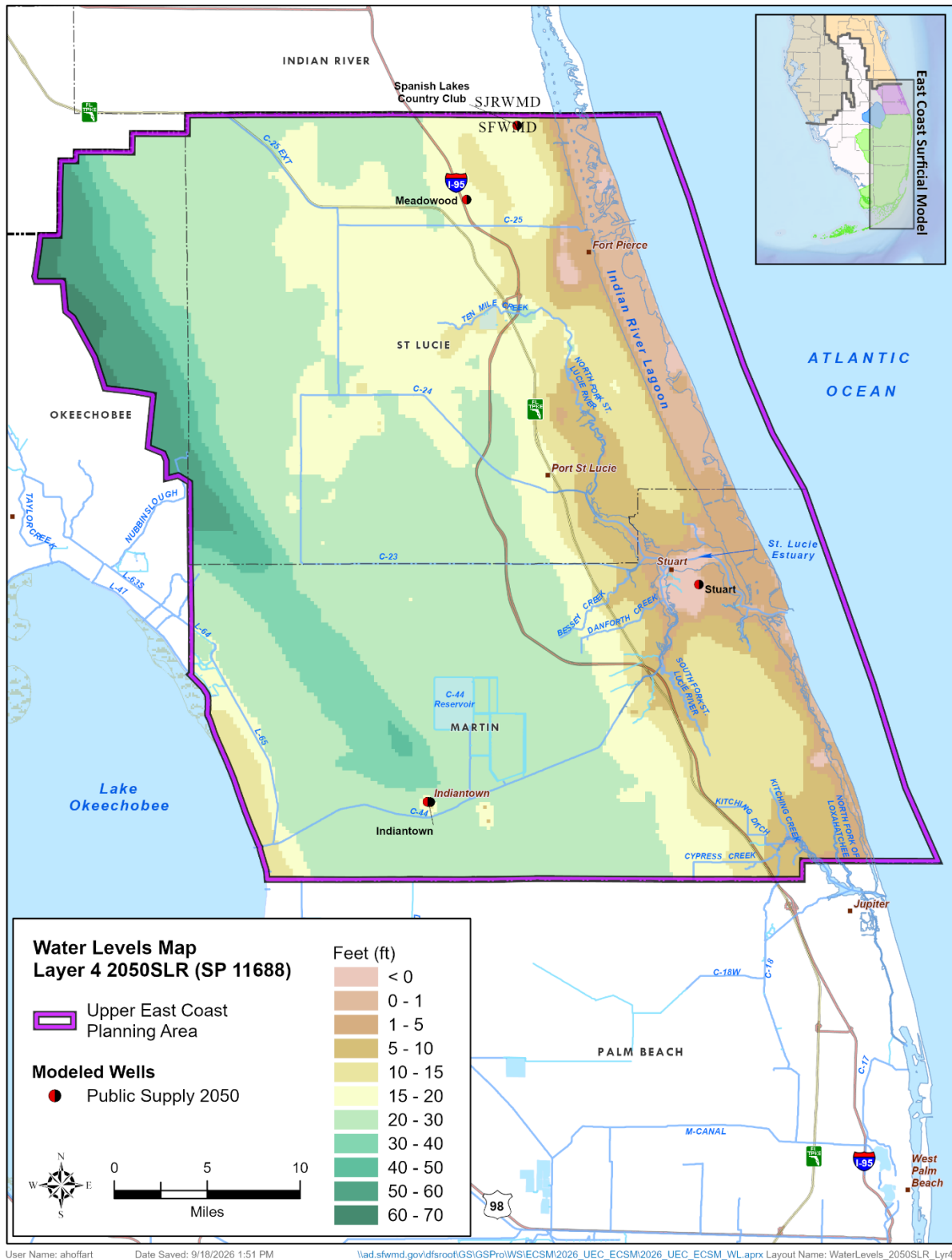


Figure D-32. Water levels in the surficial aquifer system (Layer 4) at the end of the 2050SLR scenario.

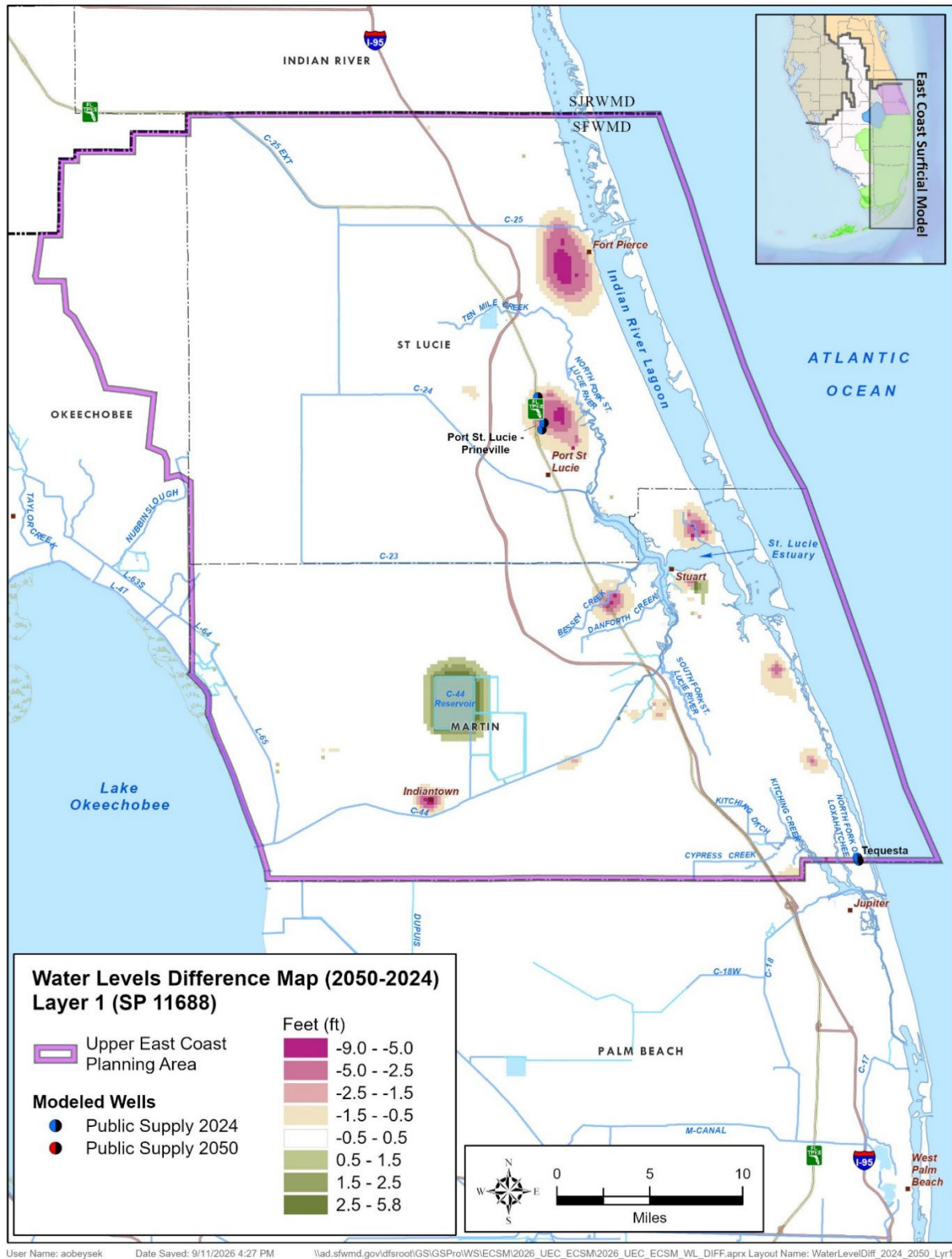


Figure D-34. Water level changes (head difference) in the surficial aquifer system (Layer 1) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

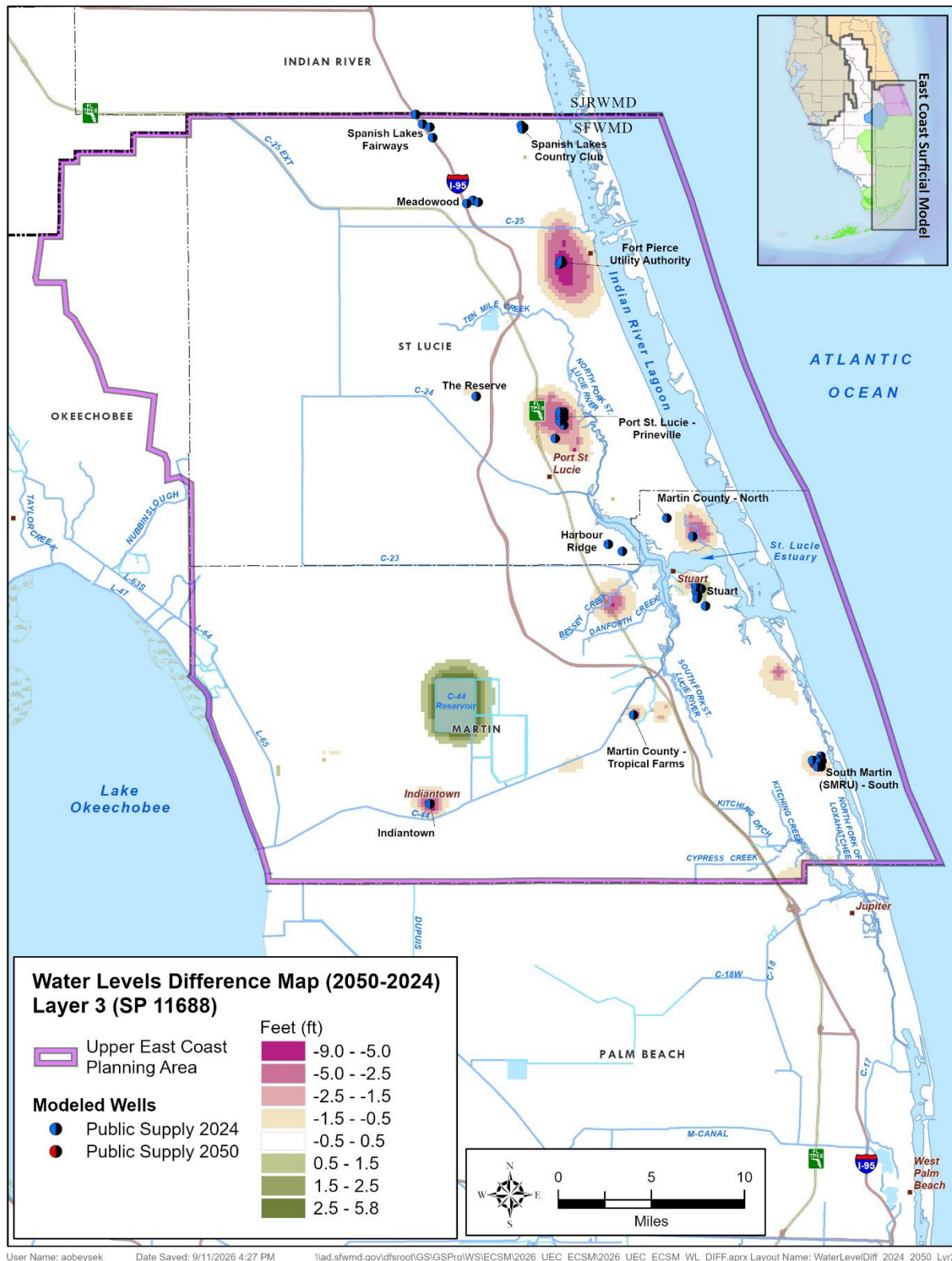


Figure D-36. Water level changes (head difference) in the surficial aquifer system (Layer 3) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

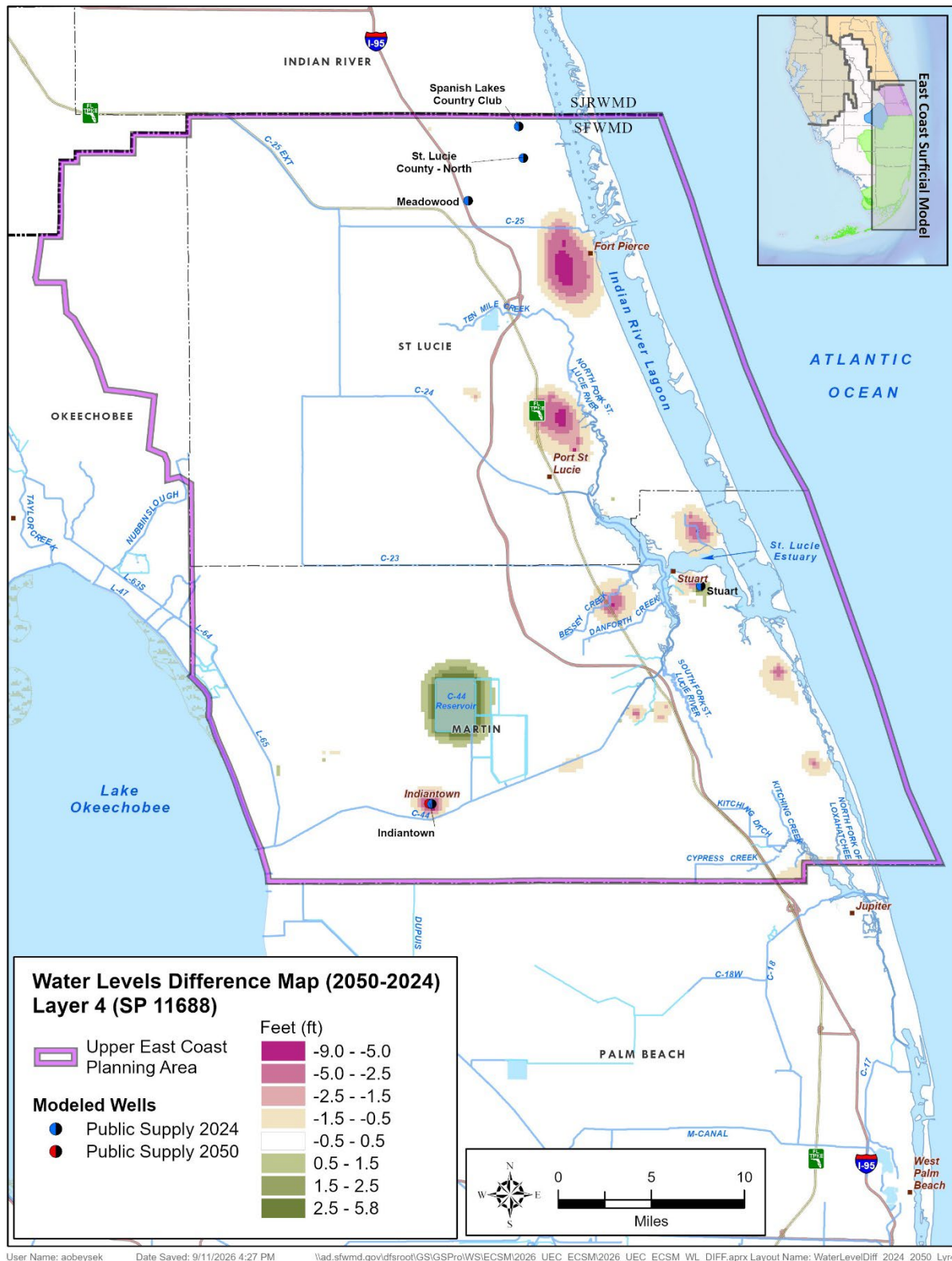


Figure D-37. Water level changes (head difference) in the surficial aquifer system (Layer 4) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

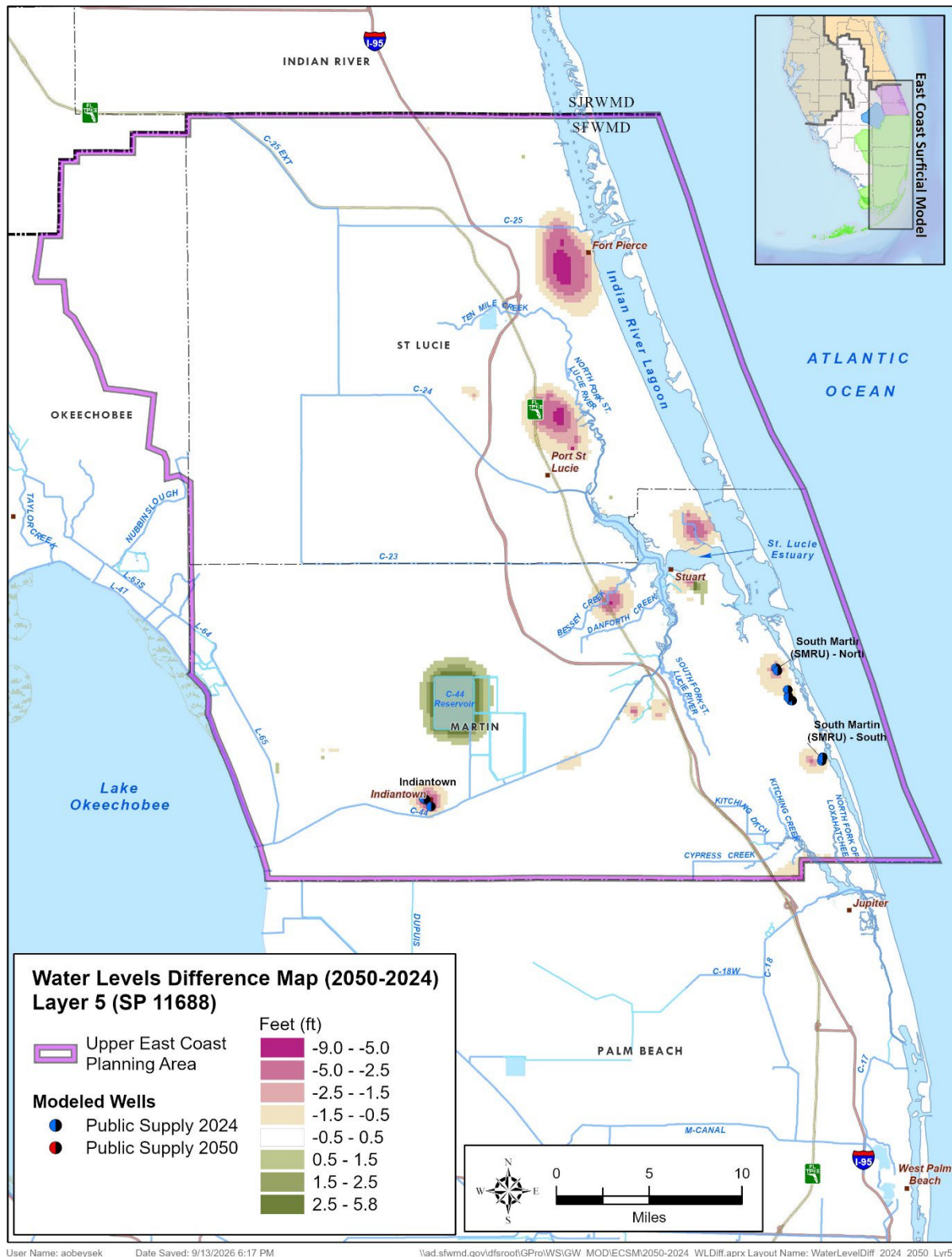


Figure D-38. Water level changes (head difference) in the surficial aquifer system (Layer 5) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

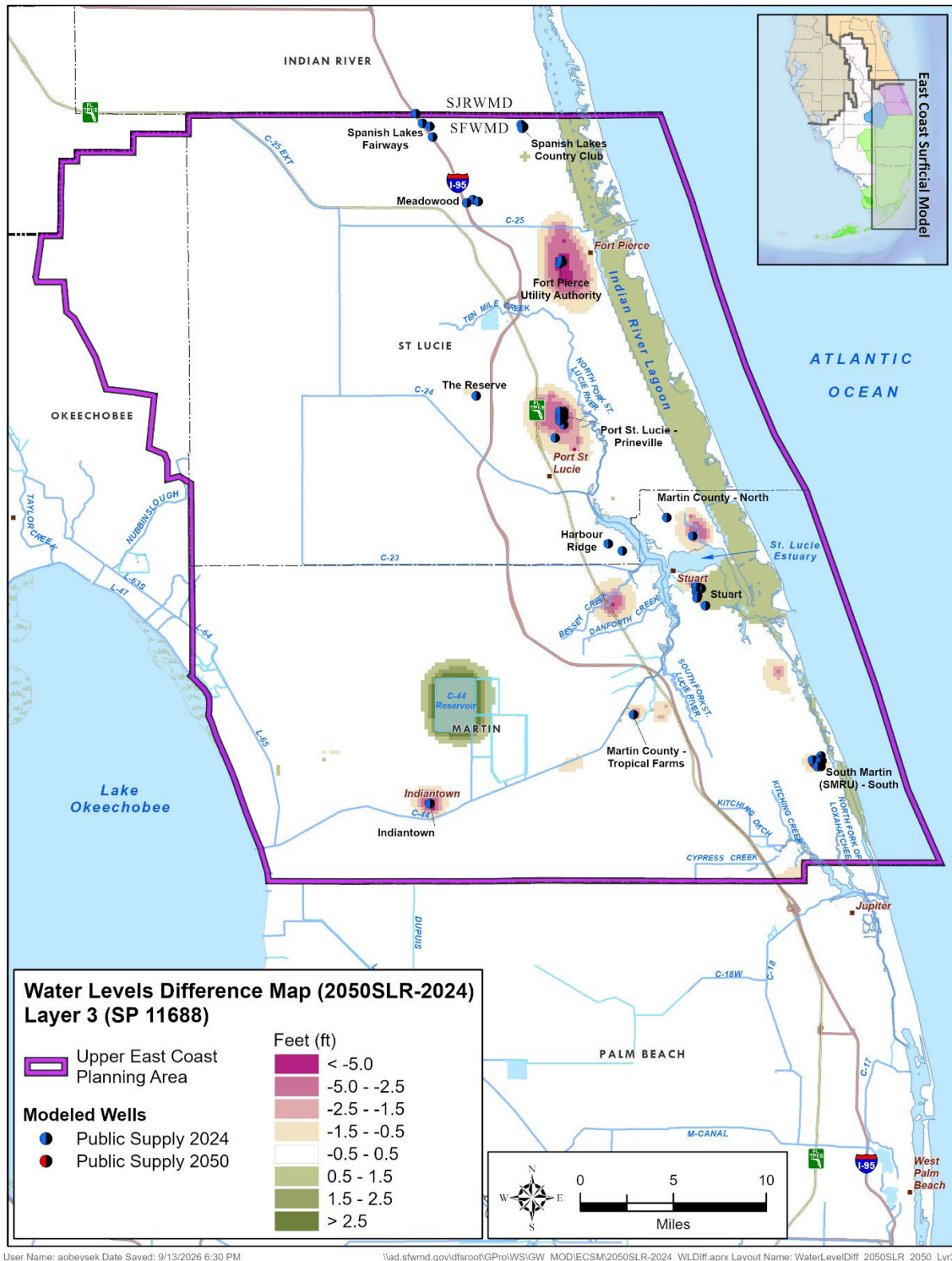


Figure D-41. Water level changes (head difference) in the surficial aquifer system (Layer 3) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

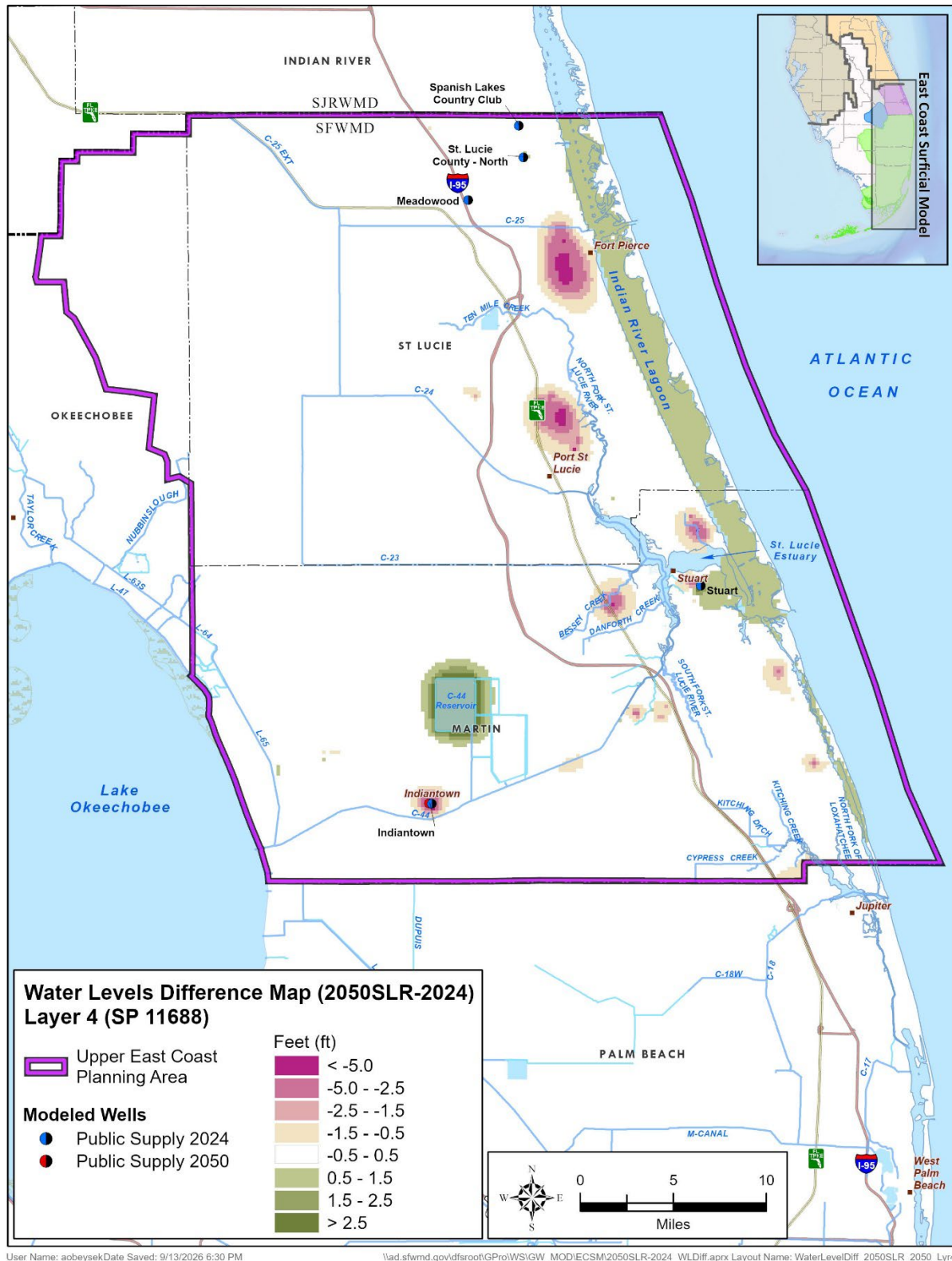


Figure D-42. Water level changes (head difference) in the surficial aquifer system (Layer 4) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

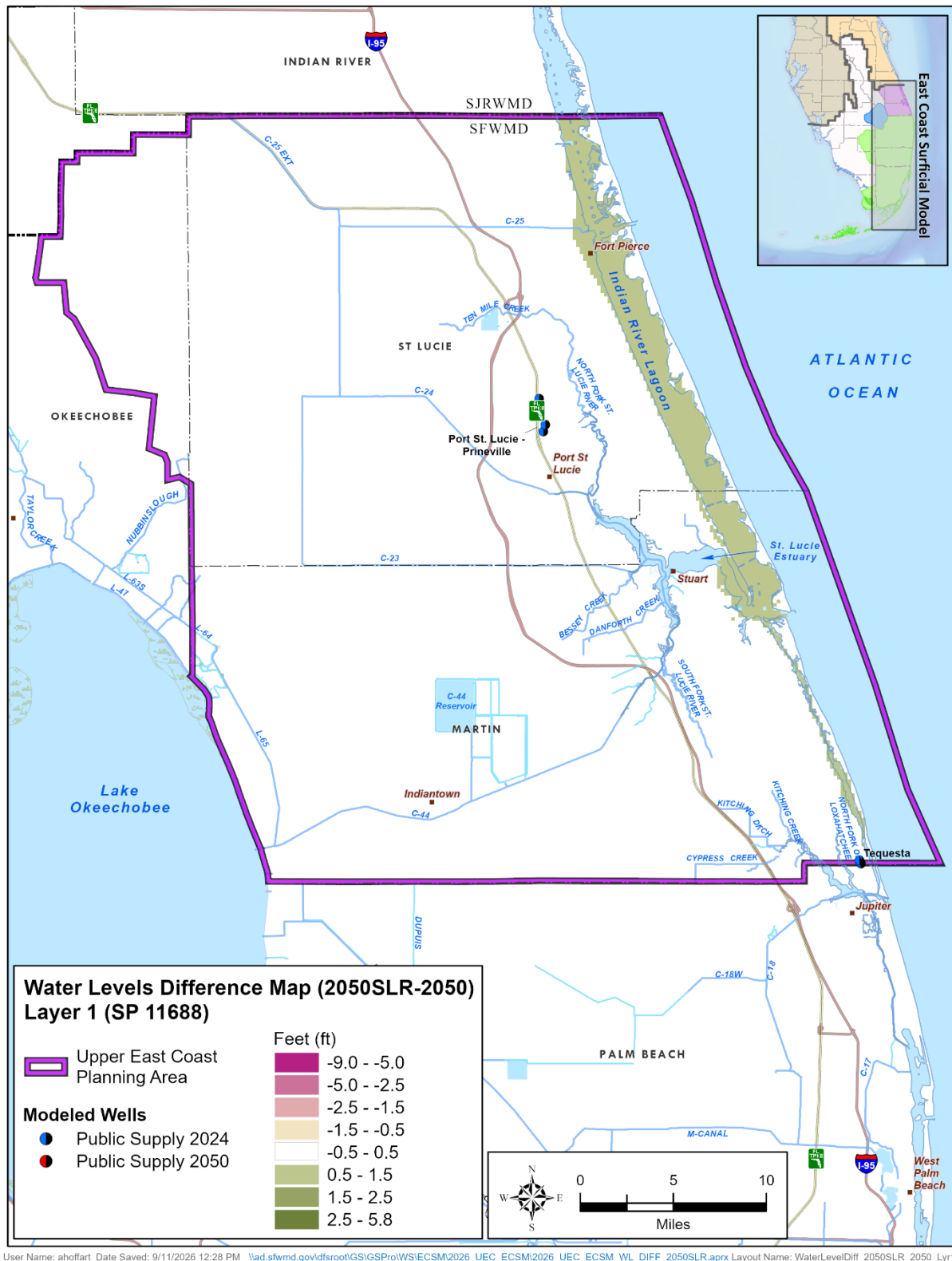


Figure D-44. Water level changes (head difference) in the surficial aquifer system (Layer 1) between the 2050 and 2050SLR scenarios at the end of the simulation period (SP 11688).

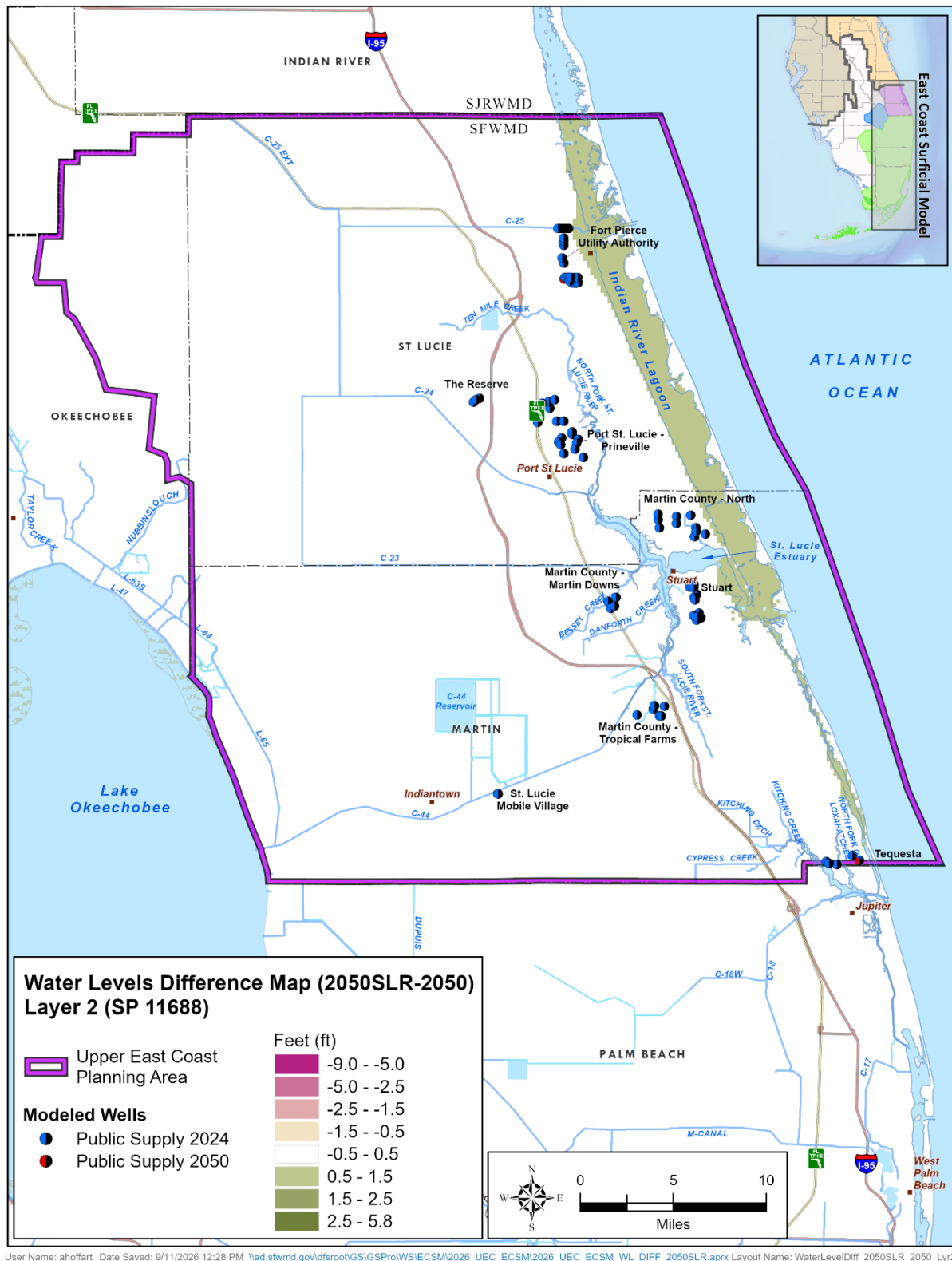


Figure D-45. Water level changes (head difference) in the surficial aquifer system (Layer 2) between the 2050 and 2050SLR scenarios at the end of the simulation period (SP 11688).

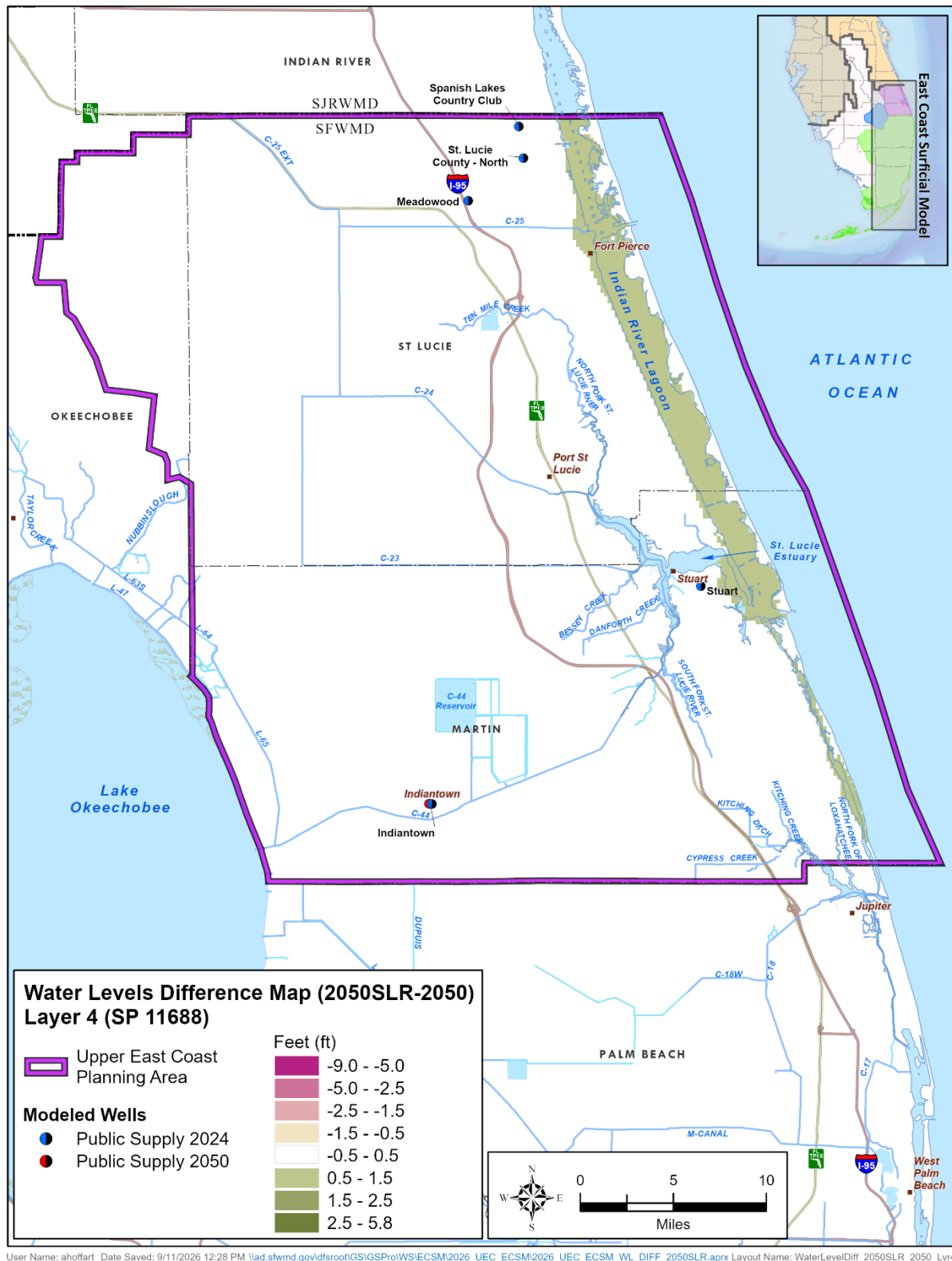


Figure D-47. Water level changes (head difference) in the surficial aquifer system (Layer 4) between the 2050 and 2050SLR scenarios at the end of the simulation period (SP 11688).

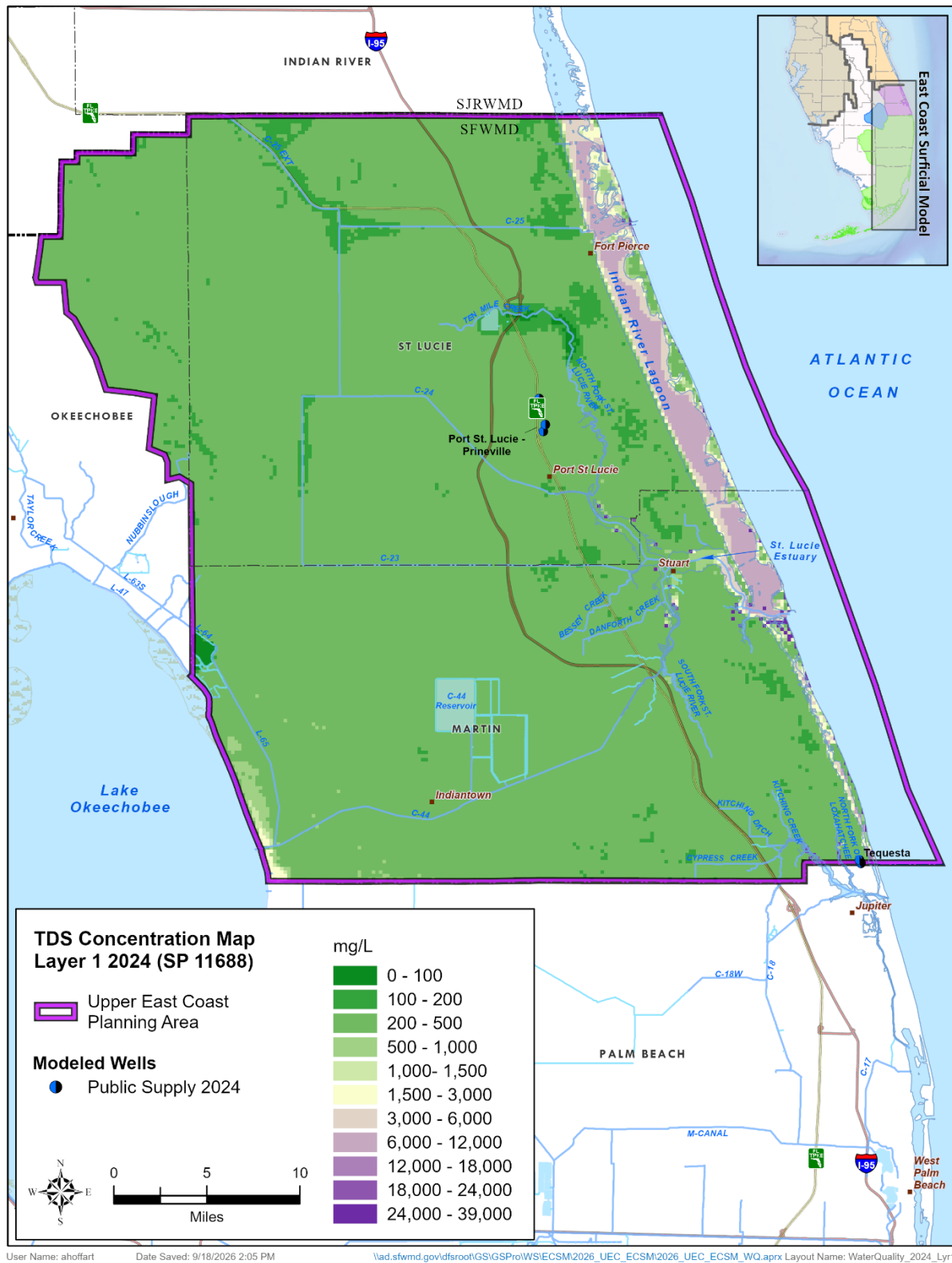


Figure D-49. Water quality (total dissolved solids) in the surficial aquifer system (Layer 1) at the end of the simulation period (SP 11688) using 2024 demand estimates.

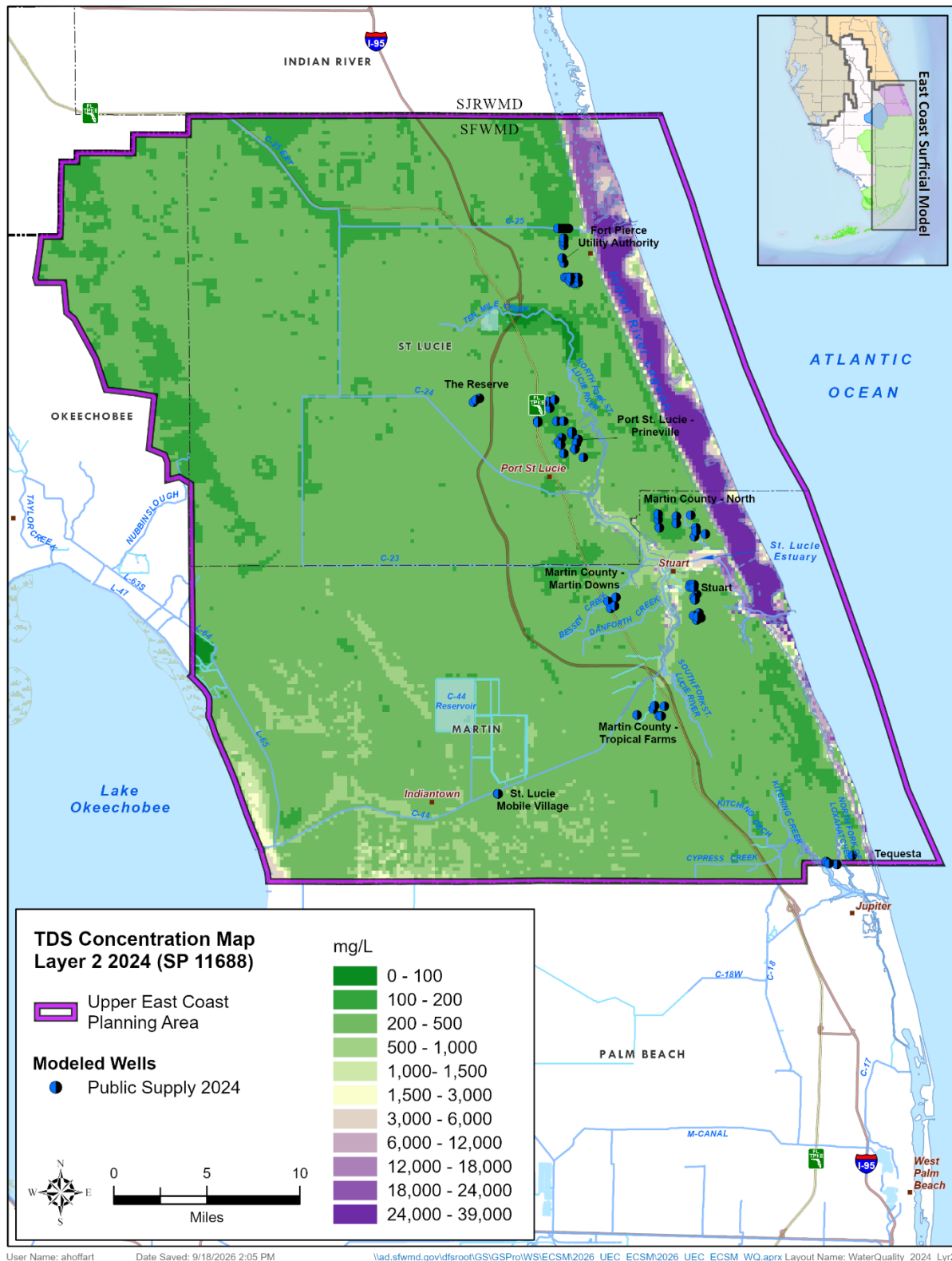


Figure D-50. Water quality (total dissolved solids) in the surficial aquifer system (Layer 2) at the end of the simulation period (SP 11688) using 2024 demand estimates.

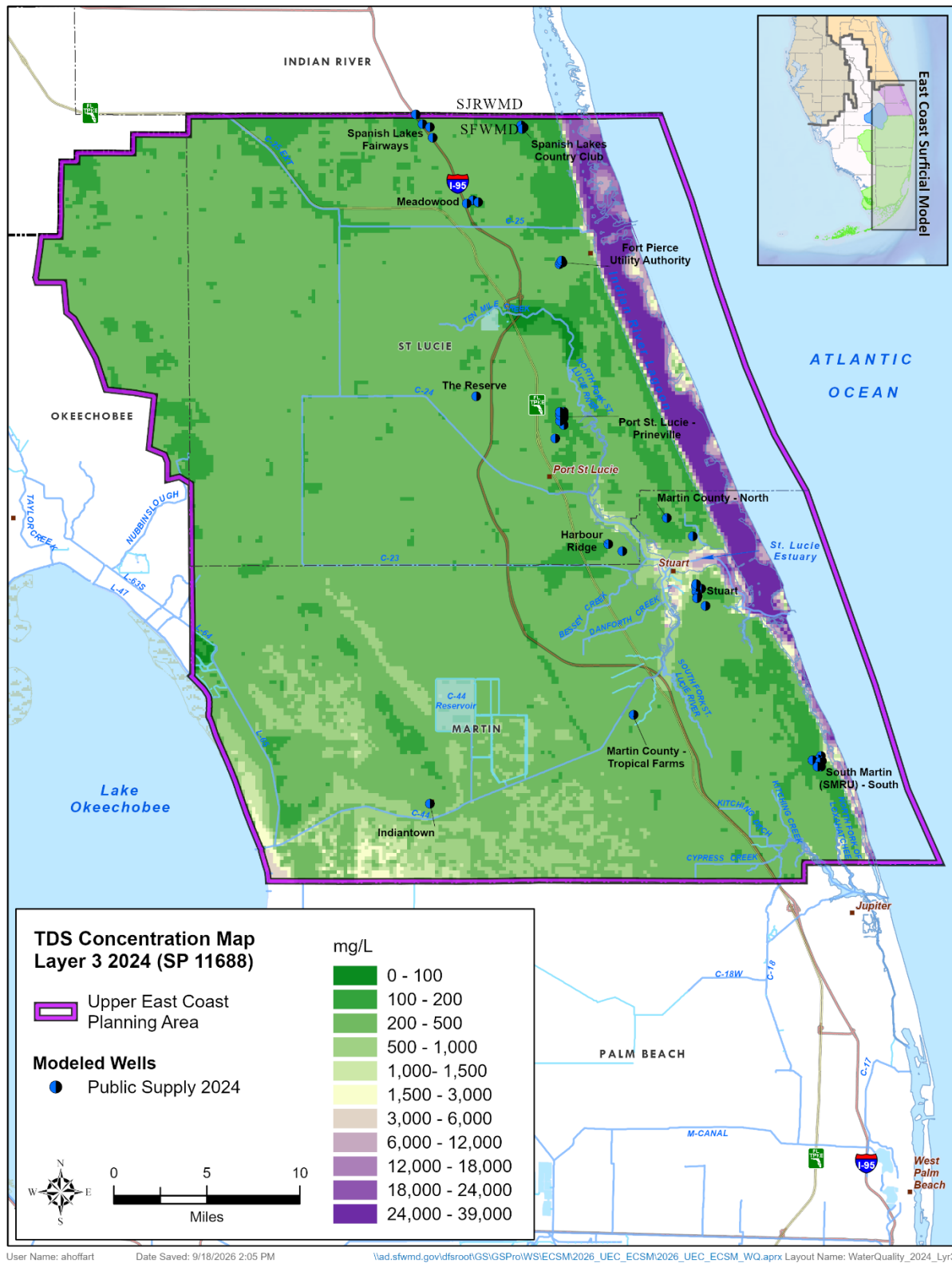


Figure D-51. Water quality (total dissolved solids) in the surficial aquifer system (Layer 3) at the end of the simulation period (SP 11688) using 2024 demand estimates.

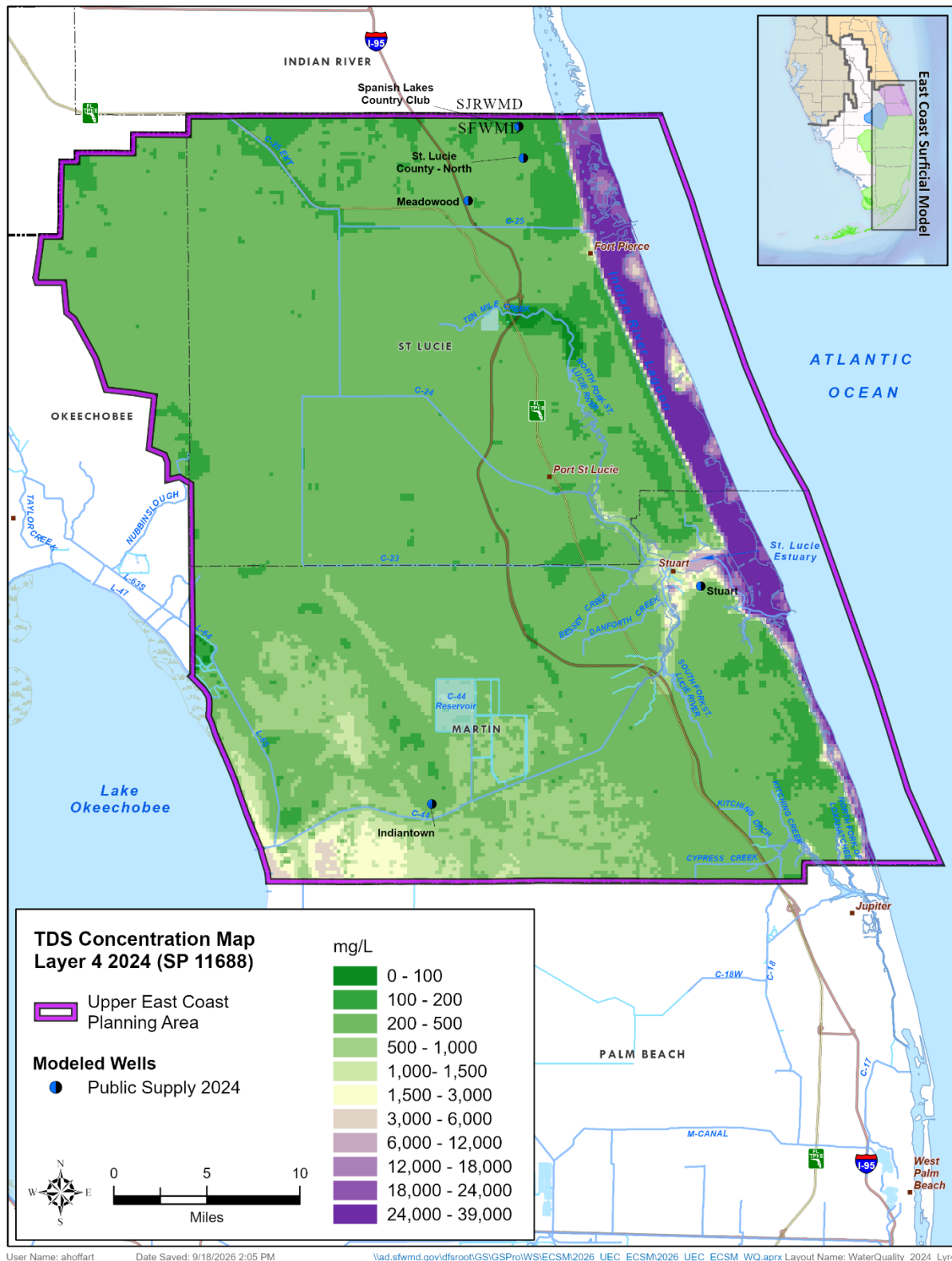


Figure D-52. Water quality (total dissolved solids) in the surficial aquifer system (Layer 4) at the end of the simulation period (SP 11688) using 2024 demand estimates.

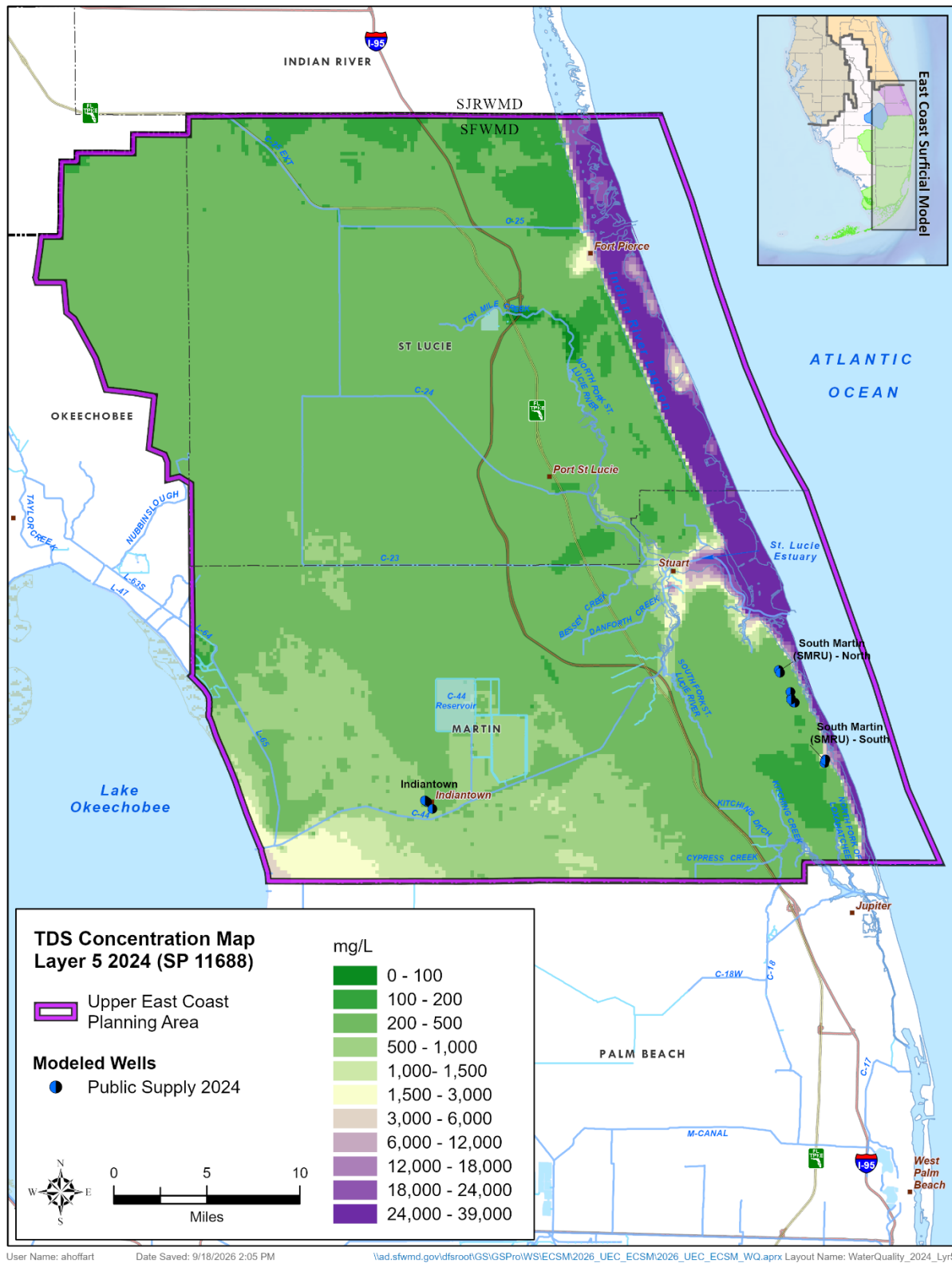


Figure D-53. Water quality (total dissolved solids) in the surficial aquifer system (Layer 5) at the end of the simulation period (SP 11688) using 2024 demand estimates.

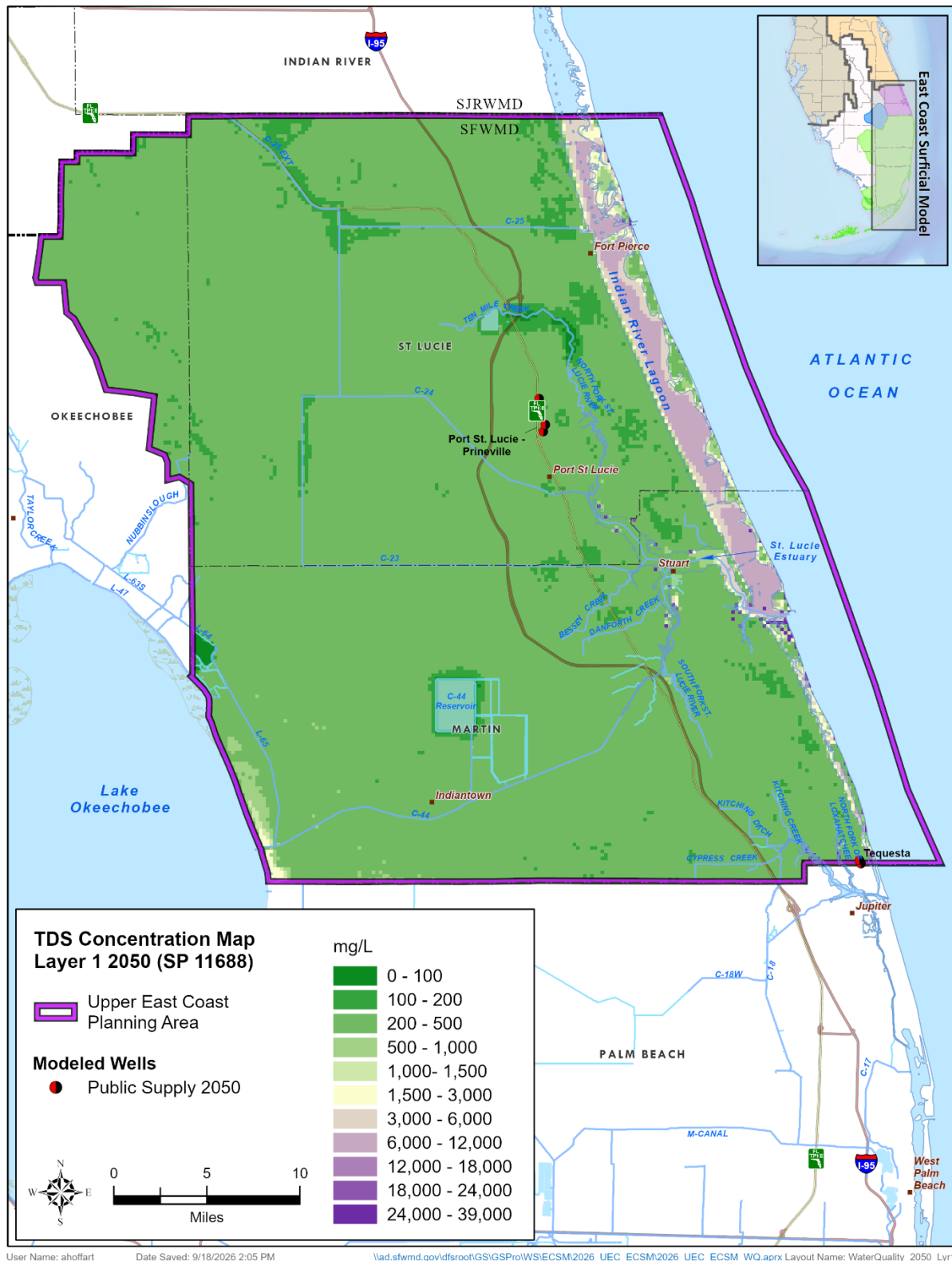


Figure D-54. Water quality (total dissolved solids) in the surficial aquifer system (Layer 1) at the end of the simulation period (SP 11688) using 2050 demand estimates.

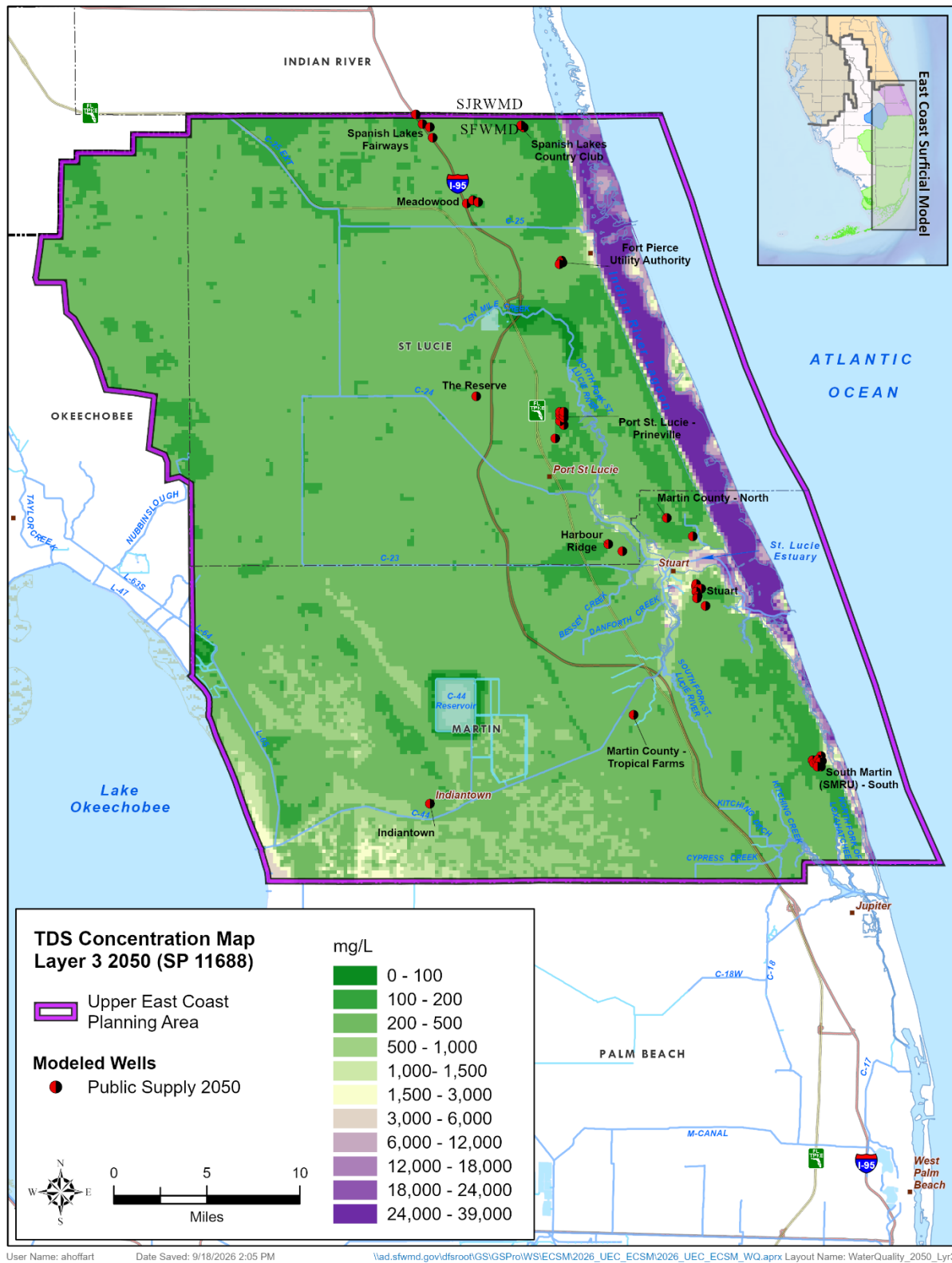


Figure D-56. Water quality (total dissolved solids) in the surficial aquifer system (Layer 3) at the end of the simulation period (SP 11688) using 2050 demand estimates.

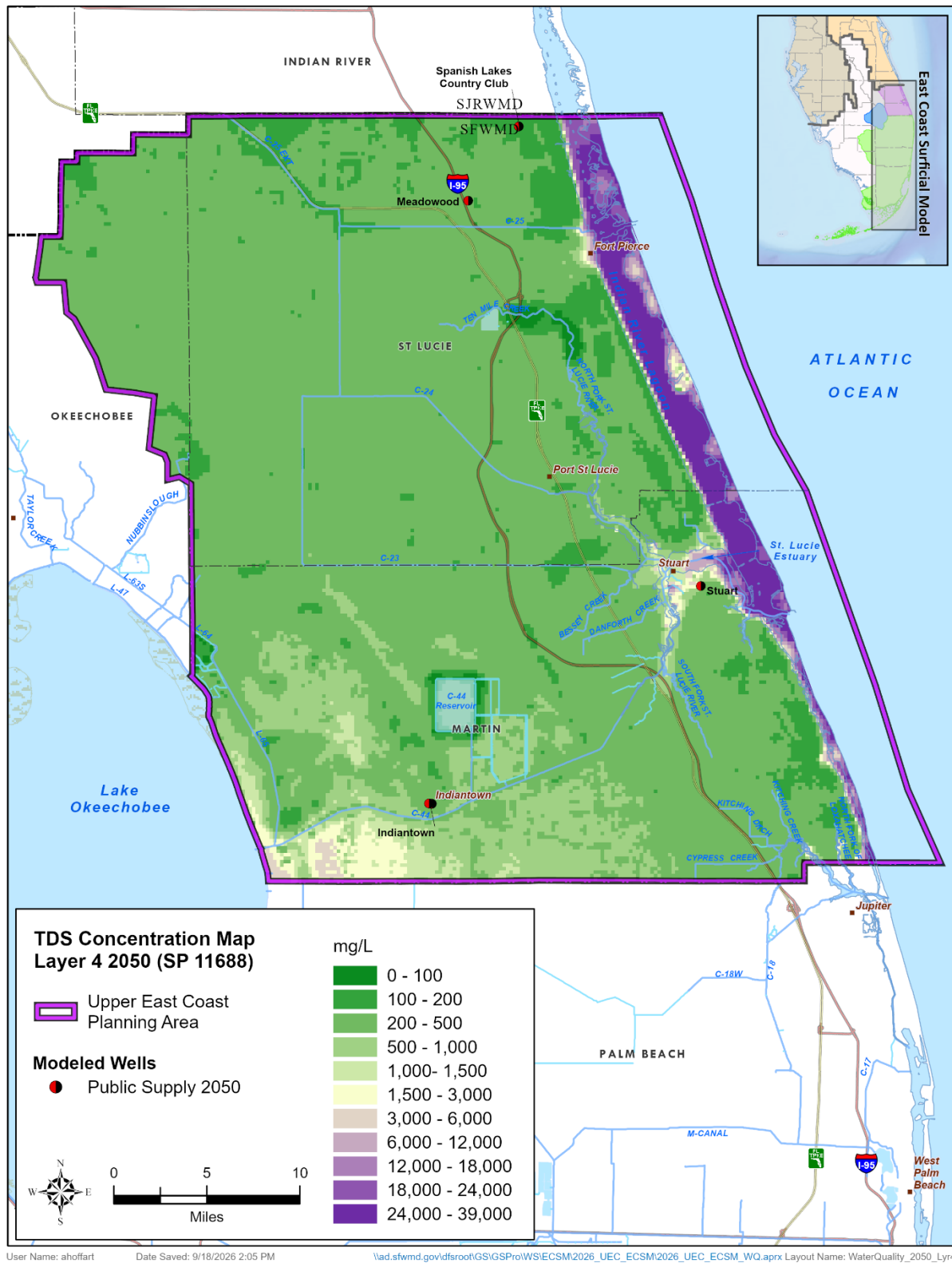


Figure D-57. Water quality (total dissolved solids) in the surficial aquifer system (Layer 4) at the end of the simulation period (SP 11688) using 2050 demand estimates.

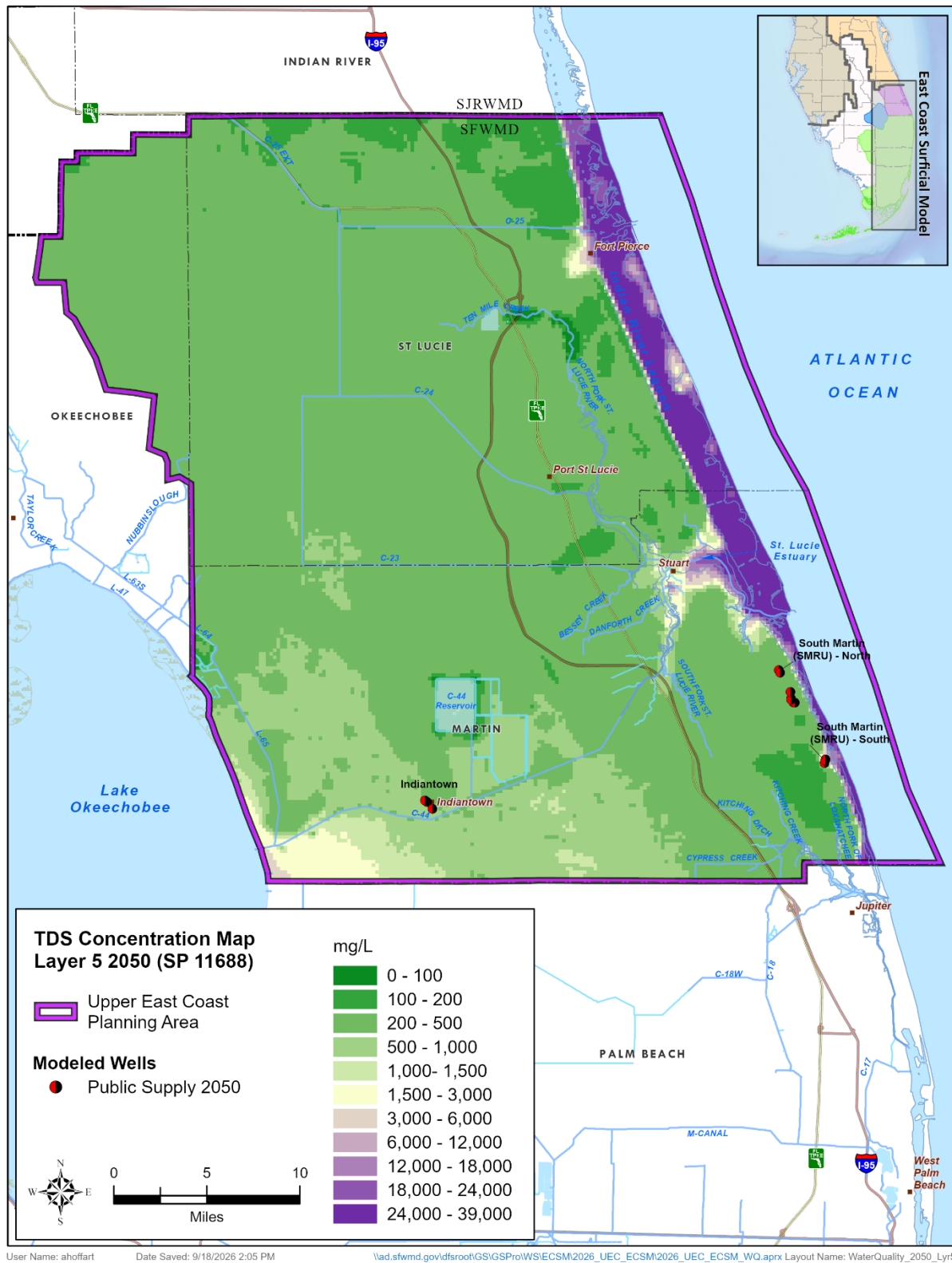


Figure D-58. Water quality (total dissolved solids) in the surficial aquifer system (Layer 5) at the end of the simulation period (SP 11688) using 2050 demand estimates.

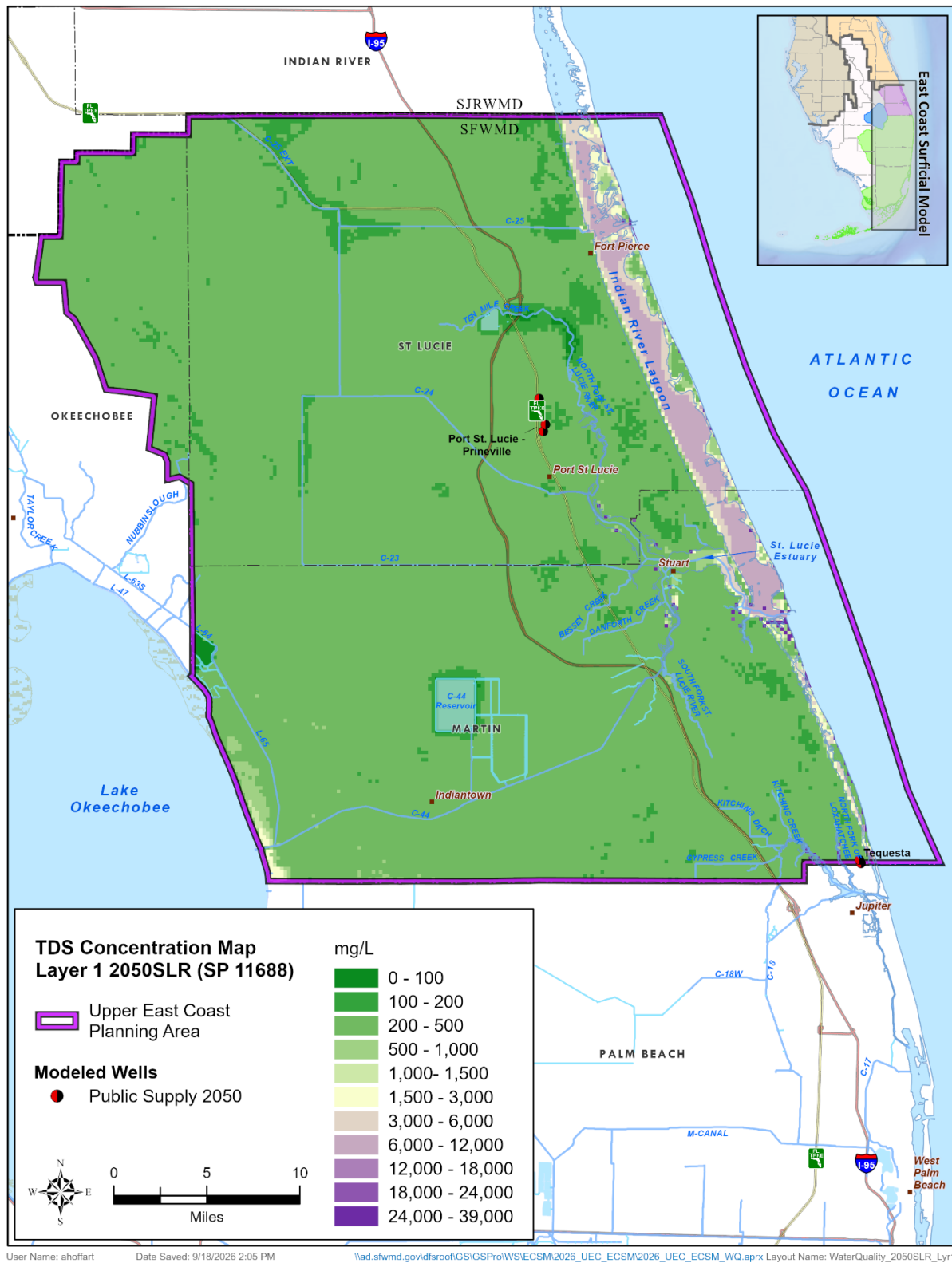


Figure D-59. Water quality (total dissolved solids) in the surficial aquifer system (Layer 1) at the end of the simulation period (SP 11688) using 2050SLR demand estimates.

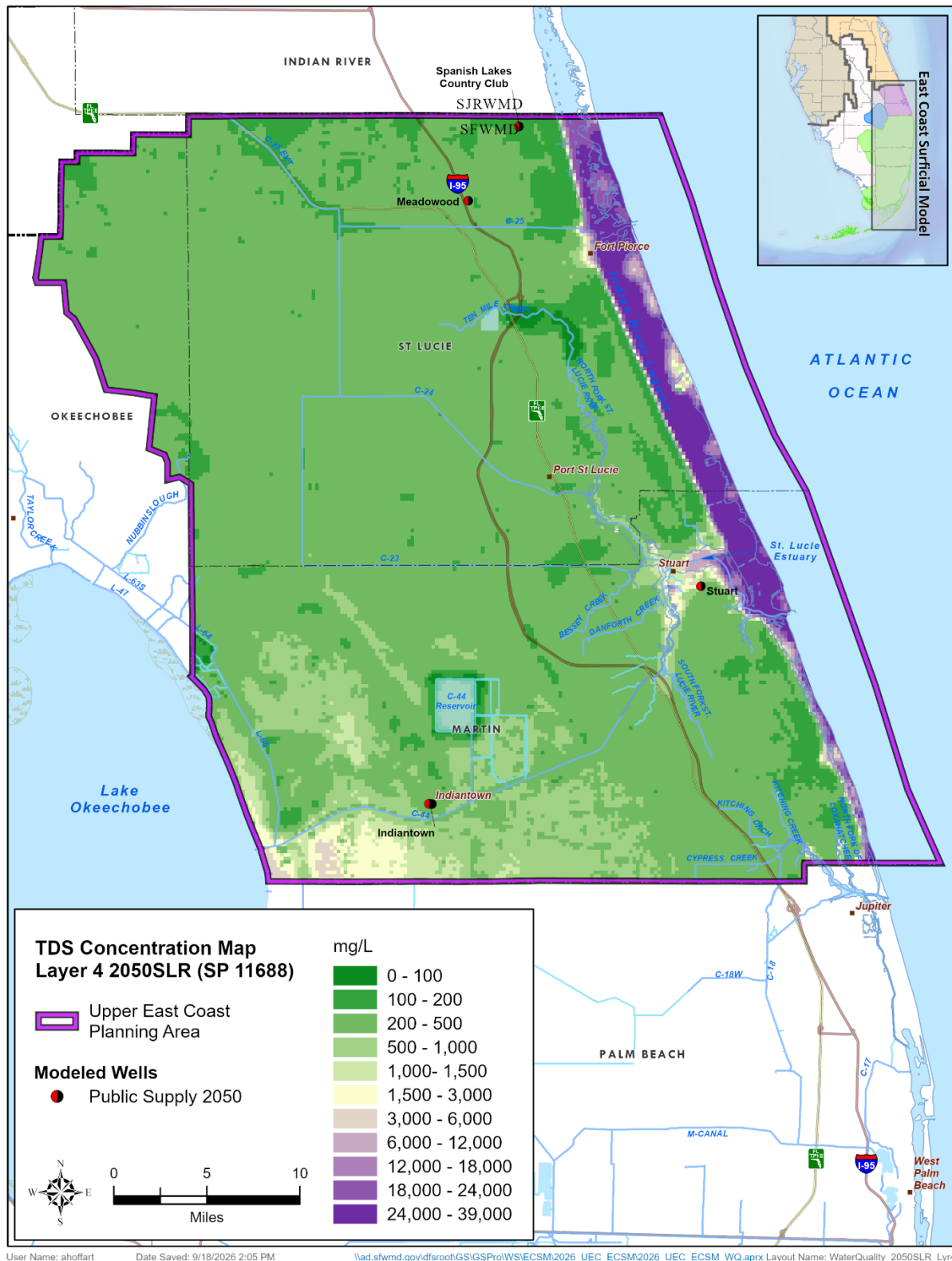


Figure D-62. Water quality (total dissolved solids) in the surficial aquifer system (Layer 4) at the end of the simulation period (SP 11688) using 2050SLR demand estimates.

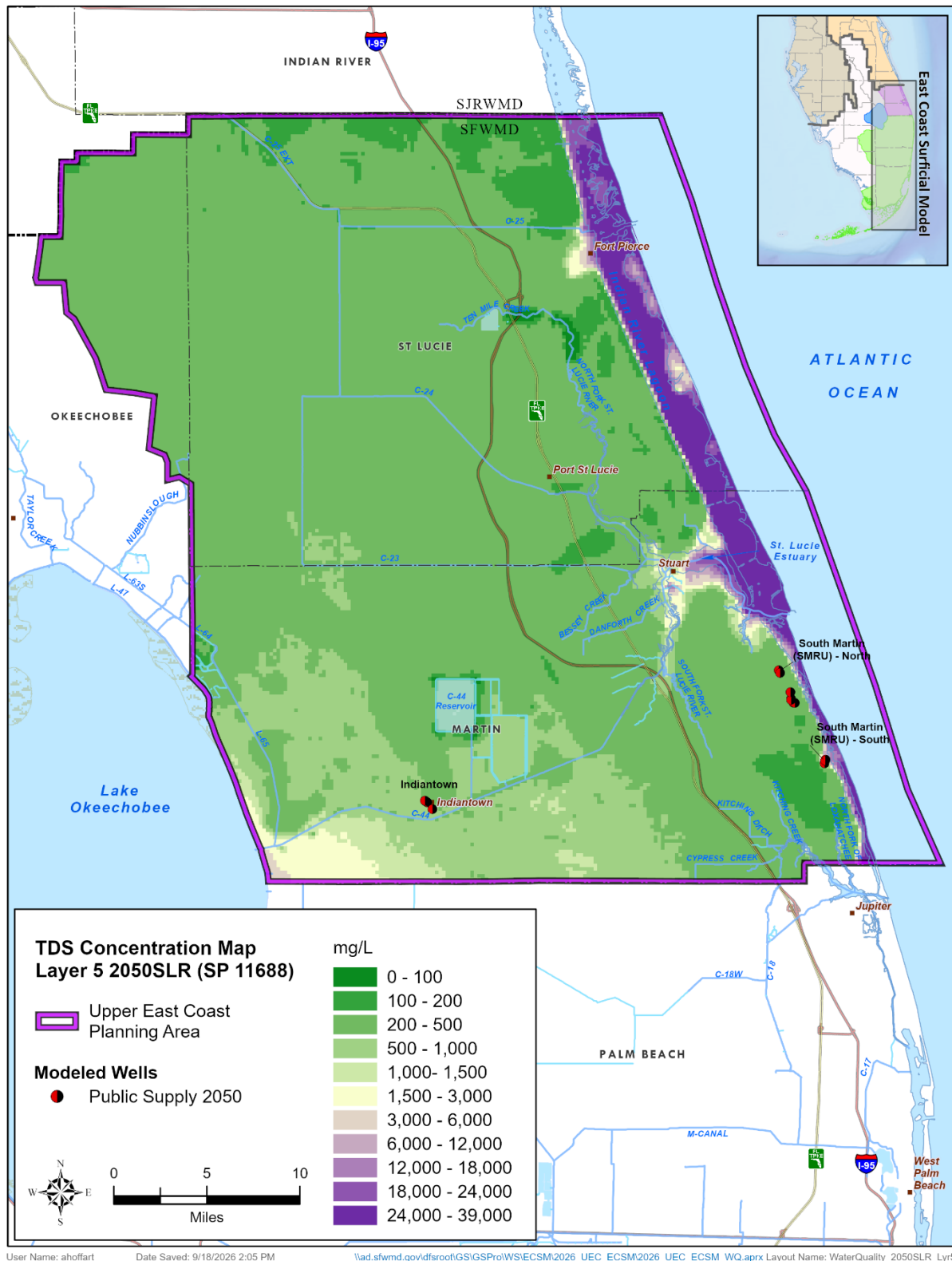


Figure D-63. Water quality (total dissolved solids) in the surficial aquifer system (Layer 5) at the end of the simulation period (SP 11688) using 2050SLR demand estimates.

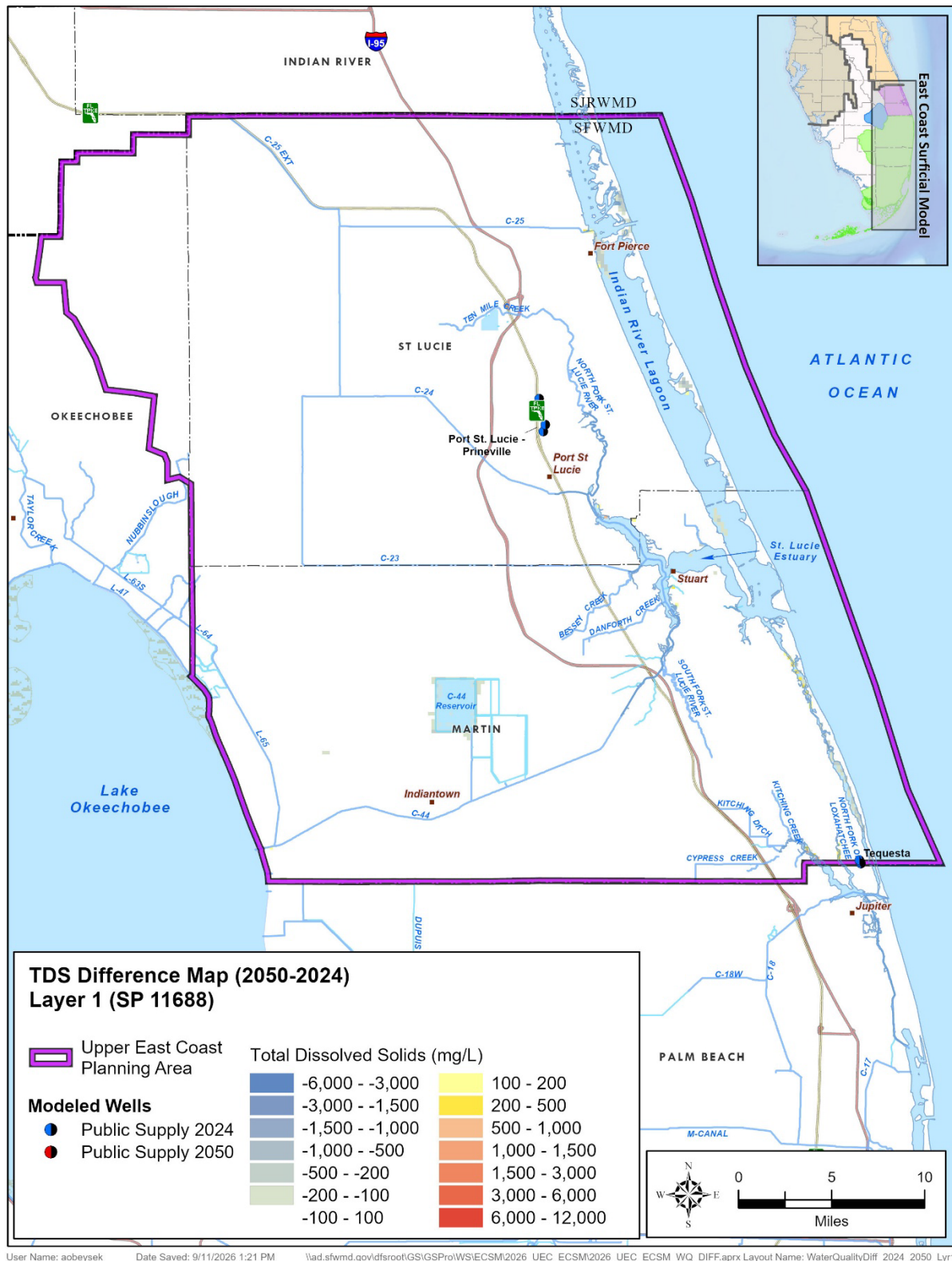


Figure D-64. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 1) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

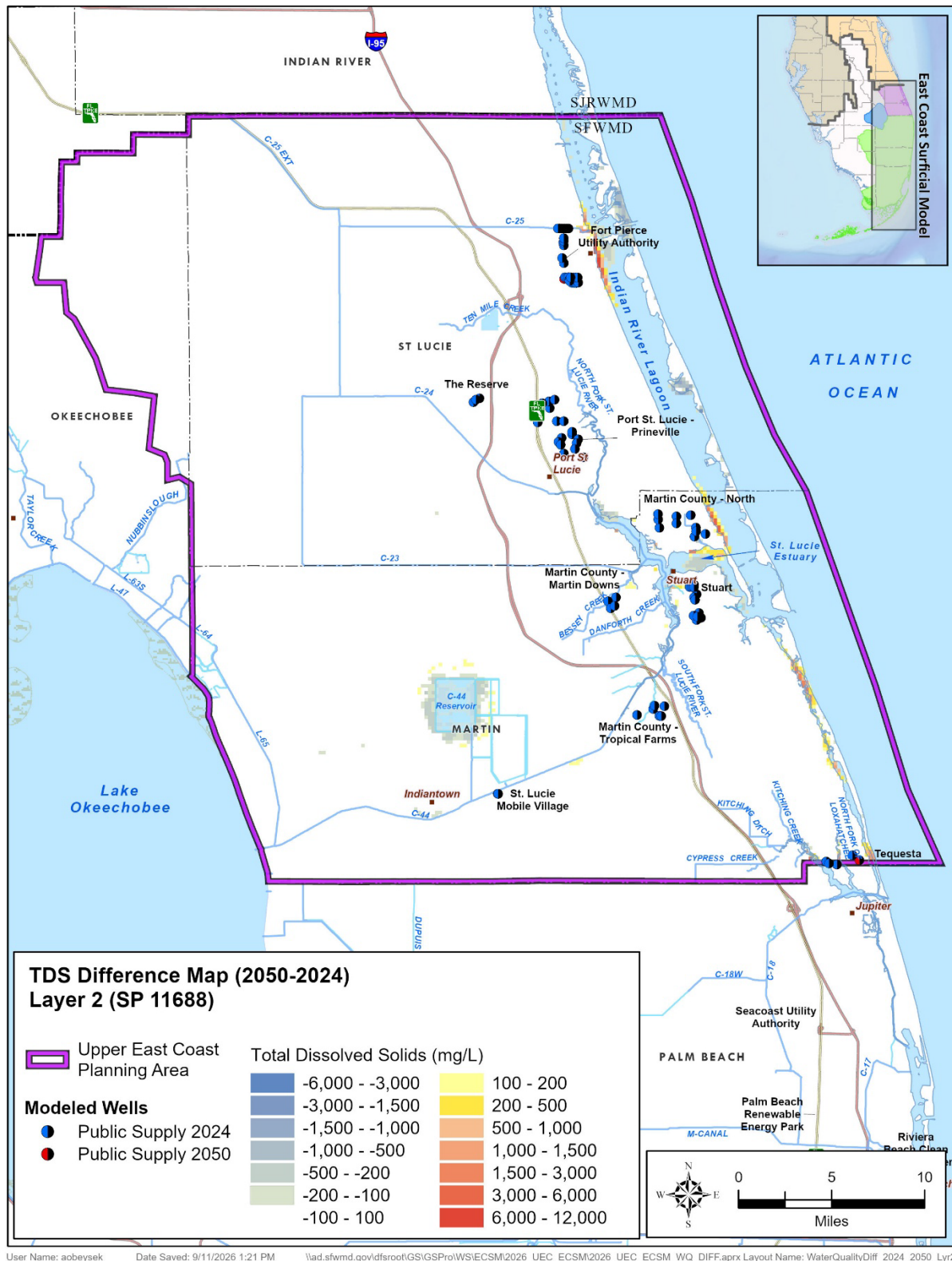


Figure D-65. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 2) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

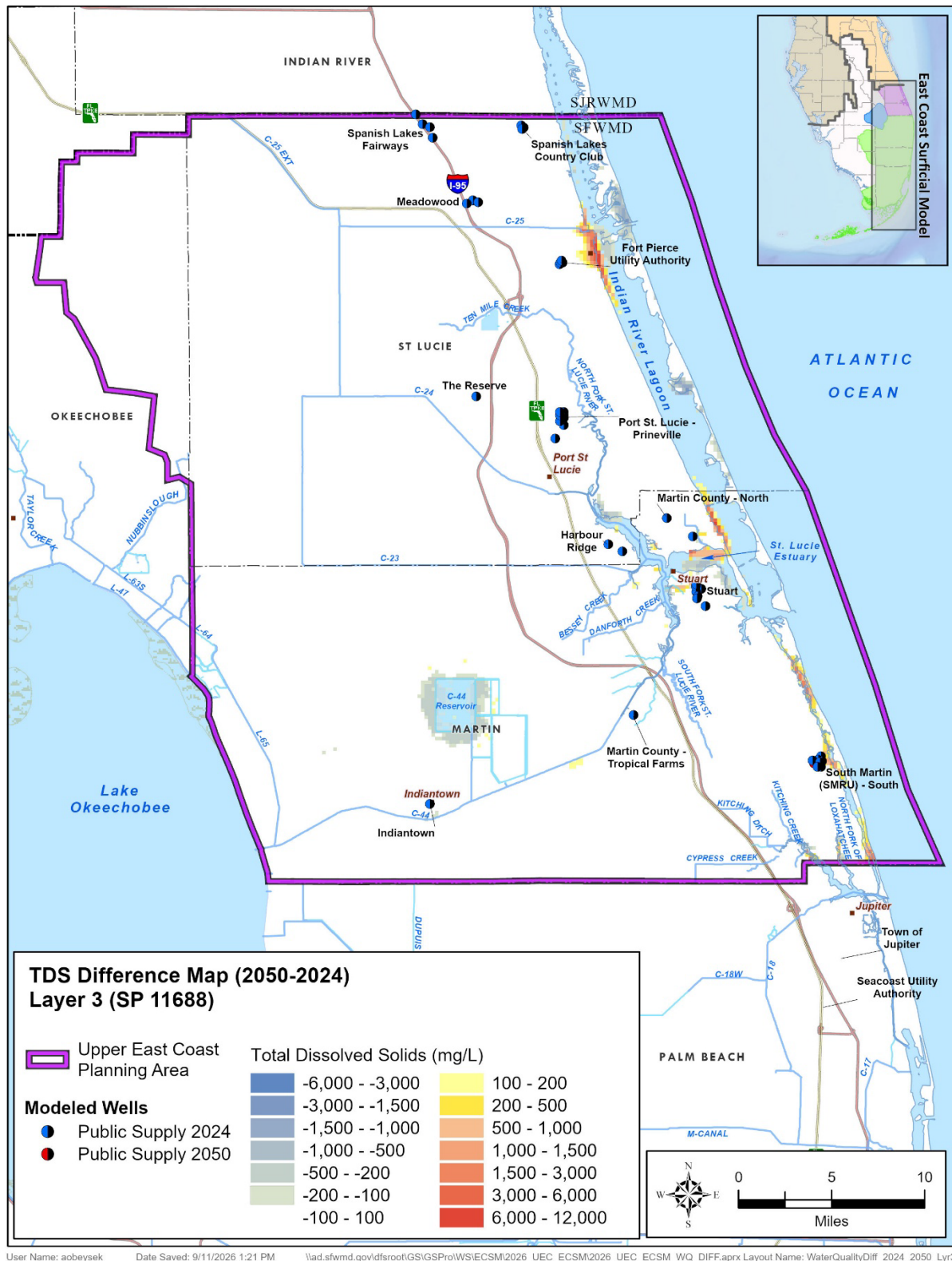


Figure D-66. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 3) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

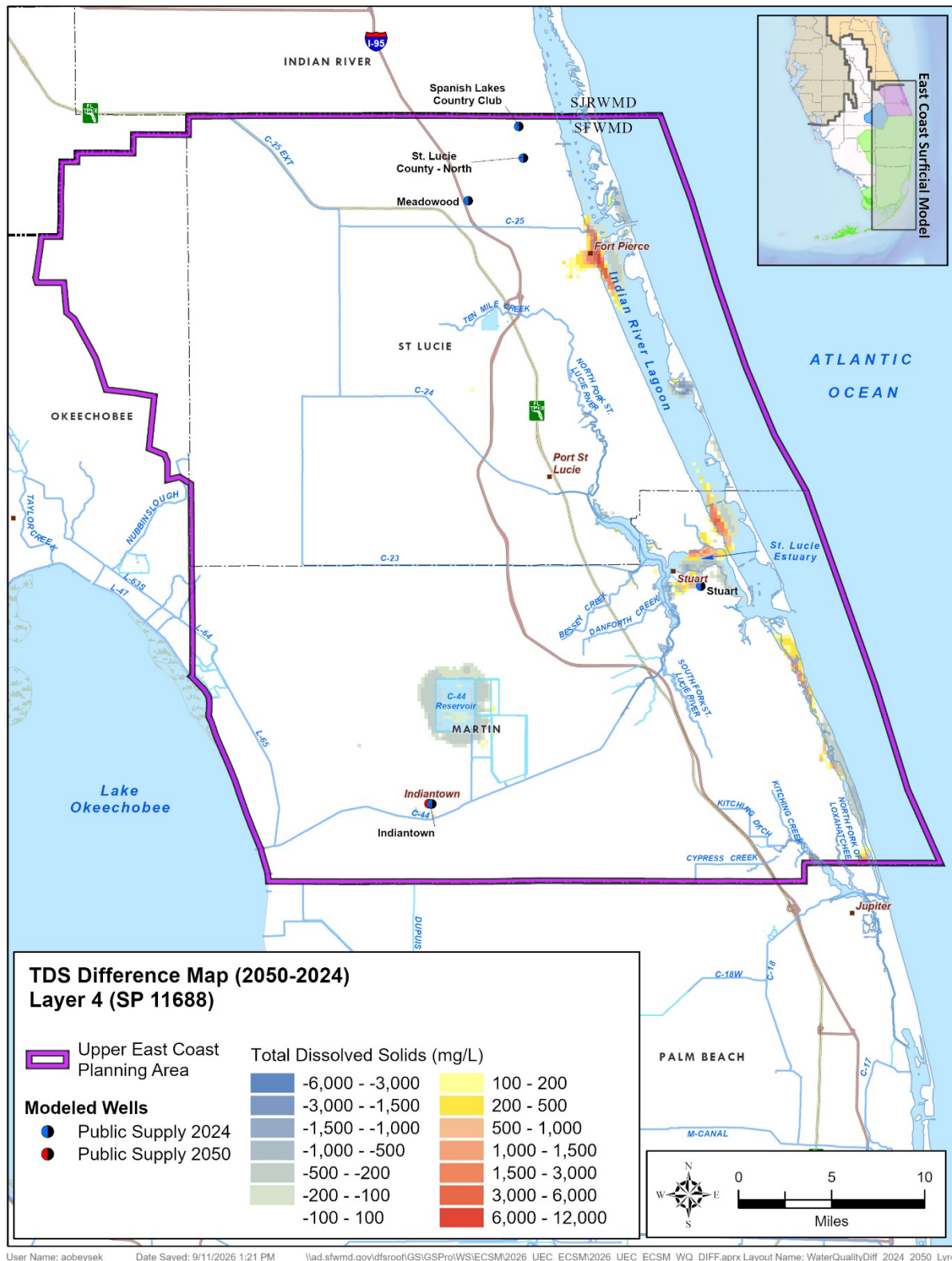


Figure D-67. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 4) between the 2024 and 2050 scenarios at the end of the simulation period (SP 11688).

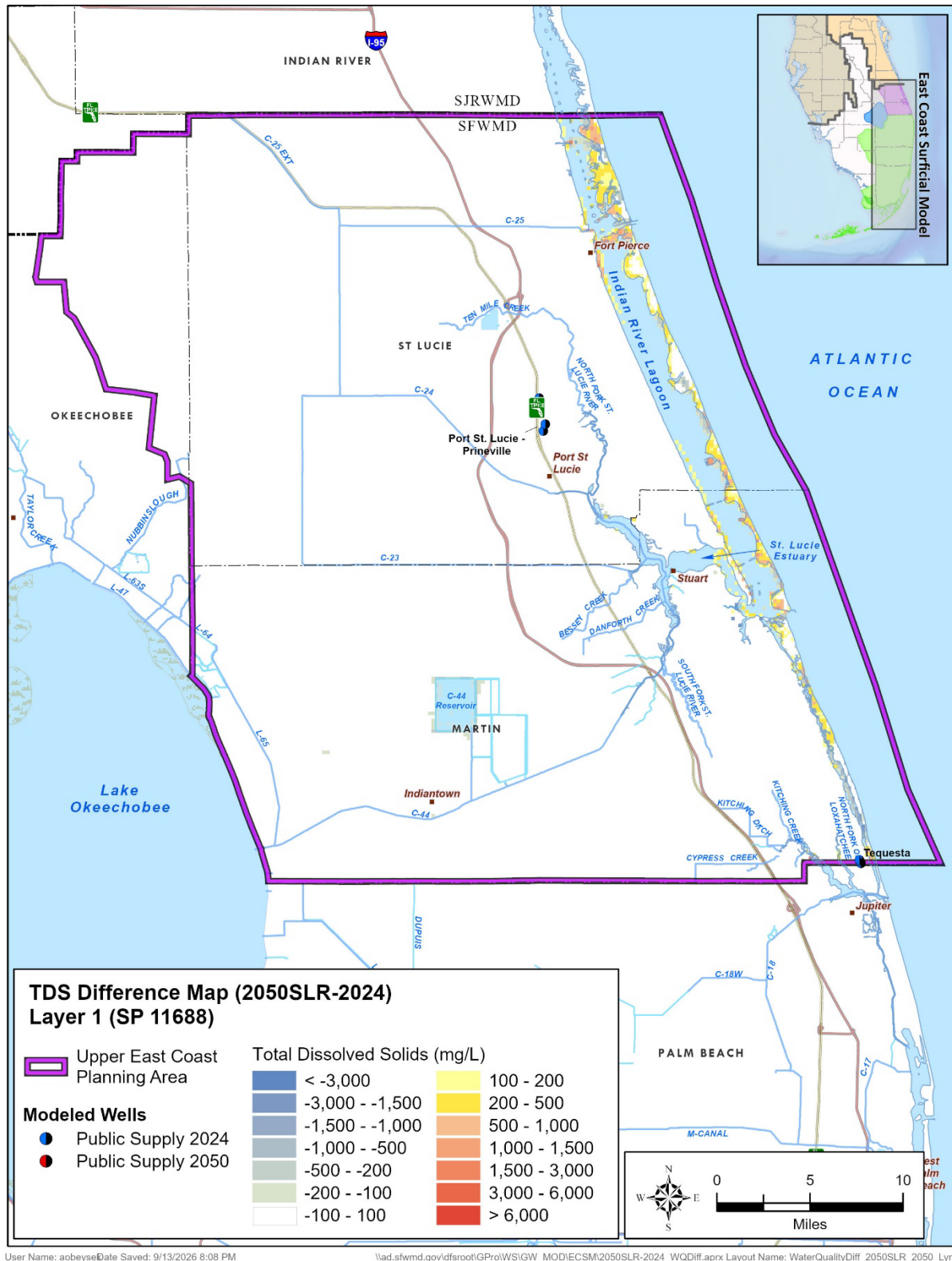


Figure D-69. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 1) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

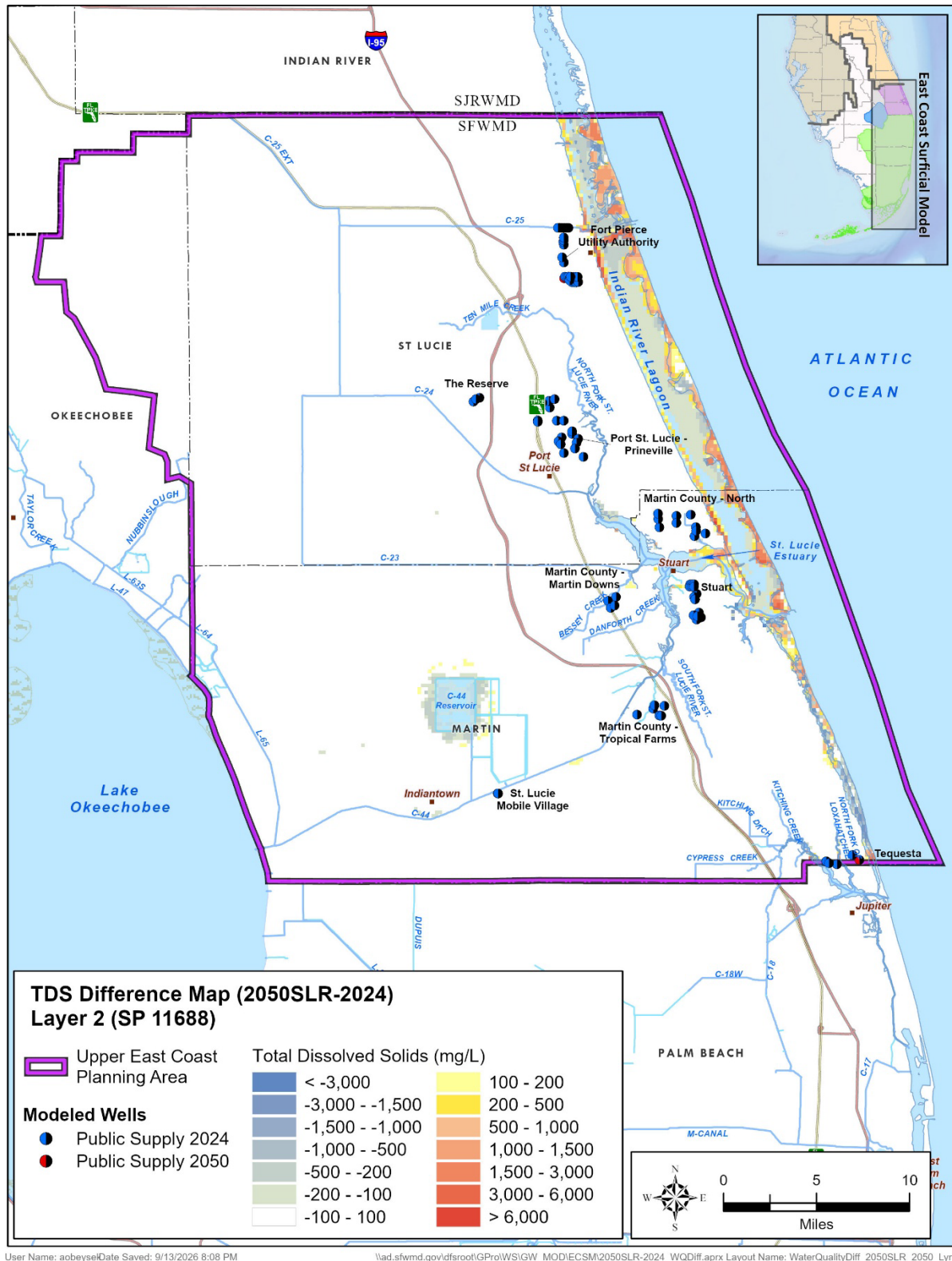


Figure D-70. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 2) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

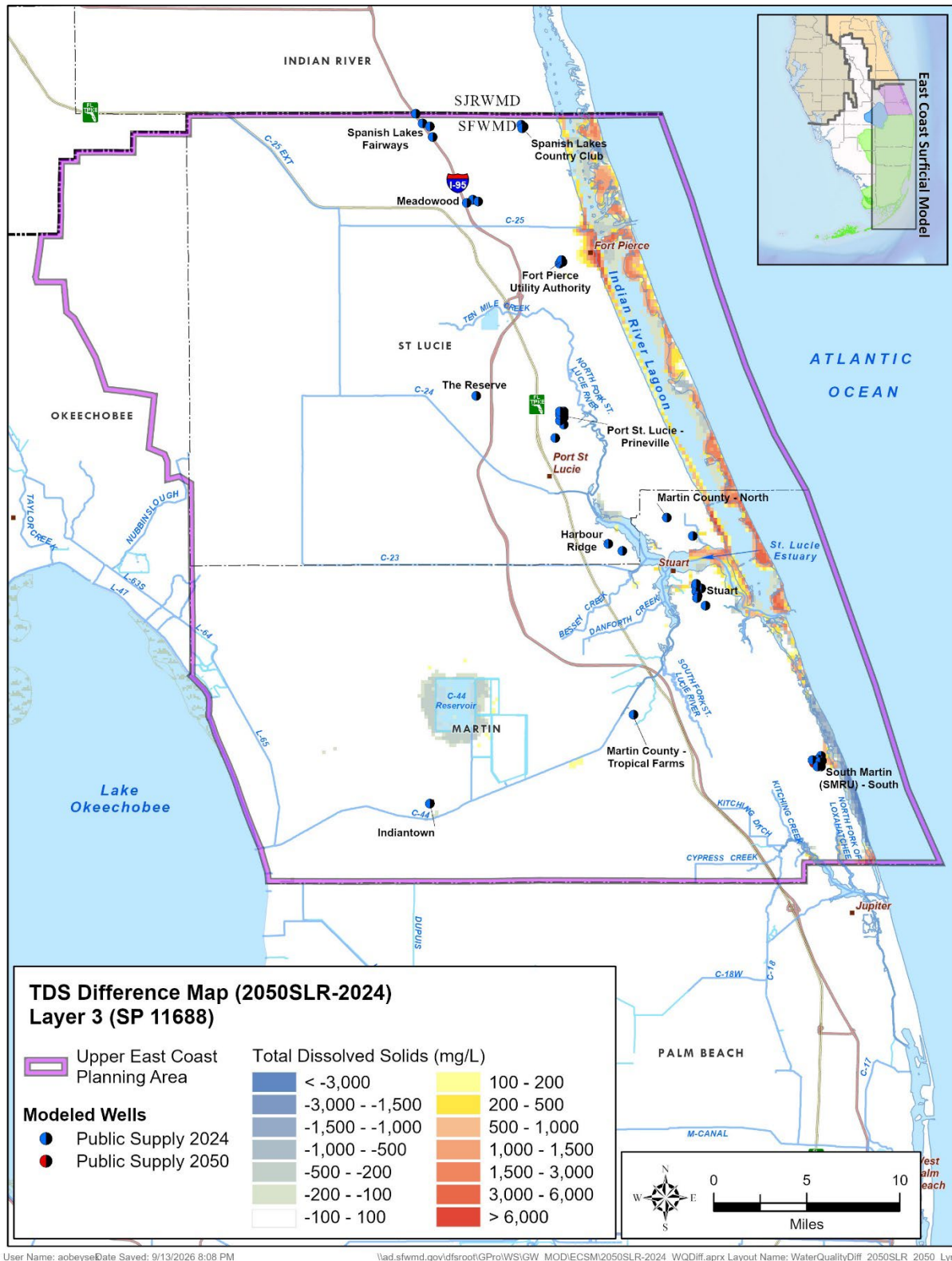


Figure D-71. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 3) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

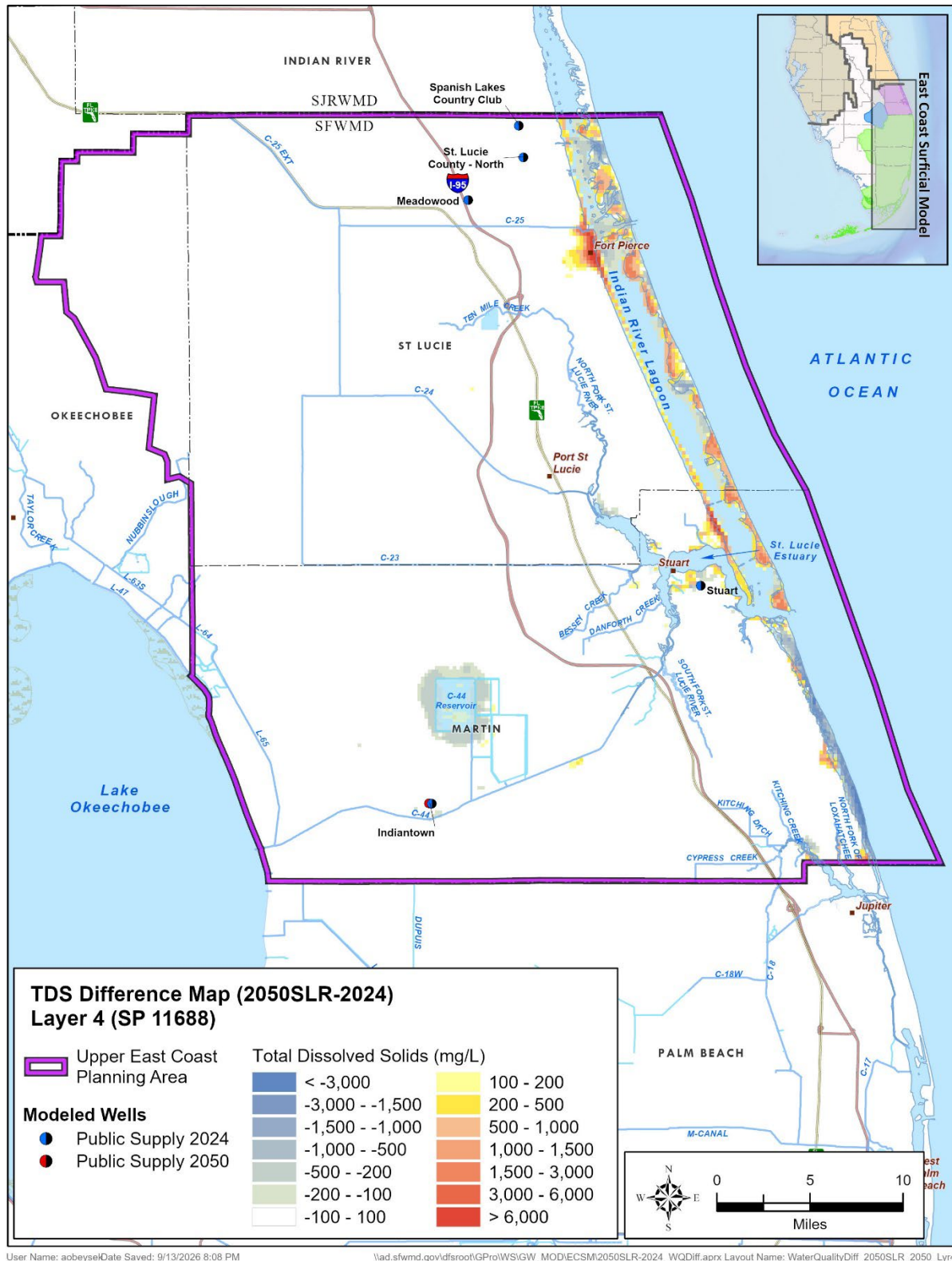


Figure D-72. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 4) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).

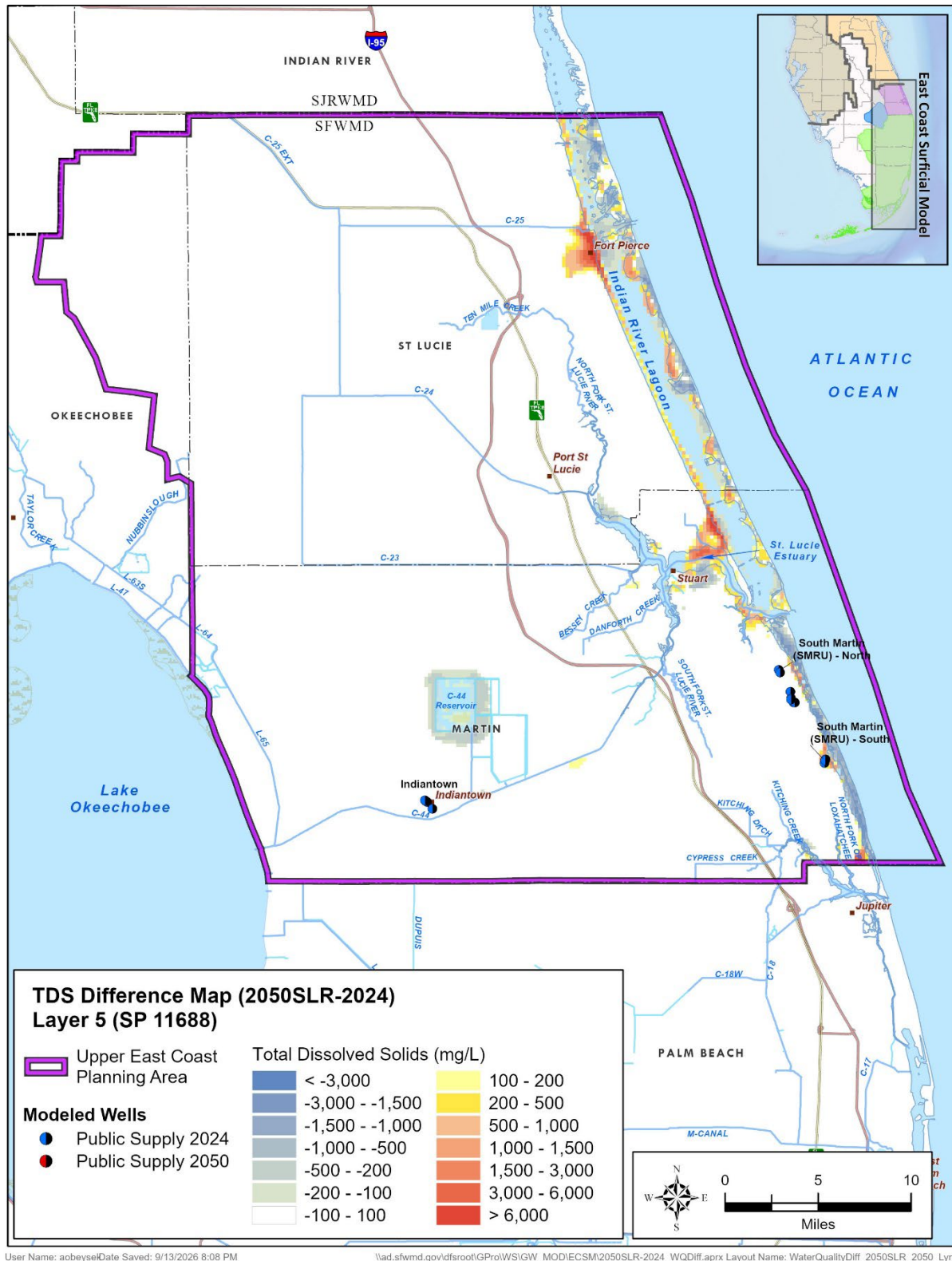


Figure D-73. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 5) between the 2024 and 2050SLR scenarios at the end of the simulation period (SP 11688).



D-88 | Appendix D: Groundwater Monitoring, Sea Level Rise and Other Changing Hydrologic and Climate Conditions, Utilities Vulnerable to Dry Conditions, and Groundwater Modeling – DRAFT

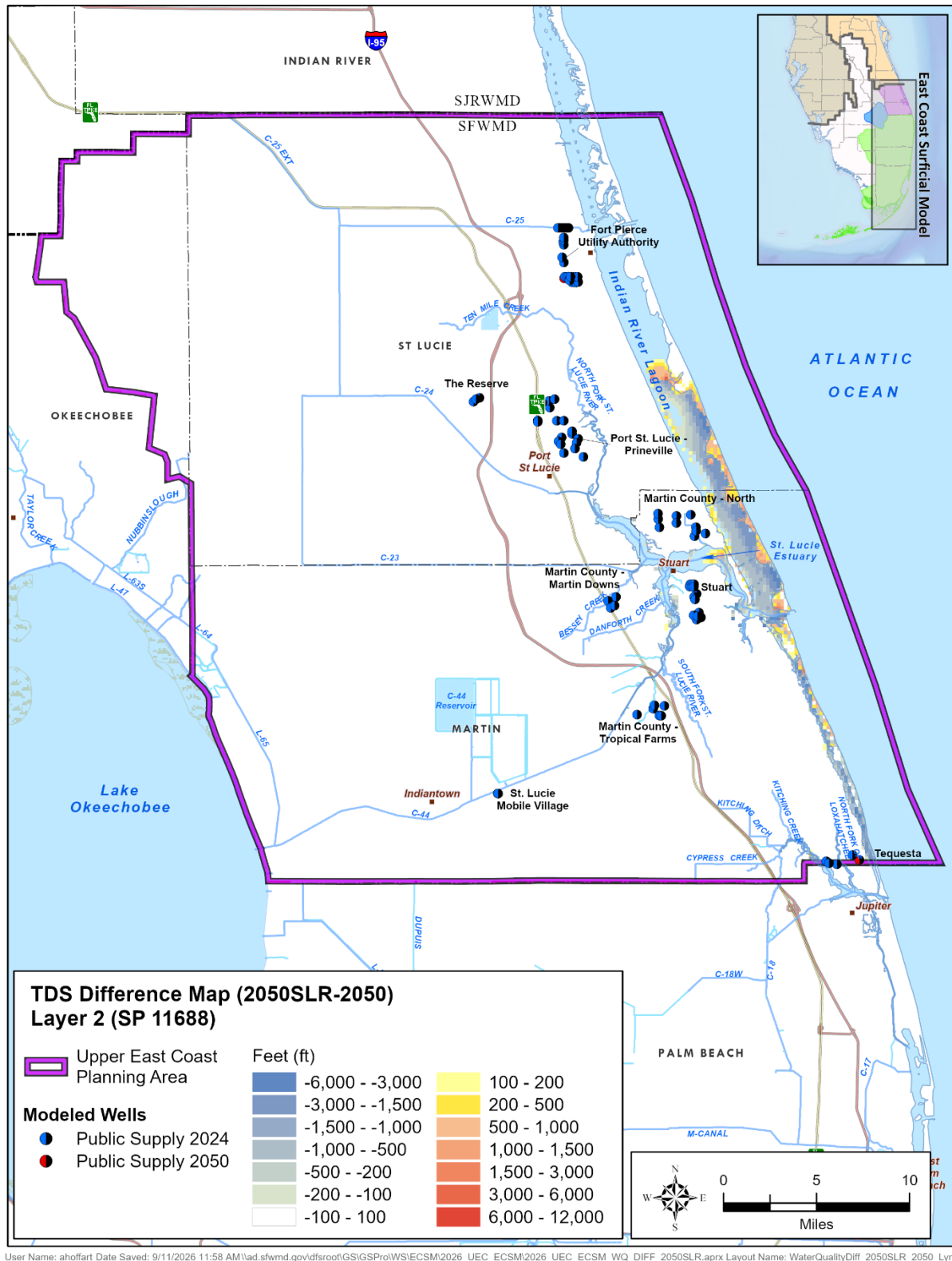
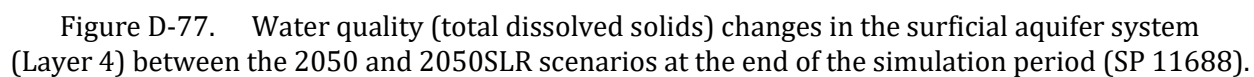
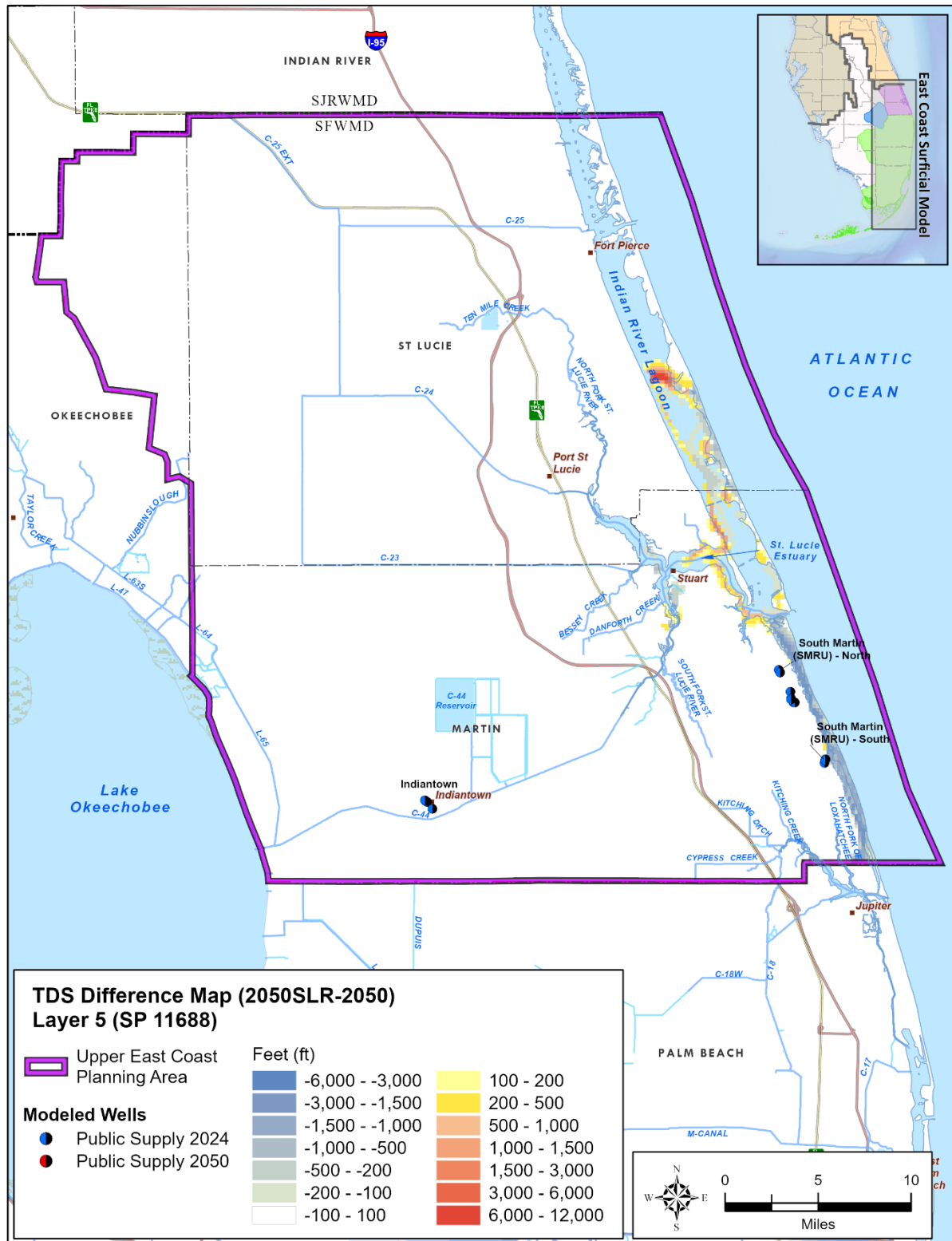


Figure D-75. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 2) between the 2050 and 2050SLR scenarios at the end of the simulation period (SP 11688).



D-90 | Appendix D: Groundwater Monitoring, Sea Level Rise and Other Changing Hydrologic and Climate Conditions, Utilities Vulnerable to Dry Conditions, and Groundwater Modeling – DRAFT





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Figure D-78. Water quality (total dissolved solids) changes in the surficial aquifer system (Layer 5) between the 2050 and 2050SLR scenarios at the end of the simulation period (SP 11688).

Horizontal flow vectors indicate the magnitude and direction of groundwater flow within the model layer and can be used to determine the influence of well withdrawals on groundwater flow. **Figure D-79** to **Figure D-83** are horizontal flow vector maps for the SAS when pumping the existing 2024 demands, projected 2050 demands, and projected 2050 demands with sea level rise. Each figure represents a specific layer in ECSM, and the horizontal flow vectors for each scenario are plotted with black, red, and blue arrows representing the horizontal flow vectors for the 2024, 2050, and 2050SLR scenarios, respectively.

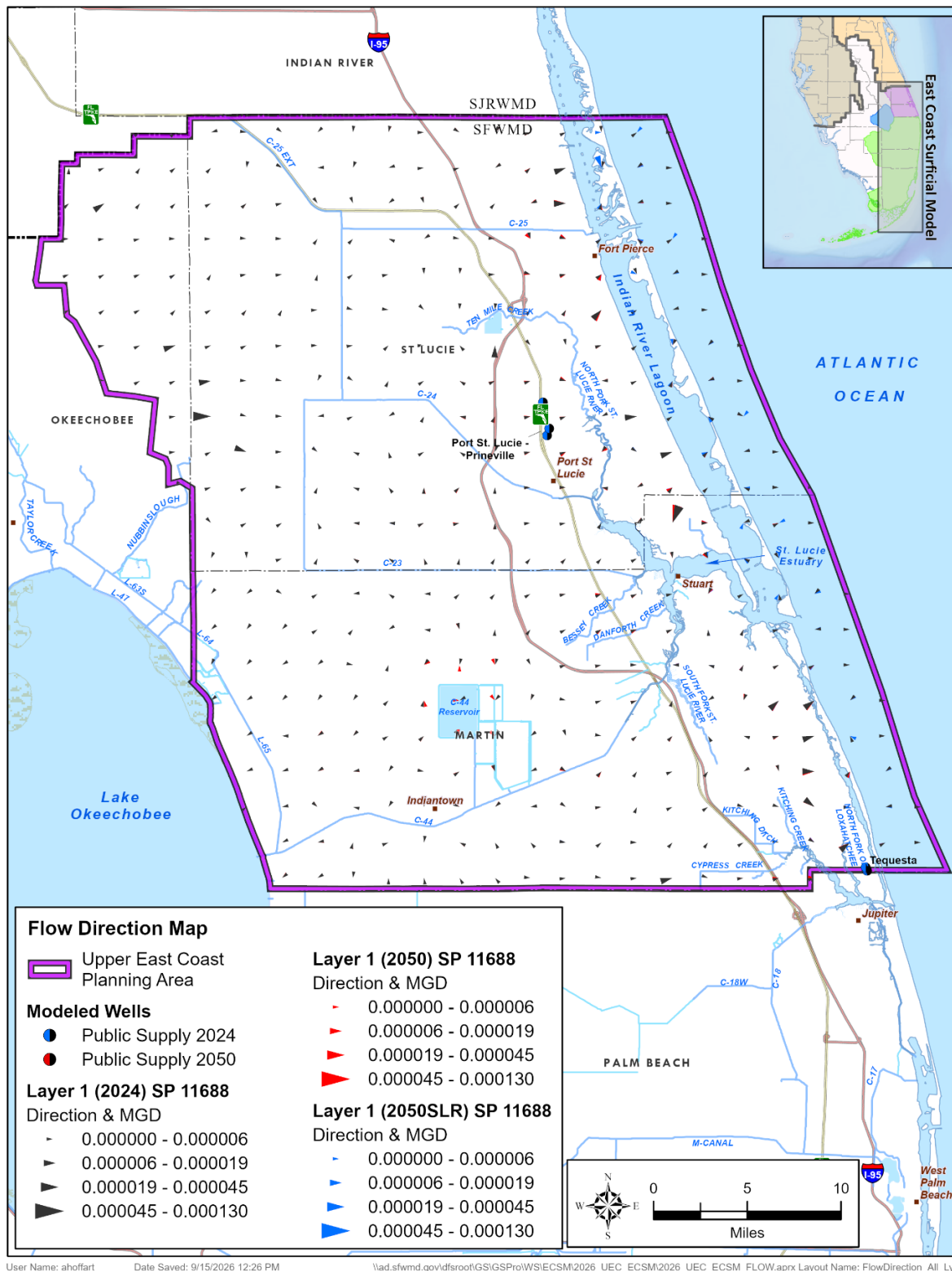


Figure D-79. Horizontal flow magnitude and direction in the surficial aquifer system (Layer 1) at the end of the simulation period (SP 11688) using 2024 demands, 2050 demand estimates, and 2050 demand estimates with sea level rise.

Analysis of Results

The ECSM results presented herein must be considered in the proper context. The ECSM is a regional groundwater flow and transport model and should only be used for planning-level evaluations. Differences in water levels and water quality between scenarios may identify potential water level drawdown or water quality degradation, but scenario limitations should be considered when reviewing results. The model results should be used as indicators for where potential problems could be experienced if no wellfield design or operations plan is implemented to minimize movement of poor-quality water. Despite these limitations, the ECSM results indicated 2050 SAS demands in the UEC Planning Area can be met with proper management and operation of wellfields.

Analysis of the ECSM results indicated the following:

- ◆ Changes in water levels are due to direct withdrawals and are located primarily within PS wellfields or within the footprint of the C-44 Reservoir. Changes in water quality are a result of increased demand simulated in 2050 in the coastal wellfields which result in lateral saltwater intrusion and the upconing of poor-quality water. Comparing differences between the 2050 to 2024 change and the 2050SLR to 2024 change indicated that under 2050SLR, there is an increased potential for additional water quality degradation at the base of the aquifer (Layer 5).
- ◆ The largest projected difference in SAS water level (approximately 9.2 feet of drawdown) between the 2024 and 2050 scenarios was observed at the Fort Pierce Utilities Authority SAS wellfield. The 2050 demand simulated at this location is projected to increase by 1.37 mgd. Water level changes between the 2024 and 2050SLR scenarios show slightly less drawdown due to increased lateral saltwater intrusion. Water quality degradation near the wellfield occurs in the deeper layers and there is an increased likelihood of water quality degradation in the 2050SLR to 2024 comparison.
- ◆ Martin County Utilities shows up to 8 to 9 feet of potential drawdown between 2024 and 2050 at the Martin Downs wellfield and the North wellfield, primarily due to the simulated demand increase of 3.44 mgd. Water quality degradation near the wellfield occurs in the deeper layers (approximately 1,600 mg/L).
- ◆ There is a projected difference of almost 7 feet at Port St. Lucie Prineville wellfield between the 2024 and 2050 scenarios, primarily due to the simulated 2050 demand increase of 2.17 mgd at this location.
- ◆ Indiantown was simulated with a 2050 demand increase of 0.45 mgd, which resulted in a projected change of 8.6 feet between the 2024 and 2050 scenarios.
- ◆ There is a projected change of 5.1 feet at the South Martin Regional Utility South wellfield due to the simulated projected demand increase of 1.19 mgd in 2050. The change in water levels between the 2050SLR and 2024 scenarios is projected to decrease slightly because of increased lateral saltwater intrusion, which results in a corresponding increase in water levels. Due to its coastal location, the South Martin Regional Utility South wellfield has the largest projected difference in water quality, with Layer 5 projected to show water quality degradation of over 2,500 mg/L when comparing 2050 to 2024 and 2050SLR to 2024.

- While Stuart is not expected to have a large increase in demand from 2024 to 2050, the addition of a new SAS well, and the redistribution of withdrawals from existing wells resulted in a projected change of up to 4.5 feet of drawdown near the proposed well, with some rebound shown near wells where the overall demand decreased between 2024 and 2050.

Conclusions

Historical chloride data and the ECSM results indicated that properly managed wellfields appear able to meet projected SAS demands through 2050 in the UEC Planning Area. The planning-level ECSM simulations and analyses conducted to support this 2026 UEC Plan Update are considered conservative and provide insight to potential water level and water quality changes that may occur in the SAS over time if no additional wellfield operations are implemented to minimize movement of poor-quality water. The model results identified some isolated potential issues that may require further evaluation. Future demands from the SAS will continue to remain stable with only minor increases in projected 2050 demands as most increased demands will be met with use of the FAS and other alternative water supplies.

Several SAS wellfields in the UEC Planning Area have experienced some water quality degradation, but current operations have shown this can be managed through appropriate wellfield operating protocols. In addition, monitor wells can provide early warnings of the need for changes to wellfield operations to minimize upconing or lateral movement of poor-quality water.

Next Steps

The assumptions used in the ECSM and the potential issues that require further evaluation should be assessed through a coordinated effort with PS utilities and other stakeholders. The following suggestions are provided to guide future efforts to ensure long-term sustainability of the SAS.

SAS users should:

- Implement wellfield operations that increase the sustainability of the SAS (e.g. reduced pumping from coastal wells to minimize lateral saltwater intrusion).
- Continue to refine wellfield operational plans and communicate these refinements to the SFWMD for incorporation into future ECSM update efforts.

The SFWMD will:

- Continue to coordinate with PS utilities to facilitate long-term management of the SAS.
- Incorporate additional well construction, aquifer test, lithologic, water level, water quality, and other data into the ECSM from monitor wells, and water supply wells.

East Coast Floridan Model

The ECFM is a density-dependent groundwater flow and solute transport model of the FAS, encompassing the District's UEC and Lower East Coast planning areas. The model simulates regional groundwater levels, flows, and water quality changes in the FAS in response to withdrawals. The model was designed with seven layers (**Figure D-84**), from the Upper Floridan aquifer (UFA) (Layer 1) to the Boulder Zone (Layer 7), and model cells are 2,400 feet by 2,400 feet in size. The UFA and Avon Park permeable zone (APPZ) are the two layers used for water supply in the UEC Planning Area. The ECFM does not simulate surface water or the SAS. An independent peer review of the model was conducted in 2011, and the panel's comments were incorporated into the 2014 version of the model. The revised model was calibrated with data from 1989 through 2012 (Giddings et al. 2014). In early 2021, the ECFM was updated with new hydrogeologic and hydrostratigraphic data and re-calibrated (Billah et al. 2021). The model primarily uses total dissolved solids (TDS) concentrations to track changes in water quality; in the FAS, chlorides generally make up approximately 50% of TDS.

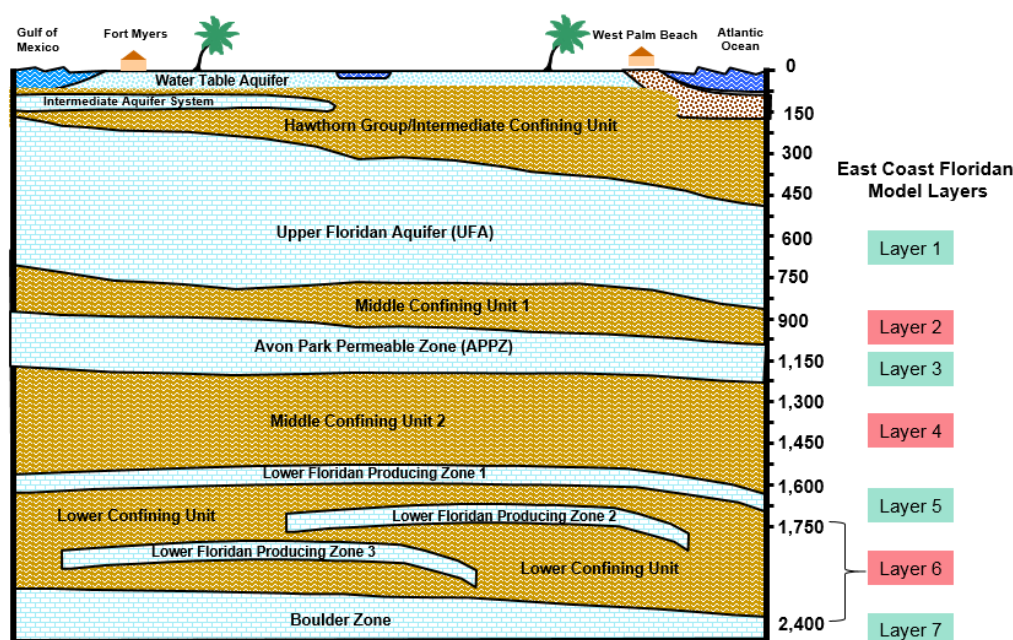


Figure D-84. East Coast Floridan Model layers.

Model Scenarios

The period of simulation for the ECFM is 24 years and uses the historic climate period from 1989 to 2012. Two modeling scenarios were conducted using the ECFM. The first scenario analyzed the potential impacts of 24 years of pumping the 2024 FAS volumes. The second scenario evaluated the potential impacts of pumping the 2050 FAS volumes for 24 years. Both scenarios started with the same water level (potentiometric surface elevations) and TDS data values. These starting data were extracted from the final stress period (SP) of the calibration period (December 2012). The results from 2024 and 2050 simulations were used as the ending water levels, TDS concentrations, and flow properties of the two scenarios and were then compared to each other to identify changes in water levels, water quality, and flows. A summary of the FAS groundwater withdrawals used in the two scenarios is provided in **Table D-5**.

Table D-5. Average Floridan aquifer system withdrawals (in mgd) simulated in the UEC Planning Area in the East Coast Floridan Model scenarios.

Water Use Category*	2024	2050
Public Supply	45.53	93.28
Agriculture	6.56	6.58
Commercial/Industrial/Institutional	0.03	0.27
Landscape/Recreational	1.86	2.01
Power Generation	1.5	0.41
Total	55.48	102.55

mgd = million gallons per day.

* FAS is not used for Domestic Self-Supply.

Model Results

Final simulated water levels for the 2024 and 2050 scenarios (SP 288) and water level changes between 2050 and 2024 are shown in **Figure D-85 to Figure D-87** for the UFA and in **Figure D-88 to Figure D-90** for the APPZ. SP 288 represents the final month of the 24-year simulation period.

Model results of simulated water quality are shown in **Figure D-91 to Figure D-96** for the UFA and APPZ. Water quality at the end of the 2024 and 2050 scenario (SP 288) is shown for the UFA in **Figure D-91** and **Figure D-92**, and the change in water quality in the UFA between the 2024 and 2050 scenarios is shown in **Figure D-93**. Water quality in the APPZ at the end of the 2024 and 2050 scenario (SP 288) is shown in **Figure D-94** and **Figure D-95**, and the change in water quality in the APPZ between the 2024 and 2050 scenarios is shown in **Figure D-96**. **Table D-6** provides a summary of the range of water levels and water quality for each of the model scenarios and the range of changes in water levels and water quality from 2024 to 2050 for the UFA and APPZ.

Table D-6. Summary of East Coast Floridan Model results for water levels and water quality (i.e., total dissolved solids concentrations).

Parameter	Range of Values in Upper Floridan Aquifer ^a	Range of Values in Avon Park Permeable Zone ^a
2024 Base Condition Scenario		
Water Level (feet NGVD29)	24.9 to 52.6	31.4 to 51.6
Total Dissolved Solids (mg/L)	307 to 4,466	2,311 to 9,664
2050 Future Condition Scenario		
Water Level (feet NGVD29)	12.7 to 52.5	26.7 to 51.5
Total Dissolved Solids (mg/L)	307 to 4,466	2,392 to 10,214
2050 to 2024 Change		
Water Level Decline (feet)	-25.9 to 0	-6.7 to 0
Total Dissolved Solids Increase (mg/L)	-127 to 3,527	-12 to 1,203

mg/L = milligrams per liter; NGVD29 = National Geodetic Vertical Datum of 1929.

Positive value indicates the rebound of water level and degradation of water quality.

^a Lowest and highest values from model (UEC) domain. Positive values indicate an increase in water level.

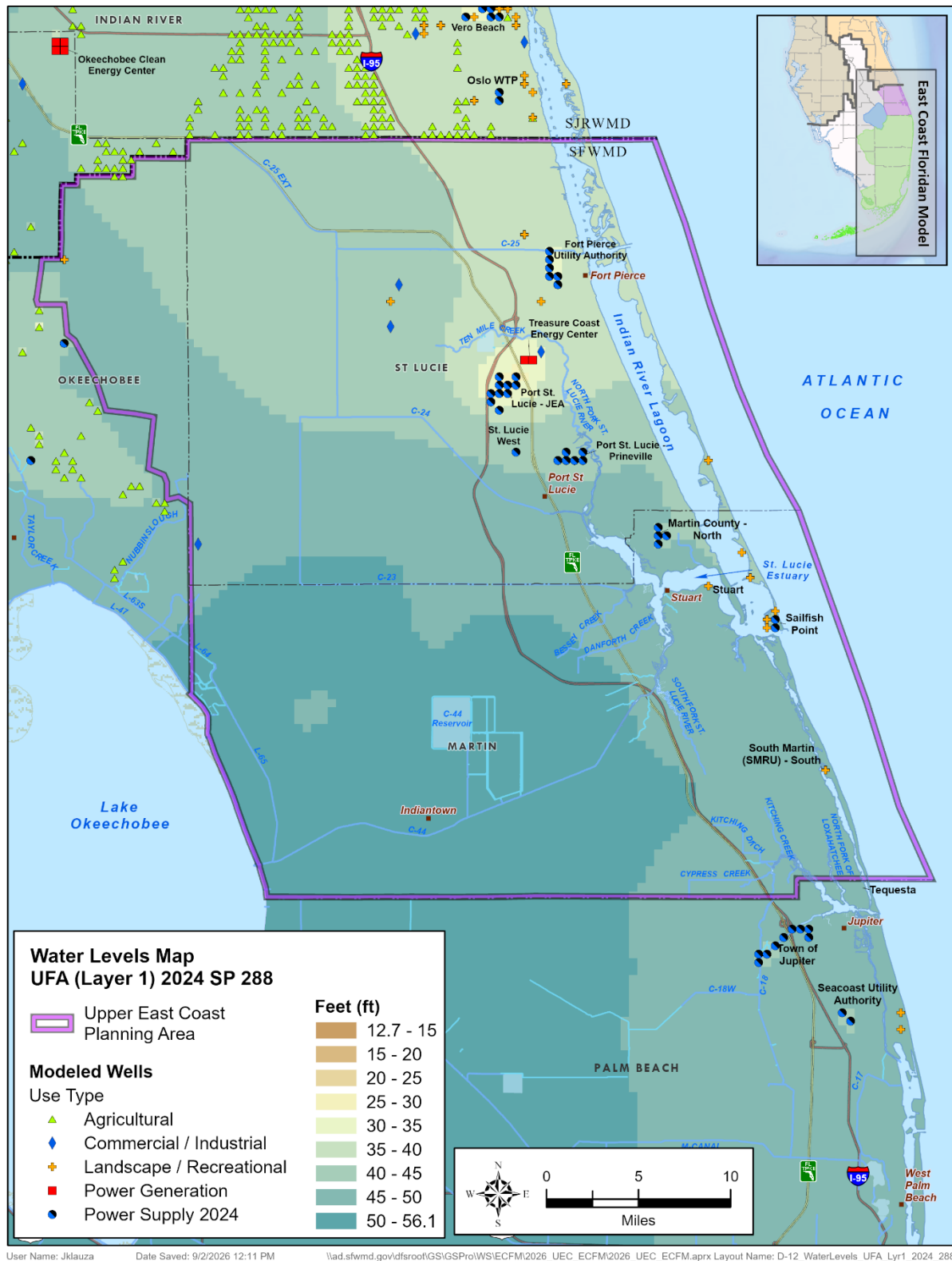


Figure D-85. Water levels in the Upper Floridan aquifer (Layer 1) at the end of the 2024 scenario.

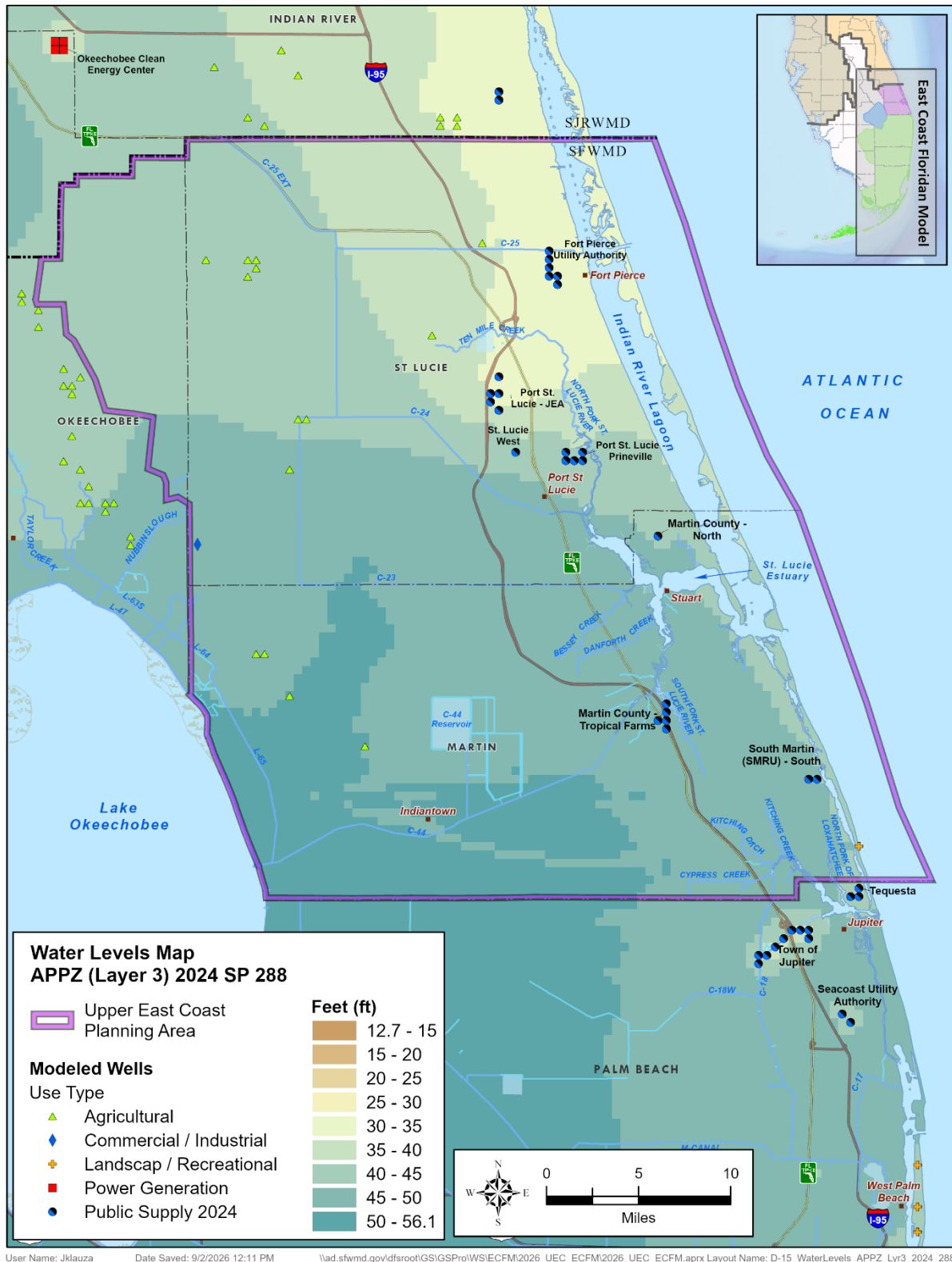


Figure D-88. Water levels in the Avon Park permeable zone (Layer 3) at the end of the 2024 scenario.

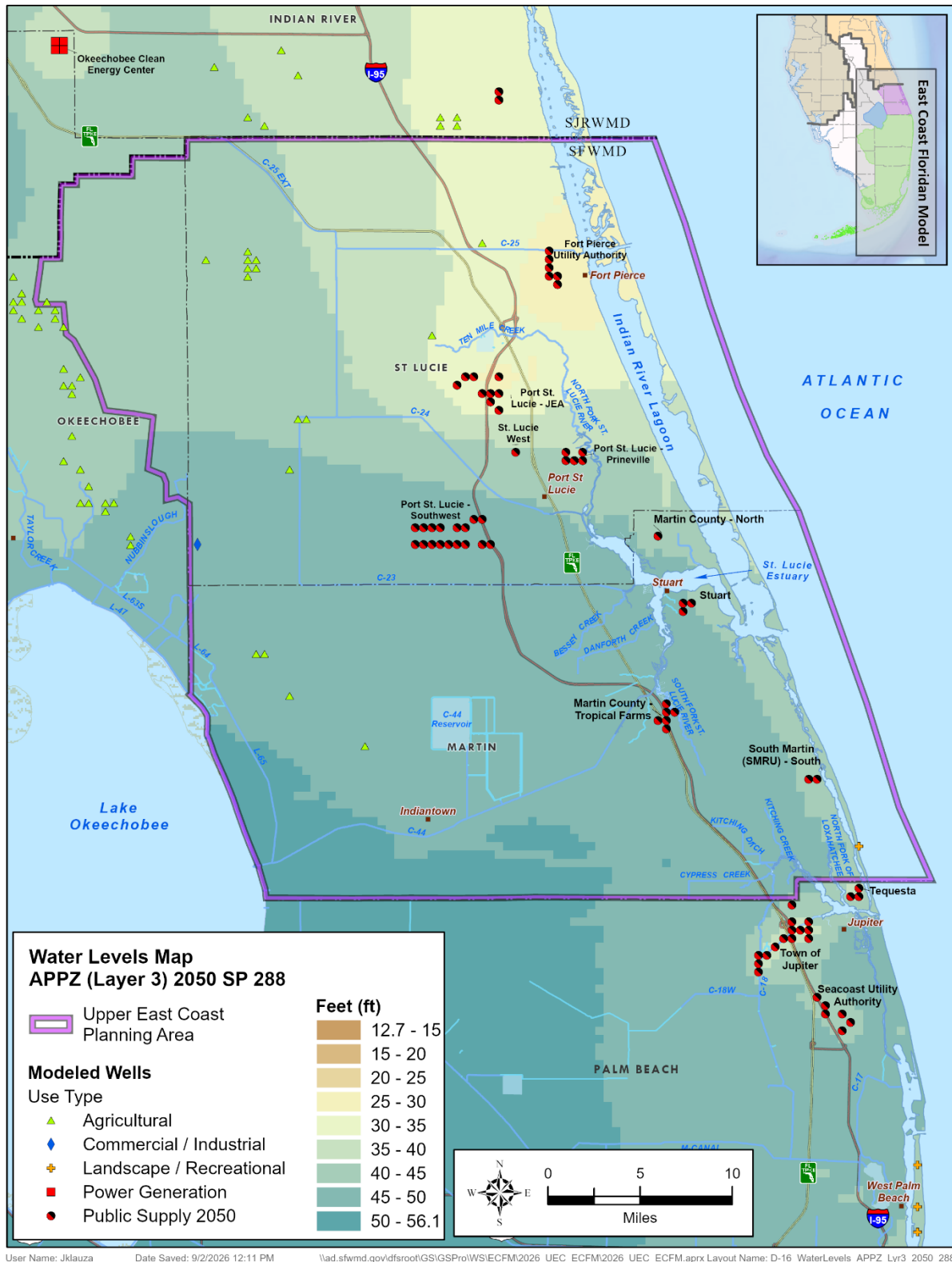


Figure D-89. Water levels in the Avon Park permeable zone (Layer 3) at the end of the 2050 scenario.

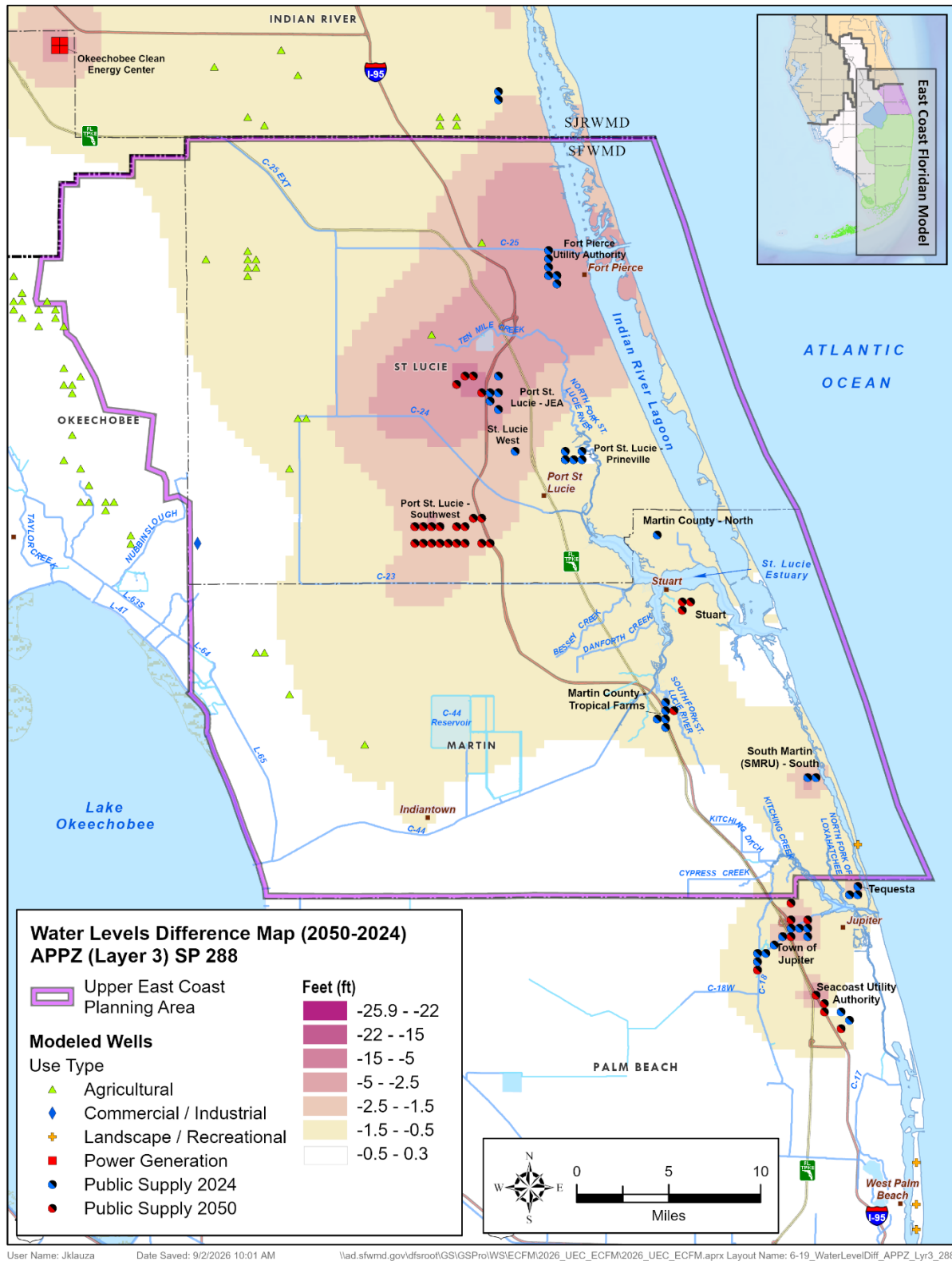
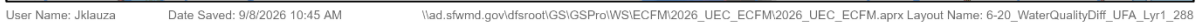


Figure D-90. Water level changes (head difference) in the Avon Park permeable zone (Layer 3) between the 2050 and 2024 scenarios at the end of the simulation period (SP 288).



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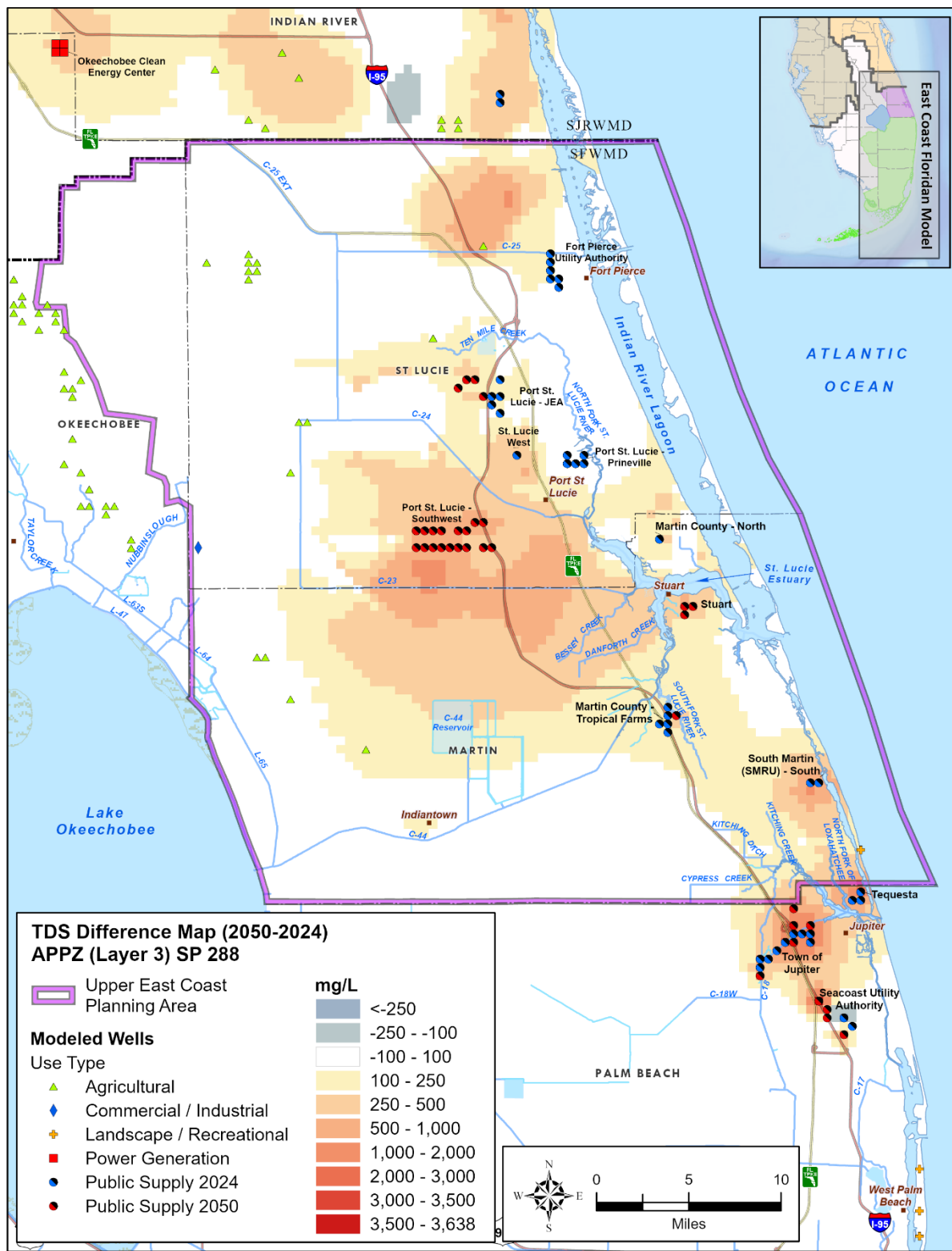


Figure D-96. Water quality (total dissolved solids) changes in the Avon Park permeable zone (Layer 3) between the 2050 and 2024 scenarios at the end of the simulation period (SP 288).

Horizontal flow vectors indicate the magnitude and direction of groundwater flow within the model layer and can be used to determine the influence of well withdrawals on groundwater flow. **Figure D-97** and **Figure D-98** are horizontal flow vector maps for the UFA and APPZ when pumping the existing 2024 and projected 2050 demands.

Figure D-99 and **Figure D-100** show the artesian heads above land surface in the UFA during a dry month (SP 218) for the 2024 and 2050 scenarios. The predicted change in artesian head from 2024 to 2050 is shown in **Figure D-101**. Artesian head above land surface generally increases from northwest to south/southeast in the UEC Planning Area. Reductions in artesian head as a result of future withdrawals are monitored to determine if water will continue to flow freely at land surface without pumping. This monitoring supports the restricted allocation area criteria for flowing FAS wells in Martin and St. Lucie counties (SFWMD 2025).

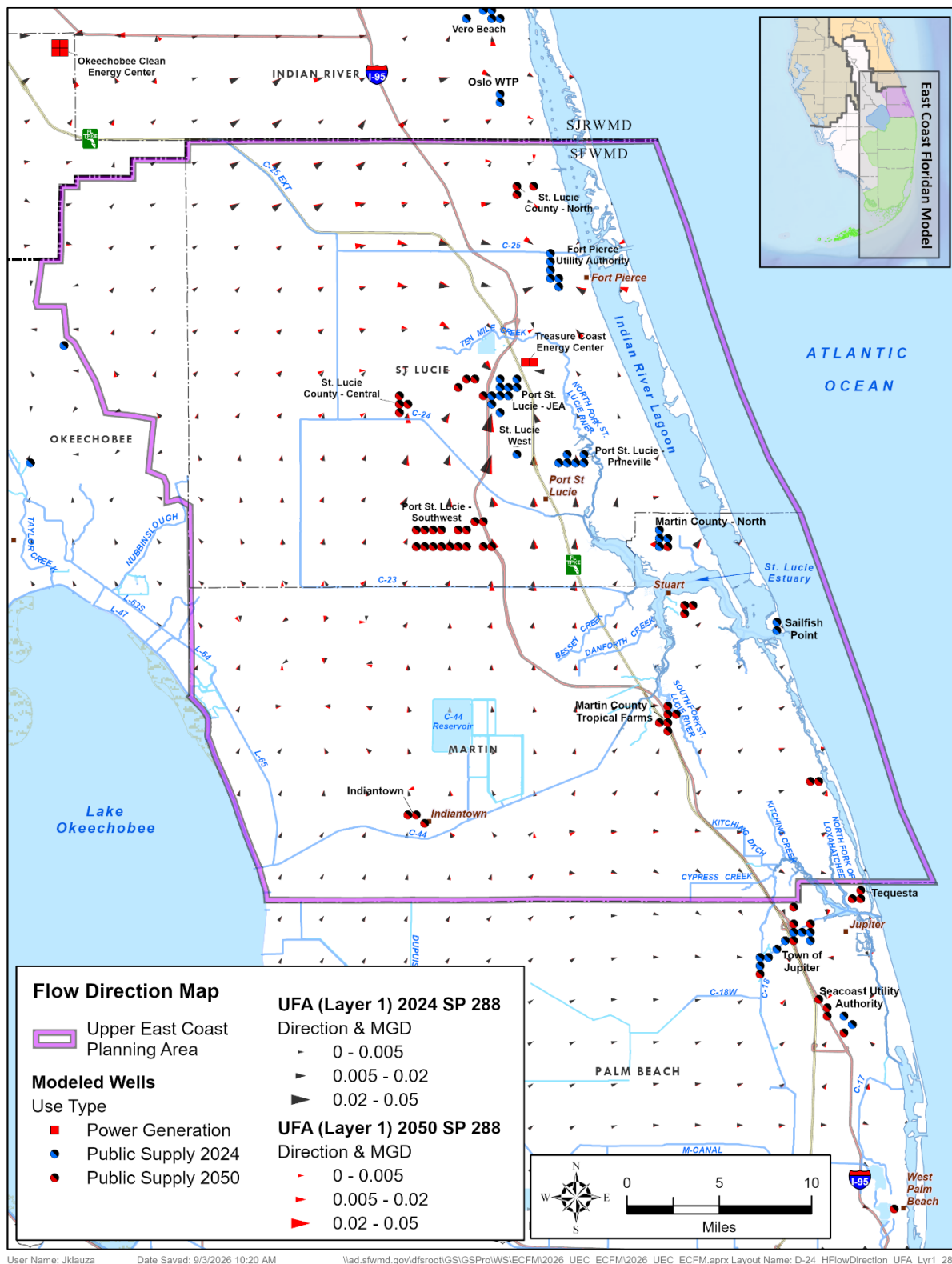
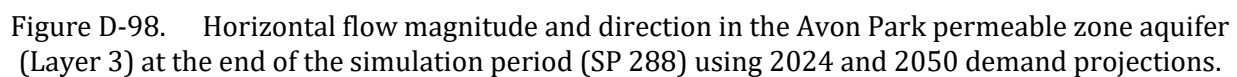


Figure D-97. Horizontal flow magnitude and direction in the Upper Floridan aquifer (Layer 1) at the end of the simulation period (SP 288) using 2024 and 2050 demand estimates.



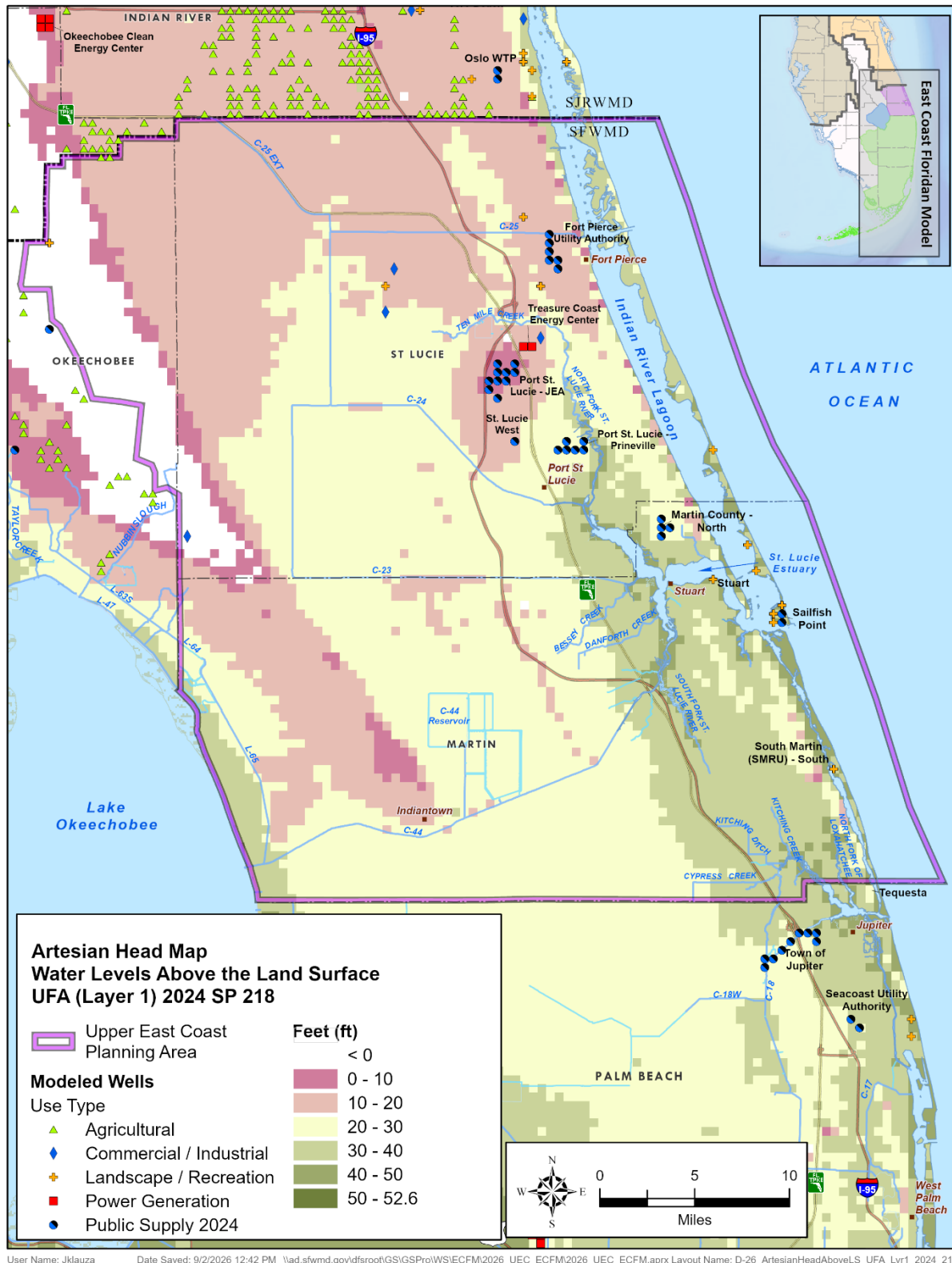


Figure D-99. Artesian heads above land surface in the Upper Floridan aquifer during a dry month (SP 218) of the 2024 scenario.

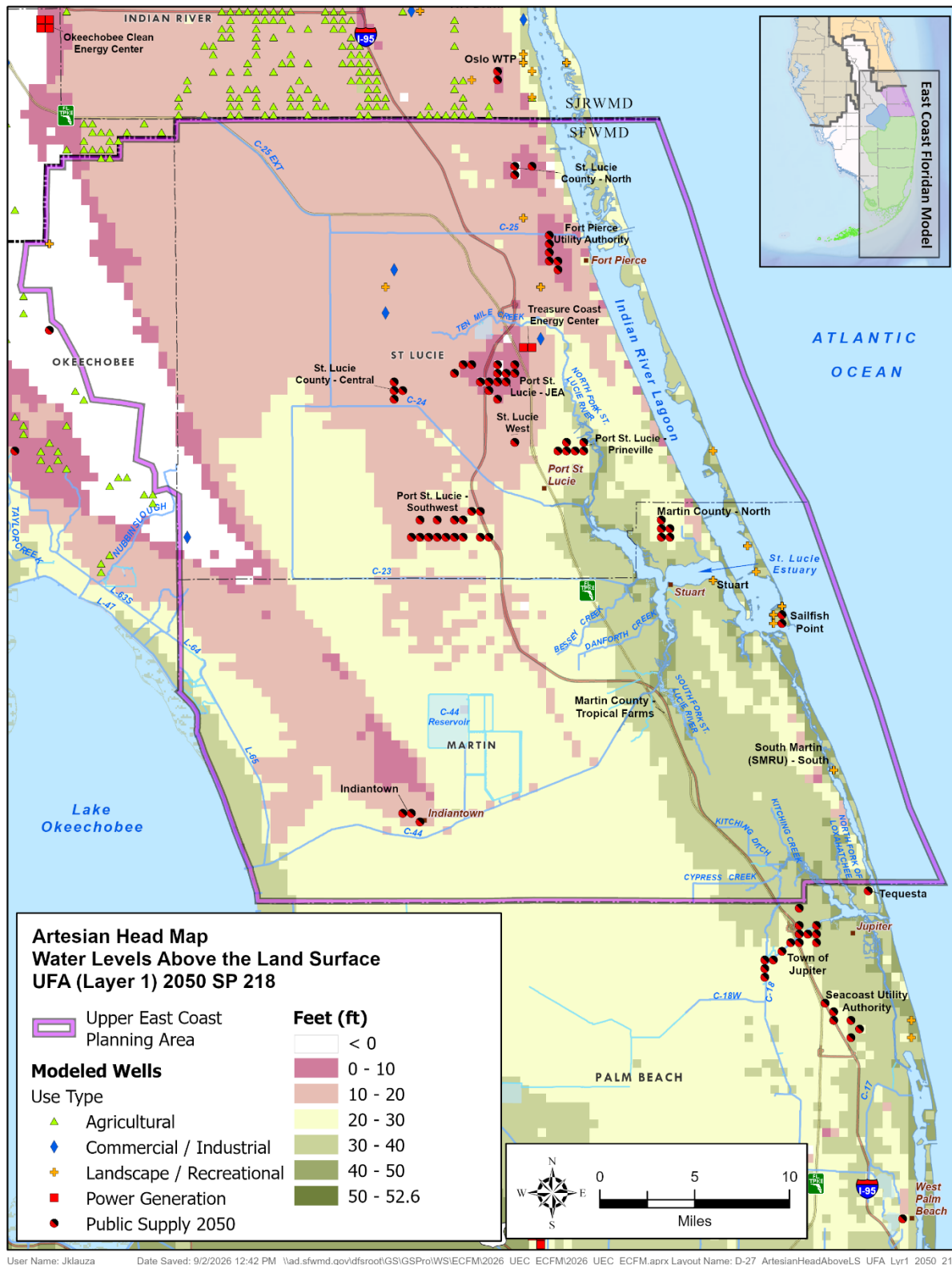


Figure D-100. Artesian heads above land surface in the Upper Floridan aquifer during a dry month (SP 218) of the 2050 scenario.

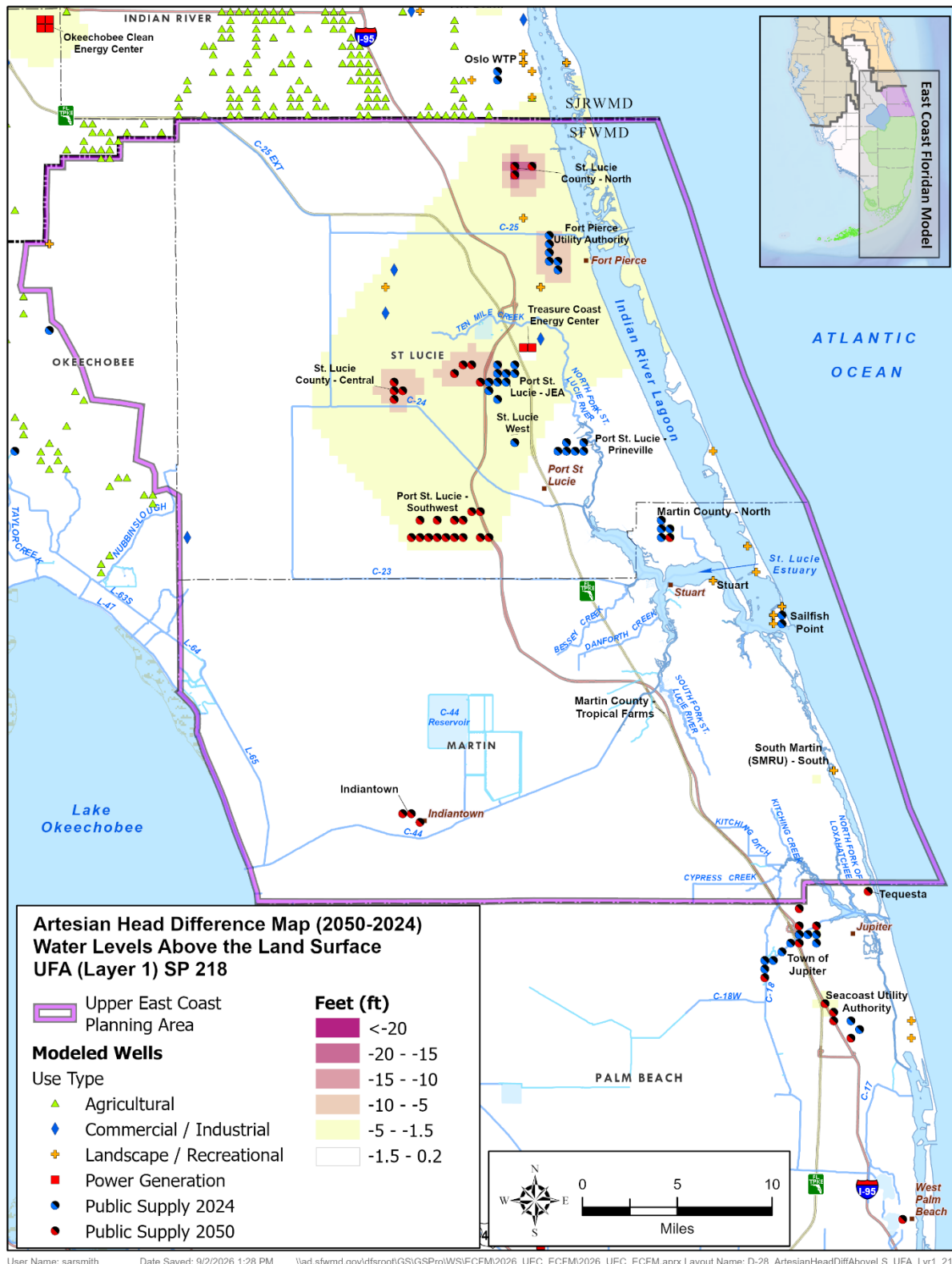


Figure D-101. Difference in artesian heads above land surface in the Upper Floridan aquifer between the 2024 and 2050 scenarios during a dry month (SP 218).

Analysis of Results

The ECFM results presented herein must be considered in the proper context. The ECFM is a regional groundwater flow and transport model and should only be used for planning-level evaluations. Differences in water levels and water quality between scenarios may identify potential water level drawdown or water quality degradation, but scenario limitations should be considered when reviewing results. The model results should be used as indicators for where potential problems could be experienced if no wellfield design or operations plan is implemented to minimize movement of poor-quality water. Despite these limitations, the ECFM results indicated 2050 FAS demands in the UEC Planning Area can be met.

Analysis of the ECFM results indicated the following:

- ◆ Changes in APPZ water levels are due to direct withdrawals (approximately one-quarter of all FAS withdrawals simulated) and withdrawals from the overlying UFA. Where APPZ water levels decline near UFA withdrawals, upward movement of poor-quality water from below is predicted. The degree of confinement between the UFA and APPZ is relatively low, as shown in the simulated drawdowns and water quality changes.
- ◆ The largest projected difference in UFA water level (approximately 25.9 feet of drawdown) between the 2024 and 2050 scenarios was observed at the proposed North wellfield of St. Lucie County Utilities (**Figure D-87**). The 2050 demand simulated at this location is 5.64 mgd, entirely from the UFA.
- ◆ In the UFA, the most notable increase in TDS concentration [3,200 milligrams per liter (mg/L)] between 2024 and 2050 was at the proposed North wellfield of St. Lucie County Utilities. This projected increase is mainly due to anticipated upconing of poor-quality water from the underlying APPZ. Flow vectors also indicated the potential for lateral intrusion in the 2050 scenario.
- ◆ Fort Pierce Utilities Authority's FAS wellfield showed a maximum TDS concentration increase of approximately 500 mg/L. The flow vectors indicated some potential lateral intrusion from the coast in both the 2024 and 2050 scenarios towards the wellfield (**Figure D-97** and **Figure D-98**).
- ◆ There is minimal change in water quality in the UFA throughout most of the model domain through 2050. Some water quality degradation occurs, but much of the change is less than 100 mg/L. Greater than 0.5 ft of drawdown occurred in most of St. Lucie County. Water level and quality changes in the UFA between 2024 and 2050 demands are shown in **Figure D-87** and **Figure D-93**.
- ◆ In the APPZ, some water quality degradation is predicted around the proposed North wellfield for St. Lucie County Utilities and the Port St. Lucie Southwest wellfield. Water quality changes in the APPZ between the 2024 and 2050 scenarios are shown in **Figure D-96**.
- ◆ In the APPZ, water levels generally declined up to 6.7 feet in the 2050 scenario (**Figure D-96**).

- ◆ The areas with the largest water quality changes in the UFA and APPZ (**Figure D-93** and **Figure D-96**) are the areas with the largest withdrawals and water level declines, which result in upconing of poor-quality water from underlying aquifer layers.
- ◆ Artesian heads that flow naturally above land surface showed a noticeable reduction between St. Lucie and Indian River counties, including some areas where head is reduced below land surface. The cumulative effect of pumping from Indian River County Utilities' Oslo wellfield and St. Lucie County Utilities' proposed North wellfield contributes to this simulated effect.

Conclusions

Historical chloride data and the ECFM results indicated that properly designed and managed wellfields appear able to meet projected FAS demands through 2050 in the UEC Planning Area. The planning-level ECFM simulations and analyses conducted to support this 2026 UEC Plan Update are considered conservative and provide insight to potential water level and water quality changes that may occur in the FAS over time if no wellfield design and operations plans are implemented to minimize movement of poor-quality water. The model results identified some isolated potential issues that may require further evaluation. The FAS will continue to provide a substantial and increasing portion of the water needed to meet projected 2050 demands. Water quality should be adequate for all users with reverse osmosis treatment, as needed.

Several FAS wellfields in the UEC Planning Area have experienced some water quality degradation, but historic and current monitor data have shown this can be managed through appropriate wellfield and treatment plant design and operating protocols. A list of wellfield management activities is provided in **Chapter 5**. In addition, monitor wells can provide early warning of the need for changes to wellfield operations to minimize upconing or lateral movement of poor-quality water.

Next Steps

The assumptions used in the ECFM and the potential issues that require further evaluation should be assessed through a coordinated effort with PS utilities, power generation facilities, and other stakeholders. The following suggestions are provided to guide future efforts to ensure long-term sustainability of the FAS.

FAS users should:

- ◆ Implement wellfield designs and operations that increase the sustainability of the FAS (e.g., additional wells with greater spacing between them, reduced pumping from each well to minimize upconing of poor-quality water).
- ◆ Continue to refine wellfield operational plans and communicate these refinements to the SFWMD for incorporation into future ECFM update efforts.
- ◆ Coordinate FAS drilling and testing programs with SFWMD staff prior to drilling to maximize collection of mutually beneficial data.

The SFWMD will:

- ◆ Continue to coordinate with PS utilities to facilitate long-term management of the FAS.
- ◆ Incorporate additional well construction, aquifer test, lithologic, water level, water quality, and other data into the ECFM from monitor wells, water supply wells, and deep injection wells. Packer test results from confining layers would enhance the ECFM's representation of confining layers.
- ◆ Evaluate the effects of water quality degradation on the sustainability of the FAS for existing legal uses. Considerations may include water quality thresholds for membrane treatment processes, treatment costs, clarification of impact criteria, monitoring guidelines, potential for conflicts with other regulatory programs, and, if warranted, regulatory strategies to maintain the viability of the FAS as a water supply source.

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E

Wastewater Treatment Facilities

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WASTEWATER TREATMENT FACILITIES

Wastewater generated by homes and businesses is either directed to an on-site septic tank for treatment and disposal or collected via sanitary sewer and conveyed to a wastewater treatment facility (WWTF) for treatment and disposal or reuse. WWTFs can either be smaller “package plants” to larger, more regional, facilities. This appendix focuses on the larger facilities with a Florida Department of Environmental Protection (FDEP) permitted treatment capacity of 0.10 million gallons per day (mgd) or greater in the Upper East Coast (UEC) Planning Area. These larger treatment facilities allow economy of operation and have sufficient flows that, if properly treated and reused as reclaimed water, could positively impact water resources.



In 2024, there were 20 domestic WWTFs within the UEC Planning Area with a permitted treatment capacity of 0.10 mgd or greater. **Table E-1** lists those WWTFs and shows annual average daily flows for 2024 and projected flows for 2050. **Tables E-2** and **E-3** show 2024 and projected 2050 utilization of reclaimed water and methods of disposal, respectively, for those facilities. **Table E-4** shows 2024 and 2050 methods of wastewater disposal for facilities with capacities of 0.10 mgd or greater. Upon completion, the Fort Pierce Utilities Authority – Mainland WWTF will assume treatment operations currently performed at the Fort Pierce Utilities Authority – Island WWTF, which is planned for decommissioning in 2028.

DATA AND METRICS

Flow data for the 20 facilities permitted for reuse were obtained from the individual reuse inventory reports submitted to FDEP for the year 2024 (FDEP 2024). For all facilities, 2050 flow projections for annual average daily wastewater, reuse, total discharges, and supplemental water are based on data provided by each utility. Future project information, which will increase reclaimed water production capacity, is shown for each facility as provided by the respective utilities.

NOTE

Perceived discrepancies in table totals are due to rounding.

Differences between wastewater flow at a treatment facility and the sum of water reused and disposed from the facility are often due to metering inaccuracies, the addition of post-treatment supplemental water (e.g., membrane concentrate), membrane concentrate disposal, and/or other processes within the treatment facility that can lead to double counting of flows.

Reuse percentage is a metric frequently used when describing reuse facilities and is intended to reflect the amount of reclaimed water reused, relative to the amount of water the facility has potentially available for that purpose. The potential reuse at a facility is equal to the sum of wastewater flows treated at the facility, water imported from another facility, and supplemental water added to the system to meet reclaimed water demands, minus the water exported to another facility. The calculated reuse percentage may also differ slightly from actual reuse flows in some cases due to metering inaccuracies or when one or more system activities occur in which reclaimed water is returned to the treatment train after its use, especially if used at the facility itself.

INFO ⓘ

Reuse Percentage
 A Metric for Reclaimed Water Use Efficiency

$$\text{Reuse Percentage} = \frac{\text{Reuse}}{\text{Potential Reuse}}$$
 Not to Exceed 100%

$$\text{Potential Reuse} = (\text{Wastewater Flows} + \text{Imports} + \text{Supplemental Flows}) - \text{Exports}$$

For the tables that follow, the following acronyms and abbreviations are defined here.

INFO ⓘ

Acronyms and Abbreviations
 BA – basic-level disinfection indicates a facility’s level of effluent disinfection as described in Subsection 62-600.440(5), Florida Administrative Code (F.A.C.)
 FAS – Floridan aquifer system
 FDEP – Florida Department of Environmental Protection
 HB – high-level disinfection and basic-level disinfection for portions of treated flows
 HI – high-level disinfection indicates a facility’s level of effluent disinfection as described in Subsection 62-600.440(6), F.A.C.
 MG – million gallons
 mgd – million gallons per day
 RIB – rapid infiltration basin
 RO – reverse osmosis
 UEC – Upper East Coast
 WWTF – wastewater treatment facility

Table E-1. Summary of 2024 and 2050 wastewater treatment facilities with existing or projected capacities of 0.10 mgd or greater in the UEC Planning Area.

County	Facility	Disinfection Level	FDEP Rated Capacity (mgd)	2024			2050		
				Annual Average Daily Wastewater Flows (mgd)	Annual Average Daily Reuse Flows (mgd)	Reuse Percentage	Annual Average Daily Wastewater Flows (mgd)	Annual Average Daily Reuse Flows (mgd)	Reuse Percentage
Martin	Indiantown	HB	0.75	0.33	0.33	100.0%	2.38	2.38	100.0%
	Martin Correctional Institution	HI	0.37	0.31	0.31	100.0%	0.37	0.37	100.0%
	Martin County Utilities – North	HI	2.76	1.52	0.65	42.8%	1.80	0.65	36.1%
	Martin County Utilities – Tropical Farms	HI	5.90	3.13	1.81	57.8%	5.75	1.81	31.5%
	Sailfish Point	HI	0.12	0.09	0.09	100.0%	0.09	0.09	100.0%
	South Martin Regional Utility	HI	1.40	0.97	1.16	100.0%	1.80	1.80	100.0%
	Stuart	HI	4.00	1.76	0.29	16.5%	1.91	0.32	16.8%
Martin County Total			15.30	8.11	4.64	55.9%	14.10	7.42	52.6%
St. Lucie	Fort Pierce Utilities Authority – Island ^a	BA	10.00	5.33	0.08	1.5%	0.00	0.00	N/A
	Fort Pierce Utilities Authority – Mainland ^b	BA	8.00	0.00	0.00	N/A	10.00	10.00	100.0%
	Harbour Ridge	HI	0.12	0.08	0.08	100.0%	0.08	0.08	100.0%
	Island Dunes	HI	0.12	0.03	0.03	100.0%	0.03	0.03	100.0%
	Meadowood Community Association	HI	0.11	0.06	0.06	100.0%	0.06	0.06	100.0%
	Port St. Lucie – Glades	HI	12.00	6.28	0.19	3.0%	24.00	6.00	25.0%
	Port St. Lucie – Westport	HI	6.00	5.63	1.10	19.5%	5.63	5.40	95.9%
	Savanna Club	BA	0.15	0.07	0.07	100.0%	0.07	0.07	100.0%
	Spanish Lakes Country Club	BA	0.16	0.10	0.10	100.0%	0.10	0.10	100.0%
	Spanish Lakes Fairways	HI	0.25	0.11	0.11	100.0%	0.11	0.11	100.0%
	St. Lucie County Utilities – North Holiday Pines	HB	0.30	0.14	0.14	100.0%	3.12	3.12	100.0%
	St. Lucie County Utilities – North Hutchinson Island	HB	0.85	0.20	0.20	100.0%	0.45	0.45	100.0%
	St. Lucie County Utilities – South Hutchinson Island	HB	1.60	0.29	0.25	86.2%	0.87	0.83	95.4%
	St. Lucie County Utilities – Tropicana ^c	HB	2.00	0.00	0.00	N/A	3.50	2.92	83.4%
	St. Lucie West Services District	HI	2.60	1.52	2.67	99.6%	2.10	2.75	79.7%
St. Lucie County Total			44.26	19.84	5.08	24.2%	50.12	31.92	62.0%
UEC Planning Area Total			59.56	27.95	9.72	33.2%	64.22	39.34	60.0%

^a The Fort Pierce Utility Authority – Island WWTF is set to be decommissioned by 2029.

^b The Fort Pierce Utility Authority – Mainland WWTF was under construction in 2024 and completed in 2025. Reuse flows are anticipated to begin in late 2026.

^c The St. Lucie County Utilities – Tropicana WWTF is proposed to be completed in 2027.

Table E-2. 2024 utilization of reclaimed water (in mgd) from wastewater treatment facilities in the UEC Planning Area with existing or projected capacities of 0.10 mgd or greater.

County	Facility	2024							
		Golf Course Irrigation	Residential Irrigation	Other Irrigation ^a	Groundwater Recharge ^b	Wetlands	Industrial & Other Types of Reuse ^c	Potable Reuse	Reuse Total
Martin	Indiantown	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.33
	Martin Correctional Institution	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.31
	Martin County Utilities – North	0.37	0.22	0.06	0.00	0.00	0.00	0.00	0.65
	Martin County Utilities – Tropical Farms	1.49	0.29	0.03	0.00	0.00	0.00	0.00	1.81
	Sailfish Point	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	South Martin Regional Utility	0.96	0.08	0.11	0.00	0.00	0.01	0.00	1.16
	Stuart	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.29
Martin County Total		2.91	0.59	0.80	0.33	0.00	0.01	0.00	4.64
St. Lucie	Fort Pierce Utilities Authority – Island	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.08
	Fort Pierce Utilities Authority – Mainland ^d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Harbour Ridge	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	Island Dunes	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Meadowood Community Association	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	Port St. Lucie – Glades	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.19
	Port St. Lucie – Westport	1.03	0.07	0.00	0.00	0.00	0.00	0.00	1.10
	Savanna Club	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.07
	Spanish Lakes Country Club	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10
	Spanish Lakes Fairways	0.07	0.00	0.00	0.05	0.00	0.00	0.00	0.11
	St. Lucie County Utilities – North Holiday Pines	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.14
	St. Lucie County Utilities – North Hutchinson Island	0.00	0.18	0.02	0.00	0.00	0.00	0.00	0.20
	St. Lucie County Utilities – South Hutchinson Island	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25
	St. Lucie County Utilities – Tropicana ^e	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	St. Lucie West Services District	0.15	2.52	0.00	0.00	0.00	0.00	0.00	2.67
St. Lucie County Total		1.51	3.03	0.21	0.27	0.00	0.08	0.00	5.08
UEC Planning Area Total		4.42	3.62	1.02	0.60	0.00	0.09	0.00	9.72

^a Other Irrigation includes, for example, parks, schools, and agricultural areas.

^b Groundwater Recharge includes, for example, RIBs, percolation ponds, and sprayfields.

^c Industrial & Other Types of Reuse include, for example, other permitted uses, such as process water at the treatment facility, cooling water, and toilet flushing.

^d The Fort Pierce Utility Authority – Mainland WWTF was under construction in 2024 and completed in 2025. Reuse flows are anticipated to begin in late 2026.

^e The St. Lucie County Utilities – Tropicana WWTF is proposed to be completed in 2027.

Table E-3. 2050 utilization of reclaimed water (in mgd) from wastewater treatment facilities in the UEC Planning Area with existing or projected capacities of 0.10 mgd or greater.

County	Facility	2050							
		Golf Course Irrigation	Residential Irrigation	Other Irrigation ^a	Groundwater Recharge ^b	Wetlands	Industrial & Other Types of Reuse ^c	Potable Reuse	Reuse Total
Martin	Indiantown	0.00	1.68	0.00	0.70	0.00	0.00	0.00	2.38
	Martin Correctional Institution	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.37
	Martin County Utilities – North	0.37	0.22	0.06	0.00	0.00	0.00	0.00	0.65
	Martin County Utilities – Tropical Farms	1.49	0.29	0.03	0.00	0.00	0.00	0.00	1.81
	Sailfish Point	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	South Martin Regional Utility	1.25	0.20	0.20	0.10	0.00	0.05	0.00	1.80
	Stuart	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.32
Martin County Total		3.20	2.39	0.98	0.80	0.00	0.05	0.00	7.42
St. Lucie	Fort Pierce Utilities Authority – Island ^d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fort Pierce Utilities Authority – Mainland ^e	1.00	1.00	0.00	0.00	0.00	7.00	1.00	10.00
	Harbour Ridge	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	Island Dunes	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Meadowood Community Association	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	Port St. Lucie – Glades	4.00	2.00	0.00	0.00	0.00	0.00	0.00	6.00
	Port St. Lucie – Westport	4.00	1.40	0.00	0.00	0.00	0.00	0.00	5.40
	Savanna Club	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.07
	Spanish Lakes Country Club	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10
	Spanish Lakes Fairways	0.07	0.00	0.00	0.05	0.00	0.00	0.00	0.11
	St. Lucie County Utilities – North Holiday Pines	3.12	0.00	0.00	0.00	0.00	0.00	0.00	3.12
	St. Lucie County Utilities – North Hutchinson Island	0.00	0.44	0.01	0.00	0.00	0.00	0.00	0.45
	St. Lucie County Utilities – South Hutchinson Island	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.83
	St. Lucie County Utilities – Tropicana ^f	0.00	2.92	0.00	0.00	0.00	0.00	0.00	2.92
	St. Lucie West Services District	0.15	2.60	0.00	0.00	0.00	0.00	0.00	2.75
St. Lucie County Total		12.51	11.19	0.01	0.22	0.00	7.00	1.00	31.92
UEC Planning Area Total		15.71	13.58	0.99	1.02	0.00	7.05	1.00	39.34

^a Other Irrigation includes, for example, parks, schools, and agricultural areas.

^b Groundwater Recharge includes, for example, RIBs, percolation ponds, and sprayfields.

^c Industrial & Other Types of Reuse include, for example, other permitted uses, such as process water at the treatment facility, cooling water, and toilet flushing.

^d The Fort Pierce Utility Authority – Island WWTF is set to be decommissioned by 2029.

^e The Fort Pierce Utility Authority – Mainland WWTF was under construction in 2024 and completed in 2025. Reuse flows are anticipated to begin in late 2026.

^f The St. Lucie County Utilities – Tropicana WWTF is proposed to be completed in 2027.

Table E-4. 2024 and 2050 methods of wastewater disposal for facilities (in mgd) with existing or projected capacities of 0.10 mgd or greater in the UEC Planning Area.

County	Facility	2024				2050			
		Deep Well Injection	Surface Water Discharge	Other	Total Disposals	Deep Well Injection	Surface Water Discharge	Other	Total Disposals
Martin	Indiantown	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Martin Correctional Institution	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Martin County Utilities – North	0.87	0.00	0.00	0.87	1.15	0.00	0.00	1.15
	Martin County Utilities – Tropical Farms	1.32	0.00	0.00	1.32	3.94	0.00	0.00	3.94
	Sailfish Point	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	South Martin Regional Utility	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Stuart	1.70	0.00	0.00	1.70	1.59	0.00	0.00	1.59
Martin County Total		3.89	0.00	0.00	3.89	6.68	0.00	0.00	6.68
St. Lucie	Fort Pierce Utilities Authority – Island ^a	5.25	0.00	0.00	5.25	0.00	0.00	0.00	0.00
	Fort Pierce Utilities Authority – Mainland ^b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Harbour Ridge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Island Dunes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Meadowood Community Association	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Port St. Lucie – Glades	5.97	0.00	0.00	5.97	18.00	0.00	0.00	18.00
	Port St. Lucie – Westport	4.70	0.00	0.00	4.70	0.23	0.00	0.00	0.23
	Savanna Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Spanish Lakes Country Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Spanish Lakes Fairways	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	St. Lucie County Utilities – North Holiday Pines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	St. Lucie County Utilities – North Hutchinson Island	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	St. Lucie County Utilities – South Hutchinson Island	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
	St. Lucie County Utilities – Tropicana ^c	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.58
	St. Lucie West Services District	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie County Total		15.92	0.04	0.00	15.96	18.81	0.04	0.00	18.85
UEC Planning Area Total		19.81	0.04	0.00	19.85	25.49	0.04	0.00	25.53

^a The Fort Pierce Utility Authority – Island WWTF is set to be decommissioned by 2029.

^b The Fort Pierce Utility Authority – Mainland WWTF was under construction in 2024 and completed in 2025. Reuse flows are anticipated to begin in late 2026.

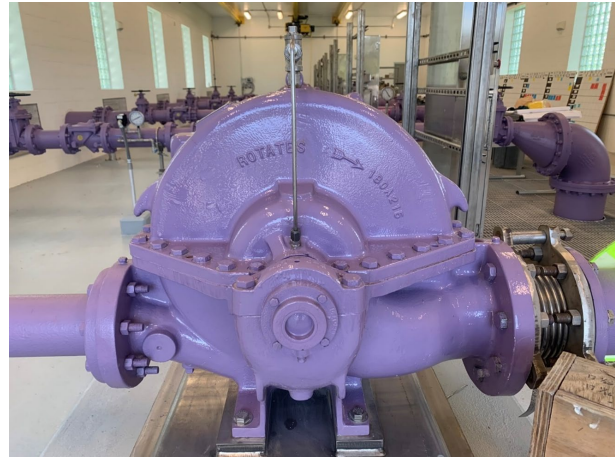
^c The St. Lucie County Utilities – Tropicana WWTF is proposed to be completed in 2027.

WASTEWATER/REUSE FACILITY PROFILES

This section contains profiles for the wastewater/reuse facilities within the UEC Planning Area with a permitted treatment capacity of 0.10 mgd or greater. The profiles are organized by county, then alphabetically by utility, development, or institution. Each profile contains the existing facility information, followed by the existing (2024) and projected (2050) annual average daily flows of wastewater and reclaimed water. Existing capacity and flow information were obtained from the individual reuse inventory reports for the year 2024, filed by each reuse facility to the FDEP (2024).

Flow data from WWTFs not producing reuse were obtained directly from those utilities for the year 2024. Projected flows are based on information obtained from each utility.

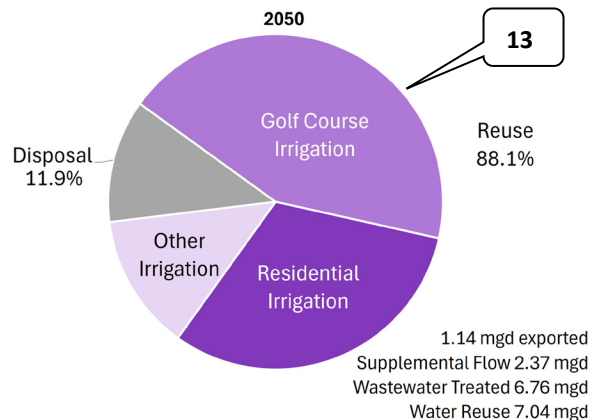
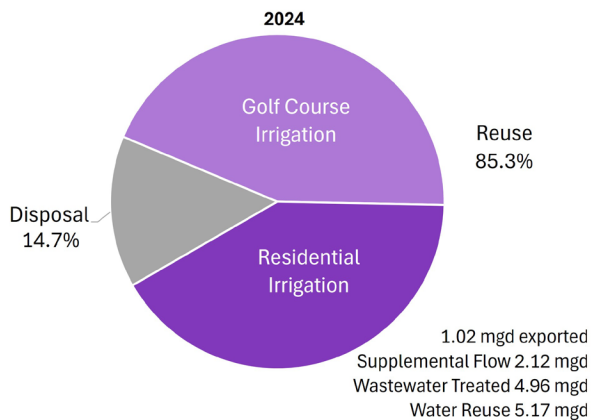
To help understand the information in the facility profiles, a sample profile with descriptions is provided. **Figures E-1** and **E-2** show WWTFs with a permitted treatment capacity of 0.10 mgd or greater in Martin and St. Lucie counties, respectively.



SAMPLE UTILITY NAME

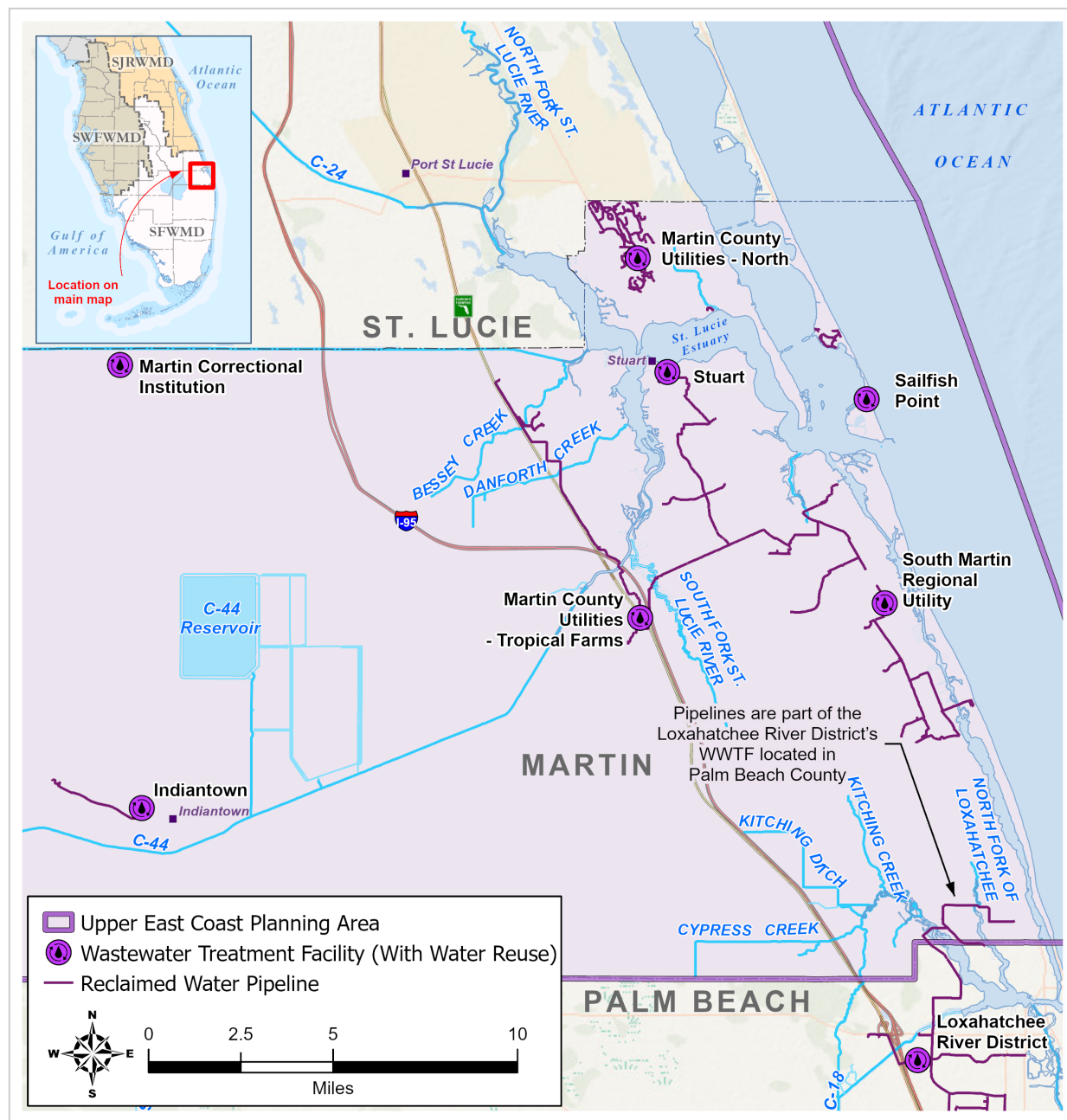
Description: Descriptions may include any of the following types of information and are not limited to service area description, interconnections with other facilities, or significant projects.

Wastewater Treatment Facility Information				1
FDEP Wastewater Facilities Regulation Identification		FLA99999		2
Wastewater Treatment Capacity (mgd)		3	0.90	2
Disinfection		High Level		
Public Access Users Served Reclaimed Water:		4		
Residences – 10,690		Golf Courses – 0		Parks and Schools – 5
Annual Average Daily Flows (mgd)				5
		2024	2050	
Total Wastewater Treated		6	7	
Total Wastewater Disposed		4.96	6.76	
Deep Well Injection		0.89	0.95	
Total Water Reused		0.89	0.89	
Golf Course Irrigation		5.17	7.04	
Residential Irrigation		2.67	3.48	
Other Irrigation		2.51	2.51	
Supplemental to Reclaimed Water		0.00	1.05	
Groundwater		2.12	2.37	
Reuse Percentage		85.3%	10	88.1%
Facility Water Imports/Exports (mgd)				
Importing/Exporting Facility(ies)		11	1.02 – Sea Grape WWTF	1.14 – Sea Grape WWTF
Reclaimed Water Project Summary				
Project Name		Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
WWTF Phase II Expansion		2025	\$6.5	1.25



1	FDEP Wastewater Facilities Regulation Identification – A unique identification number assigned by the FDEP to each domestic WWTF or master reuse system; it is also the first part of each facility’s permit number.
2	Wastewater Treatment Capacity – The capacity of the WWTF to produce treated wastewater as permitted by the FDEP, presented in mgd.
3	Disinfection – This represents the disinfection level at the facility: basic level, as described in Subsection 62-600.440(5), F.A.C., and high level, as described in Subsection 62-600.440(6), F.A.C.
4	Public Access Users Served Reclaimed Water – Indicates the number of reclaimed water recipients in the following classes: Residences, Golf Courses, Parks and Schools.
5	Annual Average Daily Flows – Flows in mgd composed of items 6, 7, 8, and 9 (below) and shown for the planning base year and the final year of the planning period.
6	Total Wastewater Treated – The net (treated) wastewater flows in mgd.
7	Total Wastewater Disposed – Wastewater flows in mgd not reused or sent to another facility and categorized by the following disposal types: Deep or Shallow Well Injection, Surface Water Discharge, Coastal or Estuarine, and Wetlands.
8	Total Water Reused – Application (reuse) of treated wastewater in mgd and categorized by the following reuse types: Golf Course Irrigation; Residential Irrigation; Other Irrigation (e.g., parks, schools, and agricultural areas); Groundwater Recharge (e.g., RIBs, percolation ponds, and sprayfields); Wetlands (reuse for recharge and hydroperiod management); Industrial (including, but not limited to, use at the facility as part of treatment operations or at another facility, primarily for industrial cooling); Other (including, but not limited to, toilet flushing and other processes); and Potable Reuse. All flows are shown in mgd. Total water reused includes supplemental water blended with treated wastewater.
9	Supplemental to Reclaimed Water – Supplemental flows added to reclaimed water to meet high-demand periods. Supplemental sources can include, but may not be limited to, Demineralized Concentrate, Drinking Water, Groundwater, Stormwater, and Surface Water. All flows are shown in mgd.
10	Reuse Percentage – A metric used when describing reuse facilities and intended to reflect the amount of water reused when compared with the amount of water available for reuse. $\text{Reuse Percentage} = \text{Reuse} / \text{Potential Reuse}$, where $\text{Potential Reuse} = (\text{Wastewater Flows} + \text{Imports} + \text{Supplemental Flows}) - \text{Exports}$.
11	Facility Water Imports/Exports – Indicates whether the flows, shown in mgd, are an Import or Export, the facility sending flows to the profiled facility (for Imports) or receiving flows from the profiled facility (for Exports). These flows are treated wastewater unless noted otherwise.
12	Reclaimed Water Project Summary – Information on utility-forecasted projects that will result in increased reclaimed water production capacity, including Project Name, Completion Date (anticipated), Total Capital Cost (in \$ millions), and Added Capacity (in mgd).
13	Pie Graphs – Showing planning base year and final planning year (projected) reuse and disposal flows as well as percentages and categorization of flows for the relevant reuse types.

MARTIN COUNTY



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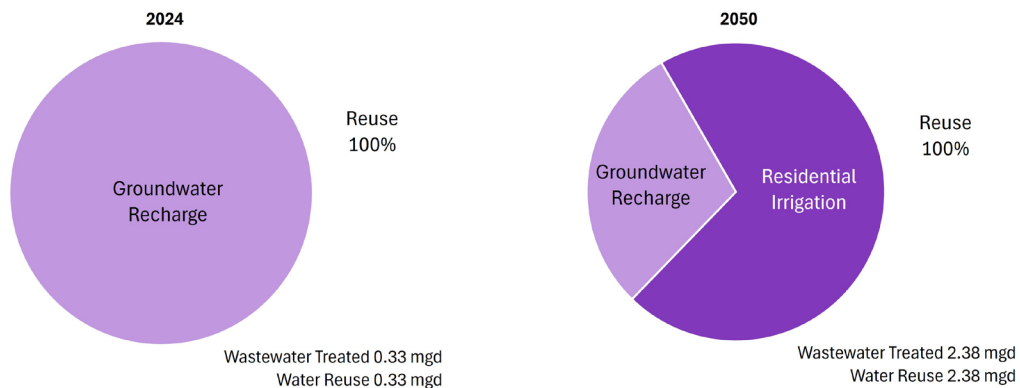
Figure E-1. Wastewater and reuse facilities in Martin County.

INDIANTOWN

Description: The treatment facility draws wastewater from the Village of Indiantown collection system. The facility's operational permit was transferred from the Indiantown Company to the Village of Indiantown in June 2020. The WWTF provides wastewater services to approximately 1,800 residences and businesses in the village. Reclaimed water from the facility is currently sent to on-site RIBs for recharge. After ongoing WWTF improvements are completed, the new WWTF will have a treatment capacity of 2.0 mgd, with public access reuse capacity of 2.0 mgd.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA029939	
Wastewater Treatment Capacity (mgd)		0.75	
Disinfection		Basic Level to RIBs High Level to Off-Site (after 2026)	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.33	2.38
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.33	2.38
Residential Irrigation		0.00	1.68
Groundwater Recharge		0.33	0.70
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Indiantown WWTF Rehabilitation and 1.25 mgd Expansion	2026	\$22.50 million	1.25 mgd (0.75 to 2.00 mgd)
Indiantown WWTF Improvements to Provide 2.00 mgd of Public Access Irrigation	2026	\$2.50 million	0.00 ^a

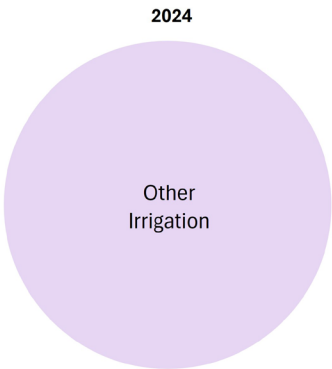
^a Infrastructure projects that do not generate additional water supplies are not counted as adding treatment capacity.



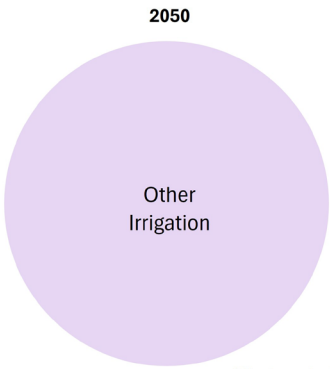
MARTIN CORRECTIONAL INSTITUTION

Description: The treatment facility provides wastewater services to Martin Correctional Institution. Most of the reclaimed water is used for toilet flushing and laundry. The remaining reclaimed water is used on a sprayfield or for crops. A lined storage pond is available for emergency flows.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013881	
Wastewater Treatment Capacity (mgd)		0.37	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		0.31	0.37
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.31	0.37
Other Irrigation (e.g., parks, schools, and agricultural areas)		0.31	0.37
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name		Completion Date	Total Capital Cost (\$ million)
			Added Capacity (mgd)
No Projects			



Wastewater Treated 0.31 mgd
Water Reuse 0.31 mgd

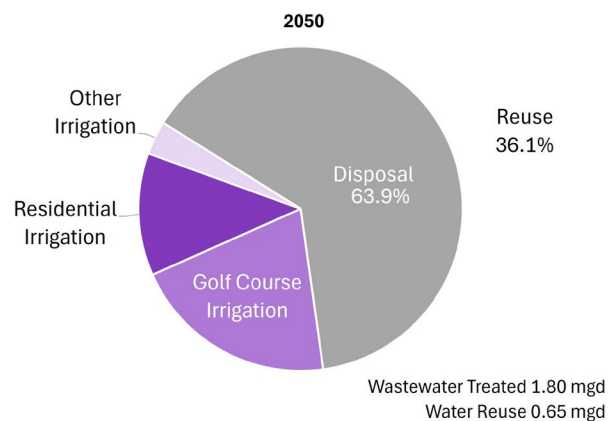
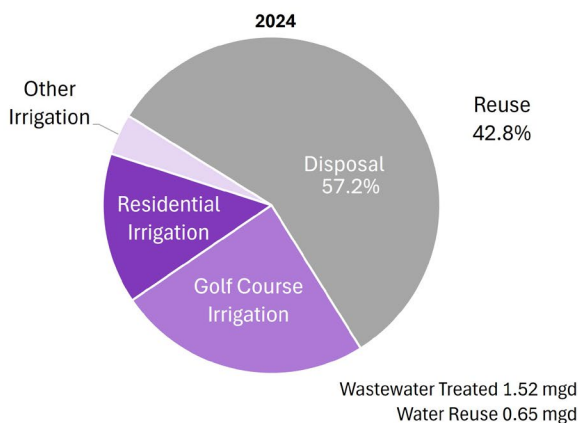


Wastewater Treated 0.37 mgd
Water Reuse 0.37 mgd

MARTIN COUNTY UTILITIES – NORTH

Description: The treatment facility provides reclaimed water for irrigation of a golf course, residences, a park, and a school. Treated wastewater that is not reused is disposed of through an on-site deep injection well.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA043192	
Wastewater Treatment Capacity (mgd)		2.76	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 1,000	Golf Courses – 1	Parks and Schools – 2	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		1.52	1.80
Total Wastewater Disposed		0.87	1.15
Deep Well Injection		0.87	1.15
Total Water Reused		0.65	0.65
Golf Course Irrigation		0.37	0.37
Residential Irrigation		0.22	0.22
Other Irrigation (e.g., parks, schools, and agricultural areas)		0.06	0.06
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		42.8%	36.1%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



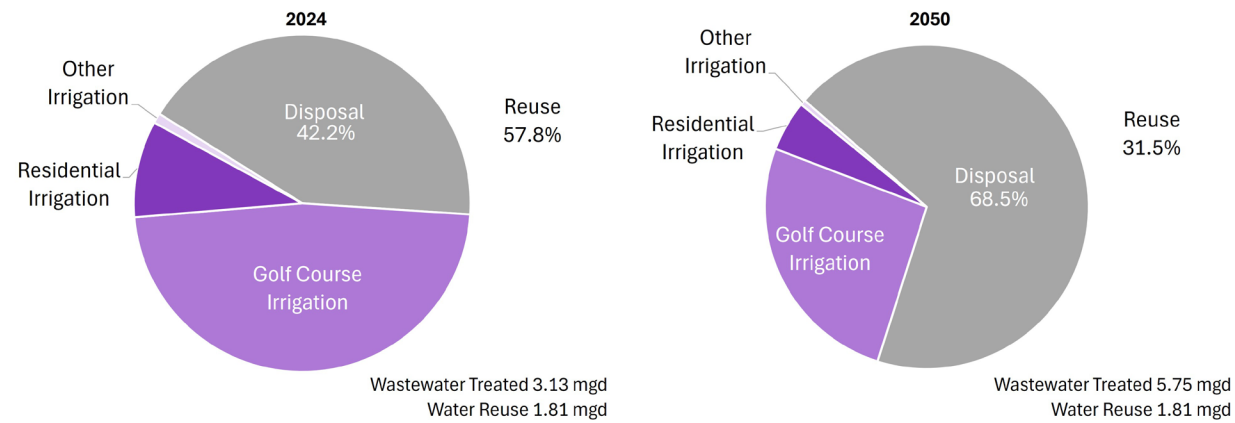
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MARTIN COUNTY UTILITIES – TROPICAL FARMS

Description: The treatment facility provides reclaimed water for irrigation of golf courses, residences, and one park. In some cases, reclaimed water is delivered to golf course lakes for irrigation: two lakes at The Florida Club golf course, one at the Martin Downs Country Club Osprey Creek Course, and one at the Willoughby Golf Club. Three surficial aquifer system wells at the Martin Downs Country Club are available to supplement the supply of reclaimed water. Treated wastewater not reused is disposed of through deep well injection.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FL0043214	
Wastewater Treatment Capacity (mgd)		5.90	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 429	Golf Courses – 8	Parks and Schools – 1	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		3.13	5.75
Total Wastewater Disposed		1.32	3.94
Deep Well Injection		1.32	3.94
Total Water Reused		1.81	1.81
Golf Course Irrigation		1.49	1.49
Residential Irrigation		0.29	0.29
Other Irrigation (e.g., parks, schools, and agricultural areas)		0.03	0.03
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		57.8%	31.5%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Tropical Farms WWTF Advanced Wastewater Treatment Pilot Project	2028	1.00	0.00 ^a

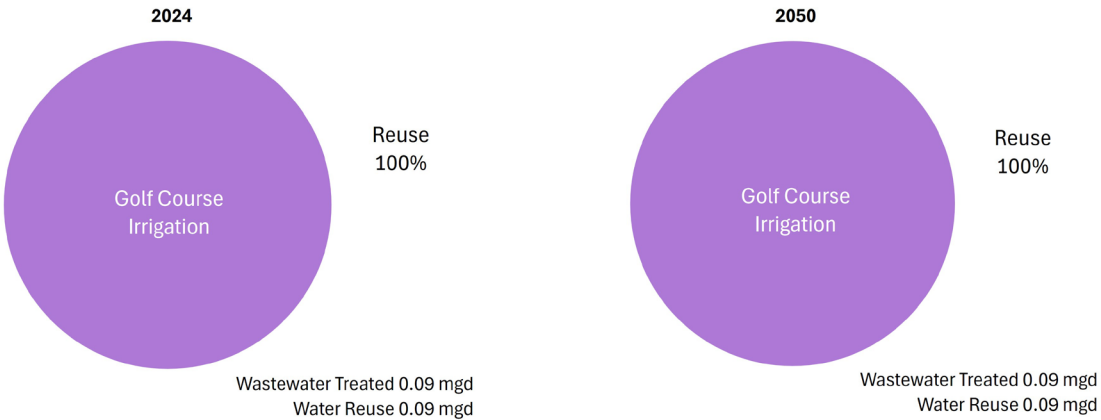
^a Infrastructure projects that do not generate additional water supplies are not counted as adding treatment capacity.



SAILFISH POINT

Description: The treatment facility provides reclaimed water for irrigation of the Sailfish Point Golf Club. Any treated wastewater from the facility that does not meet standards is diverted to an on-site storage tank, then pumped back to the facility headworks. The facility and service area are at buildout; no growth is expected.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA017466	
Wastewater Treatment Capacity (mgd)		0.12	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 1	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		0.09	0.09
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.09	0.09
Golf Course Irrigation		0.09	0.09
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name		Completion Date	Total Capital Cost (\$ million)
			Added Capacity (mgd)
No Projects			



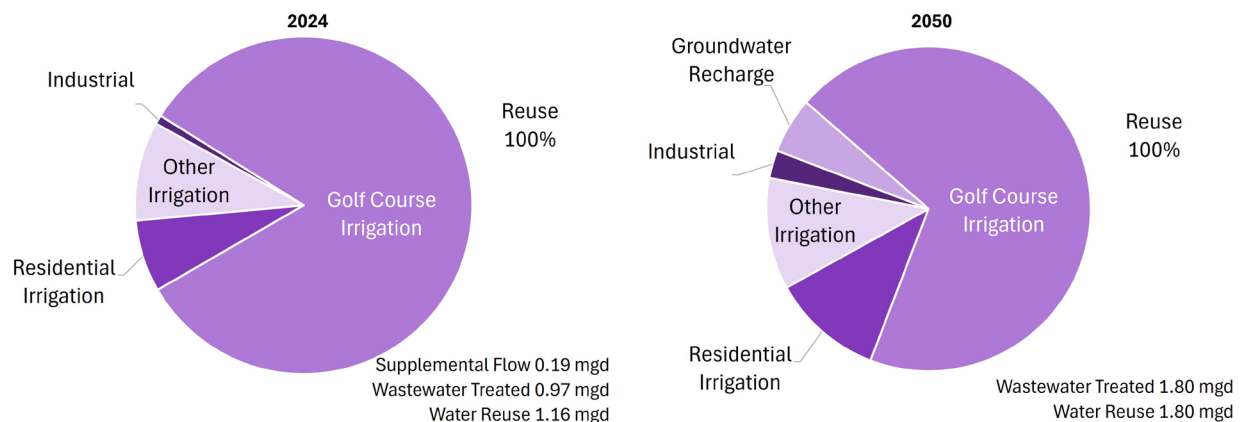
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SOUTH MARTIN REGIONAL UTILITY

Description: The treatment facility draws wastewater from the Hobe Sound area and portions of Jupiter Island. The treatment facility provides reclaimed water to irrigate golf courses, schools, and residences. If needed, reclaimed water that is not reused can be applied to two on-site percolation ponds.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013859	
Wastewater Treatment Capacity (mgd)		1.40	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 75	Golf Courses – 4	Parks and Schools – 1	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.97	1.80
Total Wastewater Disposed		0.00	0.00
Total Water Reused ^a		1.16	1.80
Golf Course Irrigation		0.96	1.25
Residential Irrigation		0.08	0.20
Other Irrigation (e.g., parks, schools, and agricultural areas)		0.11	0.20
Industrial		0.01	0.05
Groundwater Recharge		0.00	0.10
Supplemental to Reclaimed Water Groundwater		0.19	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Expand WWTF by 0.20 mgd	2026	\$1.26	0.20

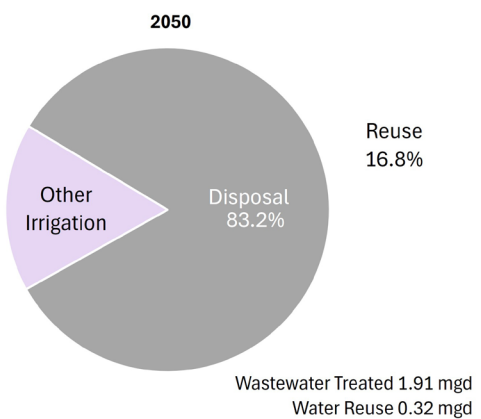
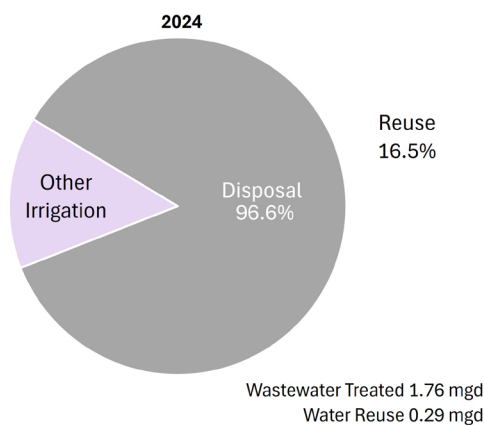
^a Includes supplemental water blended with treated wastewater.



STUART

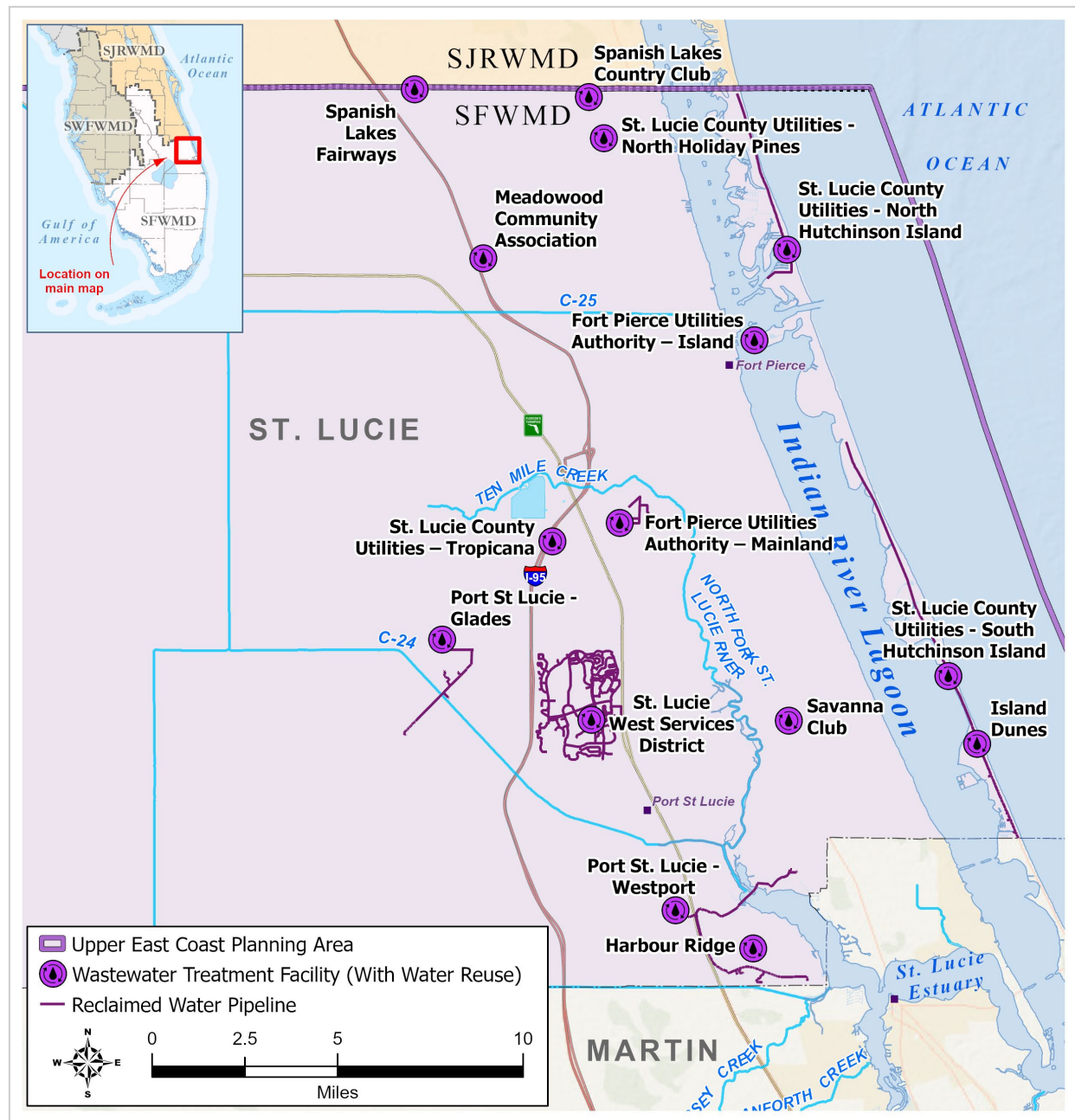
Description: The treatment facility draws wastewater from the City of Stuart service area. The facility is permitted to provide reclaimed water for public access irrigation, including golf courses, parks, and schools. Currently, irrigation with reclaimed water is used solely for irrigation of parks. Treated water that is not reused is disposed of through deep well injection.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA041459	
Wastewater Treatment Capacity (mgd)		4.00	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 4	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	1.76	1.91	
Total Wastewater Disposed	1.70	1.59	
Deep Well Injection	1.70	1.59	
Total Water Reused	0.29	0.32	
Other Irrigation (e.g., parks, schools, and agricultural areas)	0.29	0.32	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	16.5%	16.8%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



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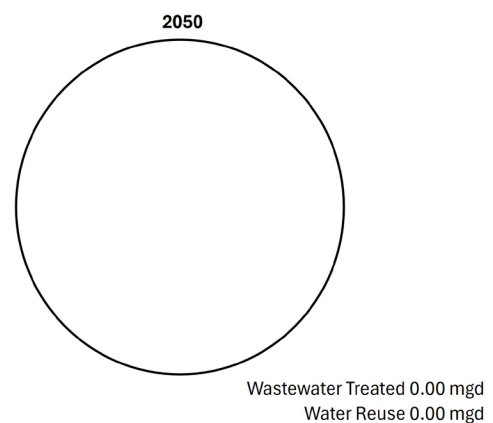
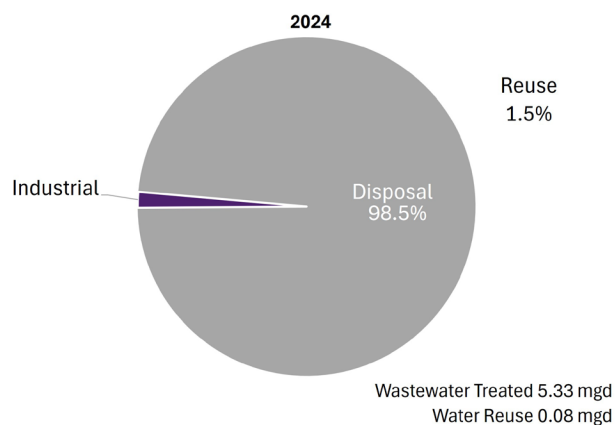
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Figure E-2. Wastewater and reuse facilities in St. Lucie County.

FORT PIERCE UTILITY AUTHORITY – ISLAND

Description: The treatment facility draws wastewater from the City of Fort Pierce service territory. Treated wastewater from the facility is disposed of through deep well injection. Infrequently during testing, discharge is permitted to the Indian River Lagoon. A small amount of the treated water is used at the facility for industrial purposes. The WWTF is set to be decommissioned by 2029.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FL0027278	
Wastewater Treatment Capacity (mgd)		10.00	
Disinfection		Basic Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	5.33	0.00	
Total Wastewater Disposed	5.25	0.00	
Deep Well Injection	5.25	0.00	
Total Water Reused	0.08	0.00	
Industrial	0.08	0.00	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	1.5%	0.0%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			

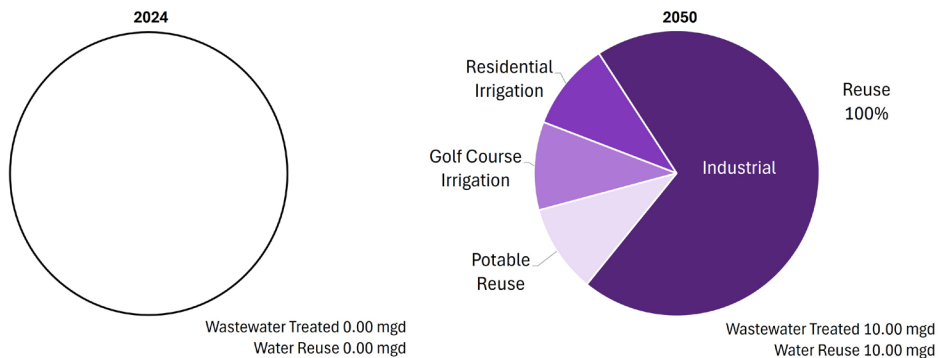


FORT PIERCE UTILITY AUTHORITY – MAINLAND

Description: The treatment facility will draw wastewater from the City of Fort Pierce service territory). Reclaimed water from this facility will be applied/used at the neighboring Treasure Coast Energy Center. The Fort Pierce Utility Authority – Mainland WWTF was under construction in 2024 and completed in 2025. Reuse flows are anticipated to begin in late 2026.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLAB07339	
Wastewater Treatment Capacity (mgd)		8.00	
Disinfection		Basic Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.00	10.00
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.00	10.00
Golf Course Irrigation		0.00	1.00
Residential Irrigation		0.00	1.00
Industrial		0.00	7.00
Potable Reuse		0.00	1.00
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		0.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Mainland WWTF Expansions, 2.50 mgd (2035), 2.50 mgd (2050)	2035-2050	\$5.00	5.00
3.20 MG Storage Tank for Supplemental Reclaimed Water Supply	2035	\$3.00	0.00 ^a
2.50 mgd Mainland WWTF Potable Reuse RO Treatment Train	2040	\$5.00	2.50

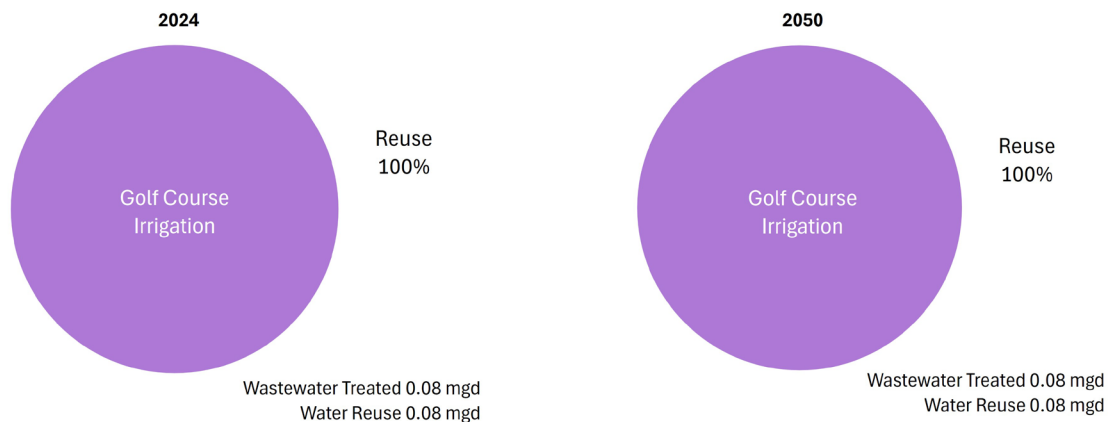
^a Infrastructure projects that do not generate additional water supplies are not counted as adding treatment capacity.



HARBOUR RIDGE

Description: The treatment facility provides reclaimed water to a holding pond used for irrigation of the Harbour Ridge Yacht & Country Club golf course. If needed, the treated wastewater can be diverted to an on-site percolation pond.

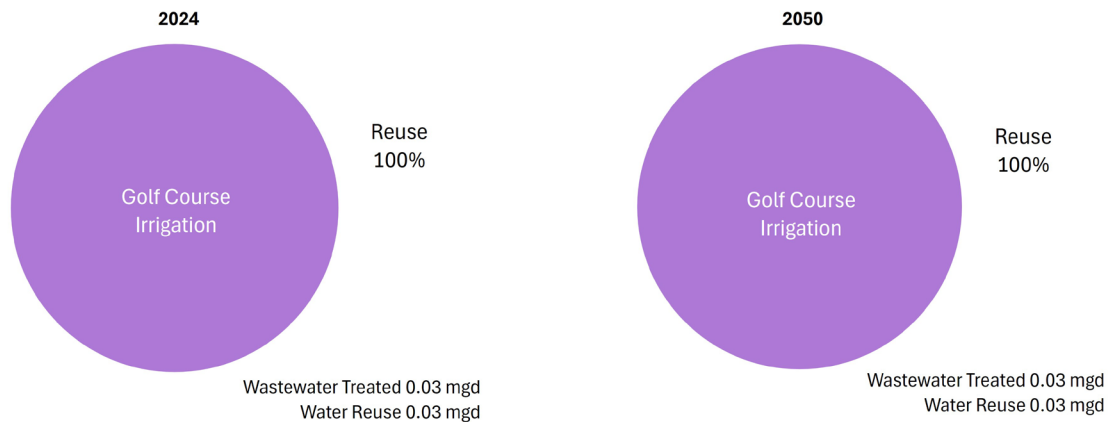
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013986	
Wastewater Treatment Capacity (mgd)		0.12	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 2	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.08	0.08
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.08	0.08
Golf Course Irrigation		0.08	0.08
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



ISLAND DUNES

Description: The treatment facility provides reclaimed water to a lined storage pond that is used to irrigate the Island Dunes Country Club golf course. If necessary, a second on-site lined storage pond is available for reject water.

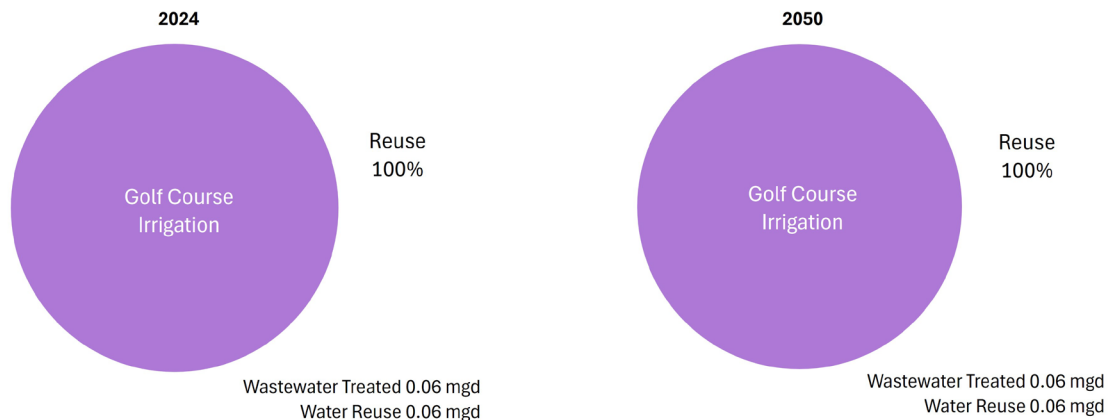
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013980	
Wastewater Treatment Capacity (mgd)		0.12	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 1	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		0.03	0.03
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.03	0.03
Golf Course Irrigation		0.03	0.03
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name		Completion Date	Total Capital Cost (\$ million)
			Added Capacity (mgd)
No Projects			



MEADOWOOD COMMUNITY ASSOCIATION

Description: Reclaimed water from the treatment facility is used for irrigation at the Meadowood Golf & Tennis Club golf course. If needed, treated wastewater can be diverted to an on-site percolation pond.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013982	
Wastewater Treatment Capacity (mgd)		0.11	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 1	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	0.06	0.06	
Total Wastewater Disposed	0.00	0.00	
Total Water Reused	0.06	0.06	
Golf Course Irrigation	0.06	0.06	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	100.0%	100.0%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



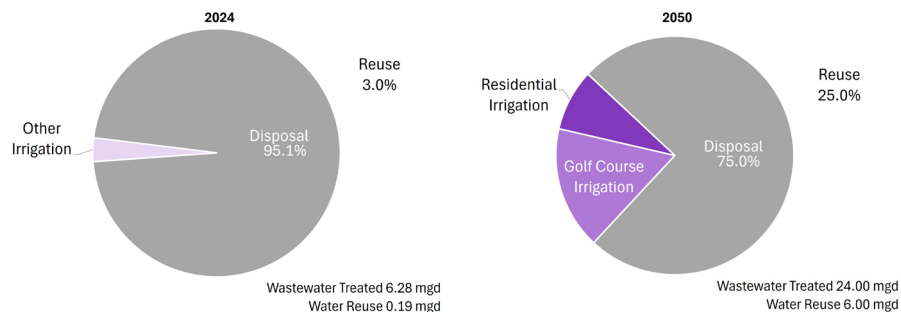
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PORT ST. LUCIE – GLADES

Description: The treatment facility draws wastewater from west of the Florida Turnpike within the City of Port St. Lucie city limits. The Glades facility uses reclaimed water mostly for on-site purposes. Most of the treated wastewater is disposed of through an on-site deep injection well, with a permit for alternate disposal at the James E. Anderson water treatment plant's deep injection well. The facility is permitted to use reclaimed water for urban irrigation, and 564 homes in 310 acres of Copper Creek have been added to the system. An additional 10,000 acres will be online over the next few years.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA326321	
Wastewater Treatment Capacity (mgd)		12.00	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 564	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		6.28	24.00
Total Wastewater Disposed		5.97	18.00
Deep Well Injection		5.97	18.00
Total Water Reused		0.19	6.00
Golf Course Irrigation		0.00	4.00
Residential Irrigation		0.00	2.00
Other Irrigation (e.g., parks, schools, and agricultural areas)		0.19	0.00
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		3.0%	25.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Glades WWTF 12.00 mgd Deep Injection Well	2027	\$16.00	0.00 ^a
Westport to Glades 6.00 mgd Force Main	2028	\$17.51	0.00 ^a
Glades 12 to 24 mgd WWTF Expansion	2031	\$400.00	12.00
Glades WWTF 12.00 mgd High Service Pump	2031	\$6.50	0.00 ^a
Glades WWTF 12.00 MG Storage	2031	\$32.00	0.00 ^a

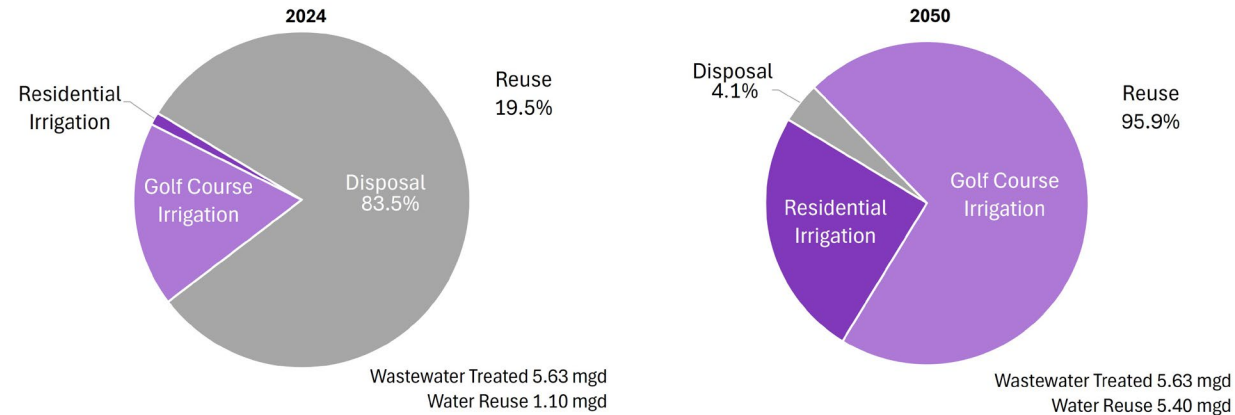
^a Infrastructure projects that do not generate additional water supplies are not counted as adding treatment capacity.



PORT ST. LUCIE – WESTPORT

Description: The treatment facility draws wastewater from east of the Florida Turnpike within the City of Port St. Lucie city limits. The facility provides reclaimed water to four golf courses: Floridian National Golf Club, Santa Lucia River Club golf course at Ballantrae, Tesoro Club, and Veranda Gardens. Three on-site percolation ponds are available, if needed. The remaining treated wastewater is disposed of through deep well injection.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA139653	
Wastewater Treatment Capacity (mgd)		6.00	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 2,364	Golf Courses – 4	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	5.63	5.63	
Total Wastewater Disposed	4.70	0.23	
Deep Well Injection	4.70	0.23	
Total Water Reused	1.10	5.40	
Golf Course Irrigation	1.03	4.00	
Residential Irrigation	0.07	1.40	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	19.5%	95.9%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			

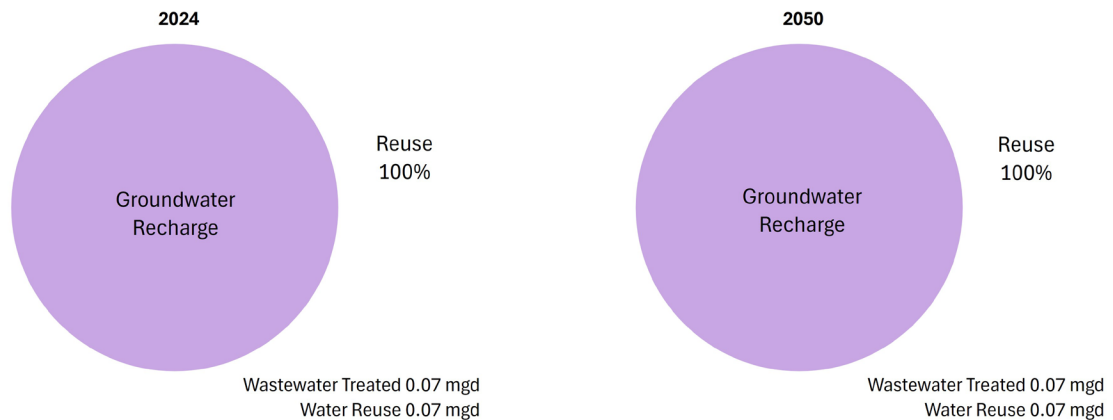


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SAVANNA CLUB

Description: Chlorinated effluent from the treatment facility is discharged alternately to two percolation ponds. The facility and service area are at buildout; no growth is expected.

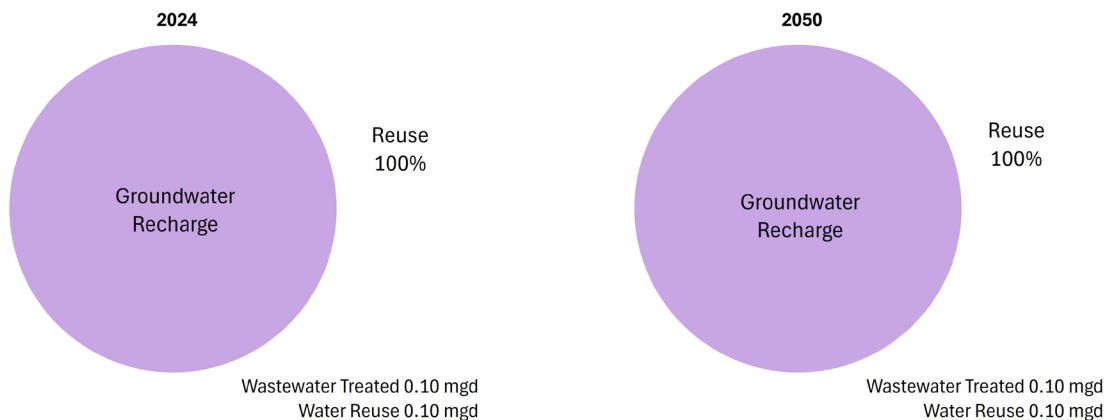
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013958	
Wastewater Treatment Capacity (mgd)		0.15	
Disinfection		Basic Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.07	0.07
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.07	0.07
Groundwater Recharge		0.07	0.07
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



SPANISH LAKES COUNTRY CLUB

Description: The source wastewater to this treatment facility comes from the Spanish Lakes Country Club Village residential community. Treated wastewater from the facility is sent to an absorption field system consisting of three drainfields and two percolation ponds. The facility and service area are at buildout; no growth is expected.

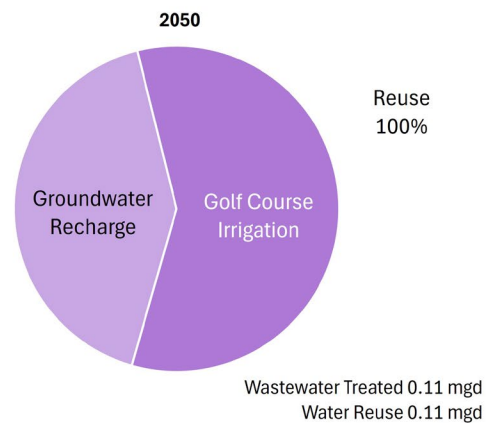
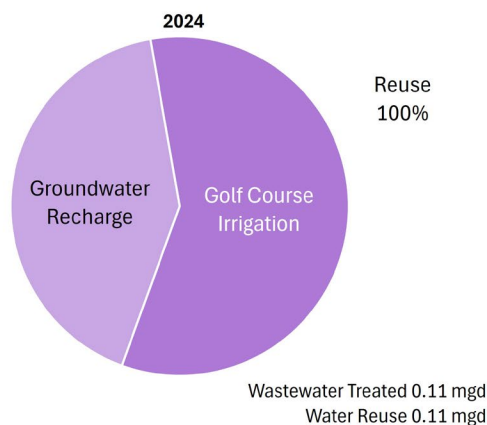
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013977	
Wastewater Treatment Capacity (mgd)		0.16	
Disinfection		Basic Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		0.10	0.10
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.10	0.10
Groundwater Recharge		0.10	0.10
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



SPANISH LAKES FAIRWAYS

Description: The source wastewater to this treatment facility comes from the Spanish Lakes Fairways residential community. The facility provides reclaimed water to the Spanish Lakes Fairways golf course. A lined storage pond at the facility is available for storage. Three percolation ponds for groundwater recharge are an alternative application of reclaimed water. The facility and service area are at buildout; no growth is expected.

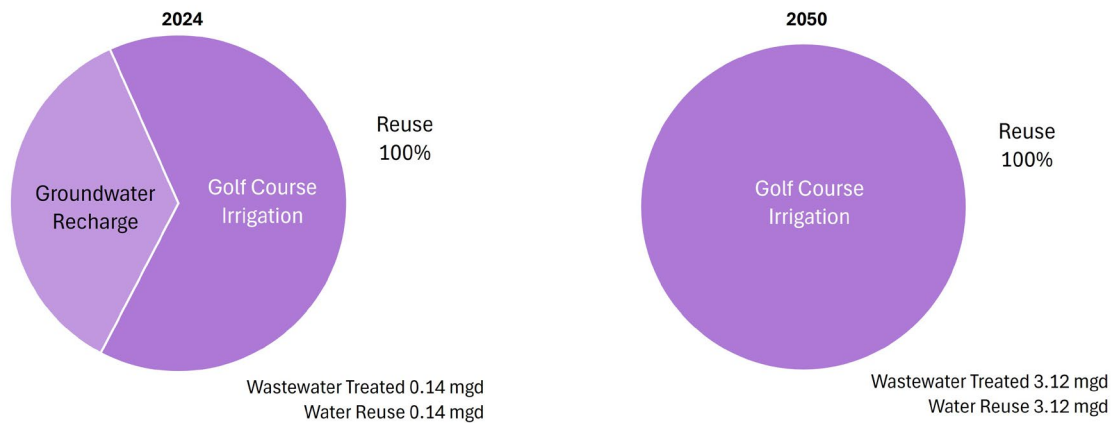
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013998	
Wastewater Treatment Capacity (mgd)		0.25	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 1	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	0.11	0.11	
Total Wastewater Disposed	0.00	0.00	
Total Water Reused	0.11	0.11	
Golf Course Irrigation	0.07	0.07	
Groundwater Recharge	0.05	0.05	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	100.0%	100.0%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



ST. LUCIE COUNTY UTILITIES – NORTH HOLIDAY PINES

Description: The treatment facility provides reclaimed water for irrigation at the Island Pines Golf Club. Excess reclaimed water and any treated wastewater not meeting standards is diverted to six on-site RIBs for groundwater recharge. The site will be expanded as wastewater demands grow in the northern portion of the county. The groundwater recharge will be eliminated with the Phase 2 expansion with all effluent sent to the Island Pines and Fairwinds golf courses. Excess effluent will be diverted to a deep injection well located at Taylor Dairy water treatment plant.

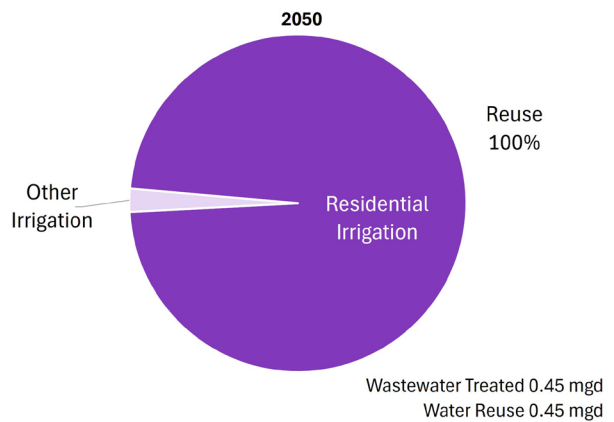
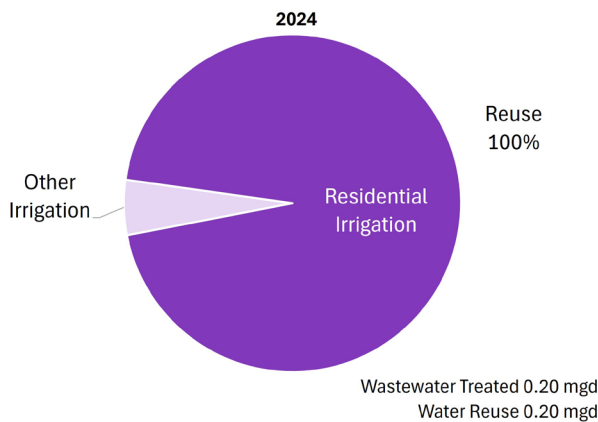
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013969	
Wastewater Treatment Capacity (mgd)		0.30	
Disinfection		High and Basic Levels	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 1	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
		2024	2050
Total Wastewater Treated		0.14	3.12
Total Wastewater Disposed		0.00	0.00
Total Water Reused		0.14	3.12
Golf Course Irrigation		0.09	3.12
Groundwater Recharge		0.05	0.00
Supplemental to Reclaimed Water		0.00	0.00
Reuse Percentage		100.0%	100.0%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0.00	0.00
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Holiday Pines WWTF 0.60 mgd to 1.20 mgd Expansion – Phase 2	2028	\$24.80	0.60
Holiday Pines WWTF Expansion from 1.20 to 3.00 mgd – Phase 3	2030	\$30.00	1.80



ST. LUCIE COUNTY UTILITIES – NORTH HUTCHINSON ISLAND

Description: The treatment facility provides reclaimed water for irrigation of multifamily residential units, Pepper Park Beachside, and for dune line irrigation and restoration.

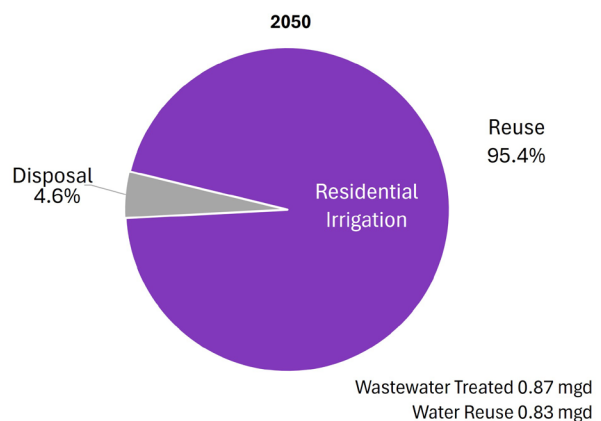
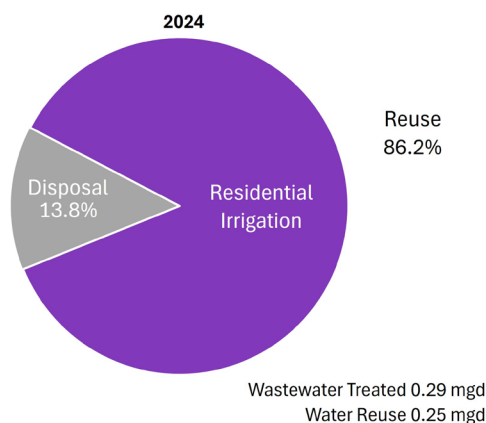
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013946	
Wastewater Treatment Capacity (mgd)		0.85	
Disinfection		High and Basic Levels	
Public Access Users Served Reclaimed Water 2024:			
Residences – 30	Golf Courses – 0	Parks and Schools – 1	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	0.20	0.45	
Total Wastewater Disposed	0.00	0.00	
Total Water Reused	0.20	0.45	
Residential Irrigation	0.18	0.44	
Other Irrigation (e.g., parks, schools, and agricultural areas)	0.01	0.01	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	100.0%	100.0%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



ST. LUCIE COUNTY UTILITIES – SOUTH HUTCHINSON ISLAND

Description: The treatment facility provides reclaimed water from the St. Lucie/Martin county line north to the limits of the WWTF's service area. Major users include the Island Development Group, Ocean Development, Inc., John Brooks Park, and Frederick Douglass Memorial Park. The WWTF has a permit to discharge effluent into Florida Power & Light's discharge canal, which flows to the Atlantic Ocean, as backup disposal to irrigation.

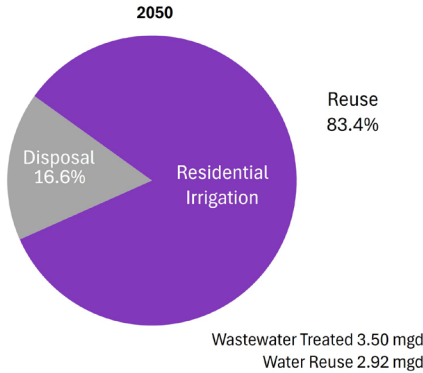
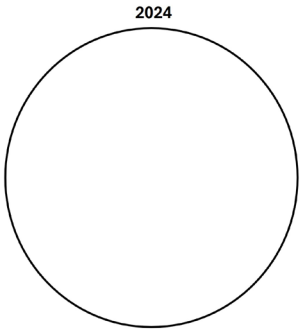
Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FL0139475	
Wastewater Treatment Capacity (mgd)		1.60	
Disinfection		High and Basic Levels	
Public Access Users Served Reclaimed Water 2024:			
Residences – 74	Golf Courses – 0	Parks and Schools – 0	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	0.29	0.87	
Total Wastewater Disposed	0.04	0.04	
Surface Water Discharge	0.04	0.04	
Total Water Reused	0.25	0.83	
Residential Irrigation	0.25	0.83	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	86.2%	95.4%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			



ST. LUCIE COUNTY UTILITIES –TROPICANA

Description: The treatment facility is being expanded into a regional wastewater treatment and reclamation facility with completion anticipated as early as 2027. The facility will serve existing and planned development in central and southern St. Lucie County, including Oak Ridge Ranches and the proposed Koa Bay, and will retain capacity for industrial flows from the Tropicana facility. Effluent will be disposed of via deep well injection until domestic flows increase, at which point the facility will transition to 100% reuse. The next expansion is anticipated in 2036.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA014029	
Wastewater Treatment Capacity (mgd)		2.0	
Disinfection		High and Basic Levels	
Public Access Users Served Reclaimed Water 2024:			
Residences – 0	Golf Courses – 0	Parks and Schools – 1	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated	0.00	3.50	
Total Wastewater Disposed	0.00	0.58	
Deep Well Injection	0.00	0.58	
Total Water Reused	0.00	2.92	
Residential Irrigation	0.00	2.92	
Supplemental to Reclaimed Water	0.00	0.00	
Reuse Percentage	0.0%	83.4%	
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)	0.00	0.00	
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
Central County 0.50 mgd Modification Tropicana Industrial WWTF and 1.50 mgd Expansion to Create 2.00 mgd Reclaimed Water Capacity – Phase 1	2027	\$36.00	2.00
Central County WWTF Expansion from 2.00 to 4.00 mgd – Phase 2	2036	\$20.00	2.00

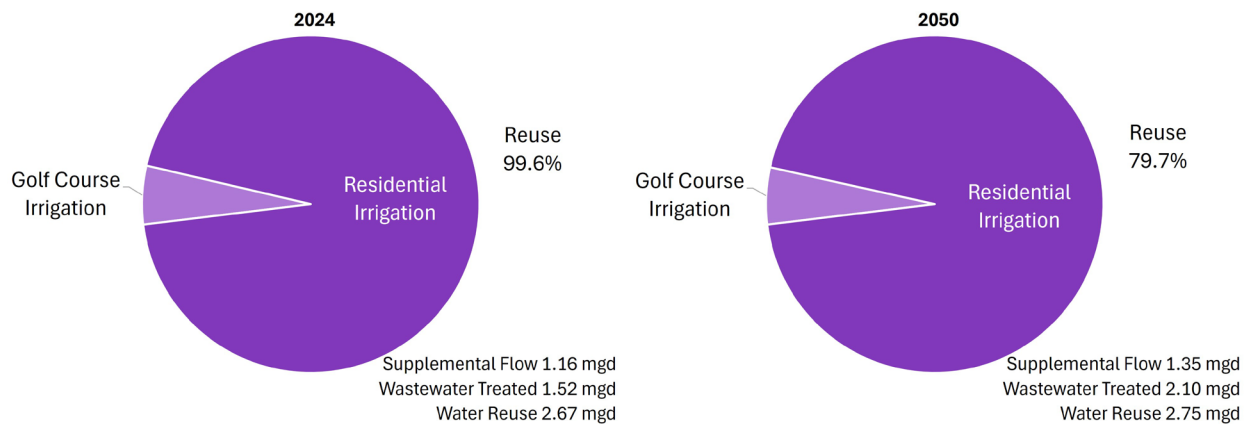


ST. LUCIE WEST SERVICES DISTRICT

Description: The treatment facility delivers reclaimed water for irrigation to more than 5,100 residences, in addition to golf courses, parks, schools, and medians. Supplemental sources used to augment reclaimed water supply capacity include surface water from Lake Ernie as well as groundwater from four shallow wells and three potable water supply wells. A lined storage pond is located at the WWTF site for storage.

Wastewater Treatment Facility Information			
FDEP Wastewater Facilities Regulation Identification		FLA013993	
Wastewater Treatment Capacity (mgd)		2.60	
Disinfection		High Level	
Public Access Users Served Reclaimed Water 2024:			
Residences – 5,167	Golf Courses – 3	Parks and Schools – 19	
Annual Average Daily Flows (mgd)			
	2024	2050	
Total Wastewater Treated		1.52	2.10
Total Wastewater Disposed		0.00	0.00
Total Water Reused ^a		2.67	2.75
Golf Course Irrigation		0.15	0.15
Residential Irrigation		2.52	2.60
Supplemental to Reclaimed Water Stormwater 1.12; Groundwater 0.02; Demineralized Concentrate 0.02 mgd		1.16	1.35
Reuse Percentage		99.6%	79.7%
Facility Water Imports/Exports (mgd)			
Importing/Exporting Facility(ies)		0	0
Reclaimed Water Project Summary			
Project Name	Completion Date	Total Capital Cost (\$ million)	Added Capacity (mgd)
No Projects			

^a Includes supplemental water blended with treated wastewater.



REFERENCES

FDEP. 2024. *OCULUS Electronic Document Management System*. Florida Department of Environmental Protection, Tallahassee, FL. Available online at <https://depedms.dep.state.fl.us/Oculus/servlet/login>.



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