South Florida Water Management District
2023 Annual Reclaimed Water Status Report

May 2025

sfwmd.gov

South Florida Water Management District | 3301 Gun Club Road | West Palm Beach, FL 33406

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EXECUTIVE SUMMARY

Reclaimed water is treated wastewater that is reused for a beneficial purpose. Beneficial reuse includes landscape irrigation, agricultural irrigation, groundwater recharge, industrial processes, environmental enhancement, and potable water supply. The use of reclaimed water can reduce stress on traditional freshwater sources, reduce water demands in areas with sensitive ecosystems, hydrate ecologically stressed areas, replenish local groundwater resources, and reduce the disposal of treated wastewater. Additionally, use of reclaimed water has played an integral role in meeting the water needs of South Florida and allowed continued economic growth in areas where increased use of freshwater sources is limited.

The South Florida Water Management District (SFWMD or District) encompasses all or part of 16 counties from Orlando to the Florida Keys. This report summarizes flow data from 124 wastewater treatment facilities (WWTF), with permitted treatment capacities of 0.10 million gallons per day (mgd) or greater, which operated in the District during Fiscal Year (FY) 2023, specifically October 1, 2022 to September 30, 2023. Additionally, the Sebring Airport, permitted at 0.09 mgd, is included in this report. This report also provides background and brief explanations of factors relevant to water reuse, in general, and water reuse implementation in the District specifically, using the most up-to-date information.

Of the 124 WWTFs, 107 were designed and permitted to produce reclaimed water. These facilities received and treated 940 mgd of wastewater flow. From that flow, 294 mgd of reclaimed water was produced; this total included 39 mgd of supplemental water added to reclaimed water systems to ensure peak seasonal demands could be met. When the supplemental water was discounted from the total, 255 mgd of wastewater was reused, representing 27% of the total wastewater flow. Finally, 690 mgd of effluent was disposed of primarily via deep well injection, accounting for 477 mgd (or 69% of the total disposal), and ocean outfalls accounting for 192 mgd (or 28% of the total disposal). Discharge disposal through ocean outfall structures should be eliminated by 2026, except for backup discharge during periods of reduced reclaimed water demands or as a result of peak flows from other wastewater management systems. In FY2023, approximately 294 mgd of total reuse was used Districtwide in the following categories as shown in **Figure ES-1**:

- Landscape and Agricultural Irrigation: (201 mgd or 69%)
- Groundwater Recharge: (35 mgd or 12%)
- At Treatment Plant (mostly for treatment process): (29 mgd or 10%)
- Industrial and Other: (25 mgd or 8%)
- Wetlands Recharge: (2.1 mgd or 0.7%)

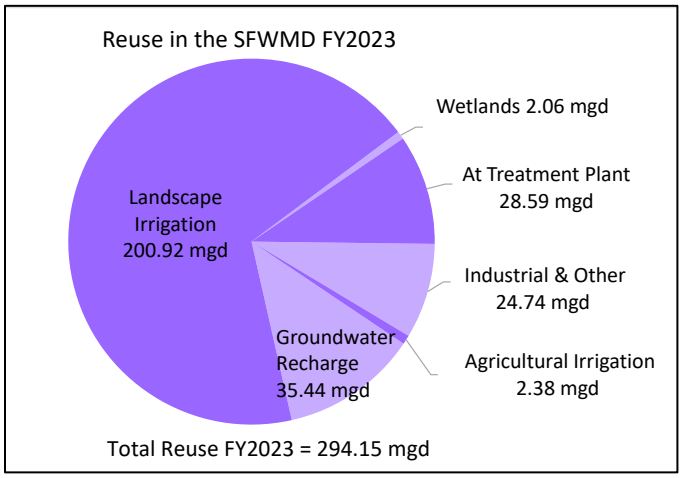

Figure ES-1. Districtwide reuse flows for categories (inclusive of supplemental water).

To manage water supply and plan for current and future water uses, the District is geographically divided into five planning areas. In FY2023, the Lower East Coast (LEC) Planning Area reused 13% of its total treated wastewater (92 mgd reused of 721 mgd total treated wastewater). The Lower Kissimmee Basin (LKB) and the Lower West Coast (LWC) planning areas each reused approximately two-thirds of the total treated wastewater (0.9 mgd reused of 1.3 mgd total treated wastewater or 65%, and 60 mgd reused of 89 mgd total treated wastewater or 67%, respectively). The Upper East Coast (UEC) Planning Area reused 28% of its total treated wastewater (8 mgd reused of 27 mgd total treated wastewater). Finally, the Upper Kissimmee Basin (UKB) Planning Area reused 93% of its total treated wastewater (95 mgd reused of 102 mgd total treated wastewater). **Table ES-1** presents totals for reuse and related flows by county and planning area.

Table ES-1. Flow totals for treated wastewater, supplemental water, effluent disposal, reuse, and reused wastewater by county and planning area Districtwide in FY2023.

County/Planning Area	Treated Wastewater (mgd)	Supplemental Water (mgd)	Effluent Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Broward	237.99	0.17	224.64	18.07	17.90	7.5%
Miami-Dade	353.35	0.00	340.62	18.67	18.67	5.3%
Monroe	8.52	0.07	10.24	0.38	0.31	3.6%
Palm Beach	120.75	4.82	65.98	60.41	55.59	46.0%
LEC Planning Area Total	**720.60**	**5.05**	**641.48**	**97.53**	**92.47**	**12.8%**
Highlands	0.03	0.00	0.00	0.03	0.03	100.0%
Okeechobee	1.30	0.00	0.47	0.83	0.83	63.6%
LKB Planning Area Total	**1.34**	**0.00**	**0.47**	**0.86**	**0.86**	**64.6%**
Charlotte	0.93	0.91	0.00	1.76	0.85	91.5%
Collier	31.03	5.82	7.09	29.48	23.66	76.2%
Glades	0.18	0.00	0.00	0.18	0.18	100.0%
Hendry	2.16	0.00	0.41	0.61	0.61	28.2%
Lee	54.85	25.08	20.63	59.58	34.50	62.9%
LWC Planning Area Total	**89.15**	**31.81**	**28.12**	**91.61**	**59.80**	**67.1%**
Martin	7.98	0.14	4.38	3.89	3.75	47.1%
St. Lucie	19.04	0.47	14.94	4.31	3.84	20.2%
UEC Planning Area Total	**27.02**	**0.61**	**19.33**	**8.20**	**7.59**	**28.1%**
Orange	66.99	0.62	0.00	62.53	61.91	92.4%
Osceola	31.72	0.67	0.34	28.66	27.99	88.2%
Polk	3.55	0.00	0.30	4.75	4.75	133.9%[d]
UKB Planning Area Total	**102.26**	**1.29**	**0.64**	**95.95**	**94.65**	**92.6%**
Total	**940.37**	**38.76**	**690.03**	**294.15**	**255.38**	**27.2%**

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.

[b] Reused Wastewater = Reuse – Supplemental Water.

[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

[d] The percentage of reused wastewater in Polk County includes treated wastewater from facilities in Osceola County sent to reclaimed users within Polk County.

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ACRONYMS AND ABBREVIATIONS

ASR	aquifer storage and recovery
AWT	advanced wastewater treatment
CFWI	Central Florida Water Initiative
District	South Florida Water Management District
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
F.S.	Florida Statutes
FY	Fiscal Year
LEC	Lower East Coast
LKB	Lower Kissimmee Basin
LWC	Lower West Coast
mgd	million gallons per day
MRZ	mandatory reuse zone
OOL	Ocean Outfall Law
PRC	Potable Reuse Commission
SFWMD	South Florida Water Management District
UEC	Upper East Coast
UKB	Upper Kissimmee Basin
WWTF	wastewater treatment facility

1 INTRODUCTION

The South Florida Water Management District (SFWMD or District) encompasses all or part of 16 counties from Orlando to the Florida Keys and serves a population of approximately 9 million residents. To manage water supply and plan for current and future water uses, the District is geographically divided into five planning areas shown in **Figure 1**. This document provides insight into the beneficial use of reclaimed water in the District focusing specifically on reuse flow data during Fiscal Year (FY) 2023 (October 1, 2022 to September 30, 2023) following the annual reuse reporting period as designated by the Florida Department of Environmental Protection (FDEP). Other flow data related to the implementation of reuse, including treated wastewater, water from supplemental sources, and effluent disposal, are also reported. The main categories of water reuse are presented along with the percentages of reused wastewater.

This document is divided into five sections. **Section 1** is a general introduction to the subject of reclaimed water and to the document itself. **Section 2** provides brief explanations of topics related to, or affecting, reuse within the District. These topics include drivers of water reuse (i.e., population, limitations on the use of other water sources, and limitations on effluent disposal); the Leah Schad Memorial Ocean Outfall Law (OOL); mandatory reuse zones (MRZs); reclaimed water in the water use permitting process; and reclaimed water system interconnections. **Section 2** also summarizes the State of Florida rulemaking affecting the development of potable reuse in Florida. Treatment and disinfection levels, as recognized by the state, are also briefly introduced. **Section 3** provides reuse and related flow data Districtwide for FY2023. **Section 4** presents reuse and related flow data for each of the District's five planning areas for FY2023. **Section 5** provides conclusions and takeaway points from the information and data analyses conducted for this report. **Appendix A** lists Florida Statutes and Florida Administrative Code numbers and titles referenced in this document.

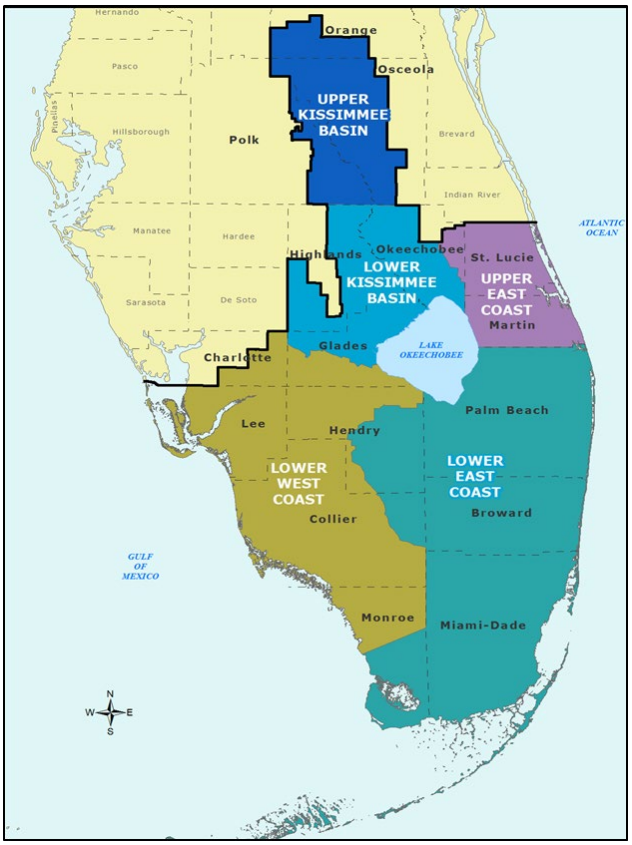

Figure 1. The five planning areas of the SFWMD.

Upper Kissimmee Basin (UKB): Portions of Orange, Osceola, and Polk counties

Lower Kissimmee Basin (LKB): Portions of Glades, Okeechobee, and Highlands counties (generally northwest of Lake Okeechobee)

Upper East Coast (UEC): All of Martin and St. Lucie counties and the northeastern portion of Okeechobee County

Lower East Coast (LEC): All of Palm Beach, Broward, and Miami-Dade counties, most of Monroe County, and the eastern portions of Hendry and Collier counties

Lower West Coast (LWC): All of Lee County, most of Collier County, and portions of Charlotte, Glades, Hendry, and Monroe counties

1.1 Reclaimed Water and Reuse in Florida

Chapters 373 and 403, Florida Statutes (F.S.), declare that state agencies, including the five water management districts, should encourage and promote the use of reclaimed water and that reclaimed water is critical for meeting existing and future water supply needs. These statutes also encourage local governments to implement reuse projects and direct cooperative efforts between state and local government agencies in developing alternative water supplies, which include reclaimed water, as "mandatory." Finally, the statutes identify water reuse as a recognized alternative water supply source, thereby making water reuse projects eligible for state funding. The Florida Legislature has historically provided funding for reclaimed water production and distribution development projects through the FDEP and water management district grant funding programs.

Most broadly, reclaimed water is wastewater that has received at least secondary treatment and basic disinfection (see **Section 2.6** Levels of Reclaimed Water Treatment and Disinfection) and is reused for a beneficial purpose after leaving a domestic wastewater treatment facility (WWTF) in accordance with Rule 62-600.200, Florida Administrative Code (F.A.C.). "Reuse" is the deliberate application of reclaimed water for a beneficial purpose. Criteria used to classify projects as "reuse" or "disposal" are contained in Rule 62-610.810, F.A.C.

The Water Resource Implementation Rule (Chapter 62-40, F.A.C.) requires the FDEP and the state's five water management districts to advocate and direct the use of reclaimed water as an integral part of water management programs, rules, and plans. The SFWMD requires all water use permit applicants proposing to use more than 0.10 million gallons per day (mgd) of water to use reclaimed water, if feasible.

Wastewater reuse conserves water resources by reducing reliance on traditional freshwater sources for many uses, such as irrigation. In some cases, reclaimed water can be utilized at a lower cost than other alternative water sources. Because wastewater is generated year-round, reclaimed water is considered a highly reliable water source and is an environmentally sound alternative to traditional effluent disposal methods, such as ocean outfalls and deep well injection. However, the reuse of all available treated wastewater by a given utility may not be feasible. Nonetheless, with some exceptions and within some limitations, the percentage of treated wastewater that is reused for a beneficial purpose rather than disposed of within a region, can be considered a metric of reclaimed water reuse achievement.

1.2 Data and Metrics

Wastewater, reuse, and related flows for FY2023 were analyzed for 124 of the 128 WWTFs in the SFWMD with a treatment capacity of 0.10 mgd or greater, with the exception of the Sebring Airport (Highlands County), permitted at 0.09 mgd, which is included in this report. The four remaining WWTFs, owned and operated by the Seminole Tribe of Florida, are not required by statute to provide data to the State of Florida. Therefore, flows for those facilities are not included.

Seventeen of the 124 facilities are not permitted to produce reclaimed water (wastewater treatment permitted only). Flow data for those facilities were obtained via communications with FDEP and utility staff. Flow data for the remaining 107 facilities (permitted to produce reclaimed water) were obtained from the individual reuse inventory reports submitted by the

NOTE

Total flows for treated wastewater plus supplemental water may not be equal to reuse plus disposals due to one or more of the following factors:

- Transfer of flows between facilities
- In-facility processes
- Metering inaccuracies
- Rounding of calculated facility flows

facilities to the FDEP for FY2023 (FDEP 2024b), with some flows modified, based on communication with utility staff, to reflect flow transfers.

All flows presented in this report are annual average daily flows shown in mgd. Differences between any flows reported in the *2023 Reuse Inventory* report (FDEP 2024c) and flows reported within this document are due to data corrections made by the SFWMD after verification via communications with utility staff as necessary. Differences between wastewater flows at treatment facilities and the sum of water reused and disposed from these facilities can exist due to the addition of post-treatment supplemental water (e.g., membrane concentrate), transfer of flows between facilities, and in-facility processes, among other factors, that can lead to double counting of flows and/or metering inaccuracies.

As defined in Section 373.019, F.S., and Chapters 62-600 and 62-610, F.A.C., the following terms are utilized within this document:

- **Effluent** refers to treated wastewater that is not reused (Rule 62-600.200, F.A.C.).
- **Reclaimed water** is water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic WWTF. However, basic disinfection is not required for reclaimed water used in once-through, closed-loop cooling systems at industrial facilities, provided it is returned to the treatment facility for treatment after use (Section 373.019, F.S., and Rules 62-600.200 and 62-610.200, F.A.C.).
- **Water reuse** refers to the deliberate application of reclaimed water for a beneficial purpose (Rules 62-600.200 and 62-610.200, F.A.C.).
- **Reclaimed water distribution system** means a network of pipes, pumping facilities, storage facilities, and appurtenances designed to convey and distribute reclaimed water from one or more domestic WWTFs to one or more users of reclaimed water (Section 373.019, F.S., and Rule 62-610.200, F.A.C.)

In addition, this document also uses the following terms:

- **Treated wastewater** refers to wastewater that has undergone at least secondary treatment. When quantified, this is shown in mgd.
- **Reuse and related flows** consist of treated wastewater, supplemental water, reuse, and disposal flows.
- **Reused wastewater** refers to the amount of treated wastewater reused for a beneficial purpose independent of water from any supplemental water source. This metric, shown in mgd, is calculated as follows: Reused Wastewater = Reuse – Supplemental Water.
- **Supplemental water** refers to surface water, groundwater, treated stormwater, membrane concentrate, or drinking water added to a reclaimed water system to expand the supply of reclaimed water. This is typically done to ensure peak demands for reclaimed water can be met. When quantified, this is shown in mgd.
- **Reuse** refers to reclaimed water including any water from a supplemental source added to a reuse system, applied for beneficial purposes. When quantified, this is shown in mgd.
- **Percentage of wastewater disposed** refers to the amount of wastewater disposed as a percentage of the total treated wastewater. This metric, shown as a percentage, is calculated as follows: % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

- **Percentage of reused wastewater** refers to the amount of wastewater reused for a beneficial purpose as a percentage of the total amount of treated wastewater. This metric, shown as a percentage, is calculated as follows: % Reused wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

As described in Parts II through VII of Chapter 62-610, F.A.C., beneficial reuse is divided into the following use categories and subcategories:

- Agricultural Irrigation (including the subcategories of edible crops and other crops)
- Public Access Areas and Landscape Irrigation (including the subcategories of golf course irrigation, residential irrigation, and other public access irrigation)
- Groundwater Recharge[1] (including the subcategories of rapid infiltration basins, absorption fields, sprayfields, and injection to potable aquifers)
- Industrial Uses (including the subcategories of at treatment plant and at other facilities)
- Toilet Flushing[2]
- Fire Protection[3]
- Wetlands Recharge[4]
- Other (such as commercial laundry, vehicle washing, dust suppression, etc.)

For the purposes of this document, the major categories of beneficial reuse are listed below. Due to the significant portion of the District's reuse profile accounted for by irrigation, irrigation reuse is divided into subcategories.

- **Agricultural Irrigation** (including the subcategories of edible and nonedible crops)
- **Landscape Irrigation** (including the subcategories of residential properties, golf courses, and other public access areas)
- **Groundwater Recharge**[4] (rapid infiltration basins, absorption fields, sprayfields, and injection to potable aquifers)
- **Wetlands Recharge**[4]
- **At Treatment Plant** (reuse within the WWTF, such as for filter backwashing, equipment cooling, dust suppression, on-site irrigation)
- **Industrial and Other** (heating, ventilation, and air conditioning or other equipment cooling; toilet flushing; street washdown; dust suppression; and other uses at facilities other than the facility which produced the reclaimed water)

[1] In a majority of South Florida, the surficial aquifer system is present from land surface to a depth of 100 to 150 feet below land surface. The surficial aquifer system is widely used by many users including public supply; landscape and recreational; commercial, industrial, institutional; and agriculture. The surficial aquifer system is recharged from land surface by rainfall and surface water features, such as canals, ponds, and lakes. As such, reclaimed water percolation ponds and drainfields beneficially recharge the surficial aquifer system and are considered reuse.

[2] Toilet flushing is an extremely rare use of reclaimed water in the SFWMD. Therefore, it has been grouped with At Treatment Plant or Industrial and Other categories as reported by the individual facility operators.

[3] Fire protection is excluded as it is not quantified in reporting documents required by the FDEP.

[4] Rule 62-610.810, F.A.C., states if it can be demonstrated affirmatively that a wetland reuse project provides wetland creation, restoration, or enhancement, it is classified as "reuse." Otherwise, it is classified as "effluent disposal."

2 FACTORS RELEVANT TO WATER REUSE IMPLEMENTATION

2.1 Increasing Demands and Limitations on Traditional Water Sources

The permanent population in the District is projected to grow from 9.2 million in 2023 to 10.8 million by 2045. As the population increases, so will water demands and, with that, stress on water resources and natural systems. Water demands in the SFWMD are projected to increase over 350 mgd by 2045 to 4,050 mgd. Regulatory measures (permitting criteria) have been established to safeguard water resources and natural systems from harm. To further protect these resources, the District has adopted measures that restrict additional water use allocations from specified groundwater and surface water sources, including the adoption of minimum flows and minimum water levels, water reservations, restricted allocation area designations, and water shortage rules. More information on these regulatory measures is provided in Chapter 4 of the *2021–2024 Support Document for Water Supply Plan Updates* (SFWMD 2021b).

Together, the projected increase in water demands fueled by population growth and the regulatory limitations on water resource use act as drivers toward greater use of alternative water supplies. The use of reclaimed water is one way to simultaneously meet increasing water demands and safeguard water supplies while optimally managing treated wastewater. For these reasons, the District's regional water supply plans (https://www.sfwmd.gov/our-work/water-supply) stress the need for greater attention toward development of alternative water supplies, such as reclaimed water, and demand reduction through water conservation efforts.

2.2 Leah Schad Memorial Ocean Outfall Program

In 2008, the OOL pursuant to Section 403.086(10), F.S., was enacted. The OOL was named in honor of Leah Schad, a former SFWMD Governing Board member, board chairwoman of the Florida Audubon Society, and president of the local chapter of the Audubon Society of the Everglades.

The OOL requires ceasing use of ocean outfalls (all six are located in southeastern Florida) as a primary means for disposal of treated domestic wastewater by December 31, 2025, except as a backup for wet weather discharge for a reuse system. The OOL program applies to facilities/utilities, all of which are in the LEC Planning Area, that have permits to discharge through an ocean outfall. They are as follows: South Central Regional Wastewater Treatment Plant (serving the cities of Boynton Beach and Delray Beach), Boca Raton Wastewater Treatment Plant, Broward County North Regional Wastewater Treatment Plant, Hollywood Southern Regional Wastewater Treatment Plant, Miami-Dade North District Wastewater Treatment Plant, and Miami-Dade Central District Wastewater Treatment Plant. In addition, Cooper City and the Town of Davie have obligations to meet OOL requirements as they are permitted to, and have, discharged effluent through the outfall operated by the City of Hollywood (via the Southern Regional Wastewater Treatment Plant).

The objectives of the OOL are to reduce treated wastewater disposal (and the associated nutrient loading) to the ocean environment and to beneficially reuse that water to meet water demands. Affected wastewater utilities are required to reuse at least 60% of their baseline outfall flows (the average outfall disposal flows for the calendar years 2003 through 2007) by December 31, 2025. This equates to 165 mgd of total required reuse. Beginning in 2026, ocean outfalls will be used only for backup disposal. This will have a significant impact on the reuse profile of the LEC Planning Area.

The impacts of reclaimed water use in the areas affected by the OOL are presented in **Section 4.1.3** (see Reuse and Related Flows by County: Lower East Coast). More detailed information on the progress of the

affected utilities toward meeting their reuse requirements of the OOL can be found in Appendix E of the *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a).

The OOL provides utilities an option to satisfy their reuse requirements by entering a contract with another utility under provisions of Section 163.01, F.S., otherwise known as the Florida Interlocal Cooperation Act of 1969. Under contractual or "virtual" reuse agreements, one city/utility can contribute financially to the development of another city/utility's reuse system and receive credit for the subsequent reuse flows toward meeting the OOL requirements.

2.3 Surface Water Discharges, Chapter 2021-168, Laws of Florida

The goal of Chapter 2021-168, Laws of Florida (formerly known as Senate Bill 64) is to eliminate nonbeneficial effluent disposal to surface water bodies by January 1, 2032. Although the law covers facilities anywhere in the state, it was created primarily to protect springs and other sensitive watersheds mainly outside the SFWMD. Chapter 2021-168, Laws of Florida changed Section 403.064, F.S., to require utilities to submit surface water discharge phase-out plans to the FDEP by November 1, 2021. Chapter 2021-168, Laws of Florida allows for certain continued discharges: those associated with an indirect potable reuse project, wet weather backup, stormwater management systems used to store reclaimed water subsequently withdrawn by a user for irrigation purposes, ecological or public water supply benefits (such as rehydrating wetlands or implementing the requirements of minimum flows and minimum water levels), and for facilities that reused 90% or more of their annual average flow for the prior 5 consecutive years. Additionally, exemptions to the modified Section 403.064, F.S., exist for facilities located in some rural and/or economically challenged areas and for small facilities, such as mobile home parks.

The FDEP's Division of Water Resource Management is required to produce an annual progress report regarding the status of the state's affected WWTFs. The latest report, *Annual Report on Facilities Requiring Elimination of Discharges to Surface Waters* (FDEP Annual Surface Discharge Report; FDEP 2024a), was released in December 2024. Based on the information submitted in 2024 for the entire state, by January 1, 2032, approximately 569 mgd of surface water discharges will be eliminated (176 mgd of which has already been eliminated). In addition, approximately 375 mgd of beneficial surface water discharges will continue. Per the 2024 FDEP Annual Surface Discharge Report (FDEP 2024a), there were 27 SFWMD facilities permitted to conduct surface water discharges in 2024, many associated with potential discharges from reclaimed water storage ponds. Among those 27 facilities, 3 are claiming exemption from modified Section 403.064, F.S., 3 are designated to fully eliminate surface water discharge flows (2 have already begun), 9 are designated to partially eliminate surface water discharges (8 have already or have begun), and 21 (including the 9 which have proposed to partially eliminate surface water discharges) have submitted plans to allow for the continuation of beneficial surface water discharges. Among the 21 claiming beneficial discharges are 8 facilities mandated to meet the OOL statutory requirements under Section 403.086(10), F.S. **Table 1** shows SFWMD facilities permitted to conduct surface water discharges in 2024, subdivided by those requesting exemptions, those eliminating all or partial discharges (and their dates of elimination), and those claiming beneficial discharges (and the discharge allowance category) as shown in the FDEP Annual Surface Discharge Report (FDEP 2024a). In FY2023, only six facilities within the SFWMD actually disposed of effluent to surface or coastal waters (for a total combined flow of 15.32 mgd, excluding ocean outfalls), which represents less than 2% of all treated wastewater Districtwide.

In conclusion, surface water discharges among facilities in the SFWMD were not significant in FY2023 (excluding ocean outfalls, which should be nearly eliminated by 2026, and emergency backup use). Nonetheless, adherence to the modified Section 403.064, F.S., will further reduce current and future disposal options for WWTFs in the District and create additional incentives for WWTFs therein to investigate alternative disposal options, including water reuse.

Table 1. SFWMD facilities permitted to conduct surface water discharges in 2024, subdivided by those requesting exemptions, those eliminating all or partial discharges (and their dates of elimination), and those claiming beneficial discharges (and the discharge allowance category) as shown in the FDEP Annual Surface Discharge Report (2024a).

Exemption Requests	Exemption Claimed
Clewiston	Rural area
Ocean Ridge*	Financially constrained
Wellington Arms*	Financially constrained
Facilities Eliminating All Discharges	**Date of Elimination**
Collier County North	2/3/2023
Fort Pierce Utilities Authority	1/1/2028
Toho-Walnut	12/31/2023 (Facility decommissioned 2/2024)
Facilities Partially Eliminating Discharges	**Date of Partial Elimination**
Broward County–North Regional	2023
Davie	10/30/2024
Fort Myers Central	12/31/2023 (eliminated on 12/31/2023)
Fort Myers South	12/31/2023 (eliminated on 1/15/2024)
Hollywood Southern	12/31/2025
Lee County Utilities Fiesta Village	12/31/2023
Miami-Dade Central District	12/31/2025 (eliminated on 2/1/2020)
Miami-Dade North District	12/31/2025 (eliminated on 1/1/2017)
South Central Regional (Boynton and Delray)	4/1/2020
Facilities Claiming Beneficial Discharges	**Beneficial Discharge Allowance Category**
Avon Park Correctional	Direct ecological benefit
Boca Raton	Meets 403.086(10), F.S. / Stormwater management for irrigation
Broward County–North Regional	Meets 403.086(10), F.S.
Cape Coral Everest	Wet weather discharge; 90% reuse
Collier County South	Stormwater management for irrigation
Cooper City	Meets 403.086(10), F.S. / Indirect potable reuse
Davie	Meets 403.086(10), F.S.
Fort Myers Central	Wet weather discharge
Fort Myers South	Wet weather discharge
Hollywood Southern	Meets 403.086(10), F.S.
Lee County Utilities Fiesta Village	Stormwater management for irrigation; wet weather discharge
Loxahatchee River District	Stormwater management for irrigation; wet weather discharge
Martin Tropical Farms	Stormwater management for irrigation
Miami-Dade Central District	Meets 403.086(10), F.S.
Miami-Dade North District	Meets 403.086(10), F.S.
Naples	Stormwater management for irrigation; 90% reuse
Palm Beach County Central Regional	Stormwater management for irrigation
Palm Beach County Southern Regional	Stormwater management for irrigation; direct ecological benefit
Seacoast	Stormwater management for irrigation
South Central Regional (Boynton and Delray)	Meets 403.086(10), F.S.
St. Lucie County South Hutchinson Island	90% reuse

F.S. = Florida Statutes; mgd = million gallons per day.
* Permitted to treat less than 0.10 mgd.
Note: Section 403.086(10), F.S., outlines OOL requirements (allows only backup disposal).

2.4 Mandatory Reuse Zones

MRZs are designated sections within a utility service area or local municipality where properties are required to receive or prepare to receive reclaimed water, most often for irrigation, pending service being active or anticipated. MRZs are specified in local ordinances or as a condition of (water) service for new developments. While most ordinances require properties within an MRZ to connect to reclaimed water lines when service becomes available, individual municipalities have varying and conditional connection requirements. These requirements may apply to existing developments and/or new or future developments and may be based on property or parcel type as well as distance to existing reclaimed water distribution lines. Entities with MRZs and their respective ordinance number, or other reference document, are shown in **Table 2**. Referenced citations were verified during the production of each respective regional water supply plan. For specifics on a particular MRZ's connection requirements, refer to each MRZ reference document.

Table 2. Mandatory reuse zones in the SFWMD.

Planning Area	County	Municipality/ Reuse Provider	MRZ Reference Citation
LEC	Broward	Broward County	Chapter 34 Article XI Sec. 34-253
	Broward	Davie	Chapter 25 Article VI Sec. 25-60
	Broward	Hollywood	Title V Chapter 52 Sec. 52.75
	Broward	Lighthouse Point	Chapter 50 Article II Sec. 50-4
	Broward	Miramar	Chapter 21 Article IX Sec. 21-296
	Broward	Pompano Beach	Title V Chapter 54 Sec. 54.02
	Broward	Sunrise	Chapter 15 Article V Sec. 15-152
	Monroe	Key West	Chapter 108 Article IX Sec. 108-957
	Palm Beach	Boca Raton	Chapter 17 Article VII Sec. 17-203
	Palm Beach	Delray Beach	Title 5 Chapter 59 Sec. 59.06
	Palm Beach	Palm Beach County	Chapter 27 Article IX Sec. 27-176
LWC	Collier	Naples	Chapter 30 Article IV Sec. 30-252
	Lee	Lee County	LDC Chapters 10-352 and 10-417
UEC	Martin	Martin County	Chapter 159 Article VI Sec. 159.166
	St. Lucie	St. Lucie County	County's Uniform Extension Policy - 2024 Water Facilities Work Plan Update; District Uniform Extension Policy May 19, 2015
UKB	Orange	Orange County	Chapter 37 Article I Sec. 37-4
	Orange	Orlando	Title I Charter Chapter 32 Sec. 32.3
	Osceola	St. Cloud	LDC Chapter 4 Article 8 Sec. 4.8.13 Defers to Toho Water Authority Chapter 44 Article II Sec. 44-31
	Osceola	Osceola County	LDC Chapter 3 Article 3 Sec. 3.5.1 LDC Chapter 4 Article 4.8 Sec. 4.8.10 CP Objective 1-1.3.9 CP Objective 10-1.1.4
	Osceola	Toho Water Authority	Toho Water Authority Water and Wastewater System Standard Developer's Service Agreement (Connection to reclaimed water is required per condition of service for all new developments.)
	Polk	Polk County	Chapter 12 Article II Sec. 12-23 LDC Chapter 7 Sec. 702

CP = Comprehensive Plan; LDC = Land Development Code; LEC = Lower East Coast (Last Updated 2023–2024); LWC = Lower West Coast (Last Updated 2022); mgd = million gallons per day; UEC = Upper East Coast (Last Updated 2021); UKB = Upper Kissimmee Basin (Central Florida Water Initiative [Draft 2025]).

2.5 Reclaimed Water System Interconnections

Reclaimed water system interconnections occur when two or more WWTFs are coupled by a direct plant-to-plant connection, or by a shared distribution system (or "network"). These systems may be owned or operated by different utilities or may be between two or more domestic WWTFs of a single utility. In some cases, raw wastewater (untreated, and/or treatment concentrate) or treated wastewater is sent to a second facility for treatment or additional (tertiary) treatment and subsequent inclusion in the receiving facility's reclaimed water system. In other cases, two or more facilities provide reclaimed water to a shared distribution network. These types of interconnections create system flexibility and increase the efficiency and reliability of the facilities' reclaimed water systems. Existing reclaimed water system interconnections in each of the District's planning areas are shown in **Section 4** of this document.

2.6 Levels of Reclaimed Water Treatment and Disinfection

A key concept in implementing water reuse is to provide the appropriate level of treatment and disinfection commensurate for the intended application (i.e., compatible water quality). In general, higher levels of disinfection are required for reuse applications where the public potentially would be in contact with the reclaimed water versus applications where public access is restricted (e.g., landscape irrigation versus within an industrial process). Regulations governing use of reclaimed water and land application in Florida and applied by the FDEP are contained in Chapters 62-600 and 62-610, F.A.C. Chapter 62-565, F.A.C., adopted in 2025, governs use of reclaimed water for direct and indirect potable reuse.

Primary treatment of wastewater occurs at the headworks of a treatment plant, typically using physical methods to remove floating and settleable materials from the wastewater stream. Except as specifically required by other rules or Florida Statutes, all domestic WWTFs must provide, at a minimum, secondary treatment of wastewater prior to reuse or disposal, per Rule 62-600.420, F.A.C. Secondary treatment refers to biological treatment processes designed to reduce organic matter from wastewater. Activated sludge is the most well-known and common type of secondary treatment. As stated previously, reclaimed water is wastewater that has received *at least* secondary treatment and basic disinfection unless specified otherwise in Section 373.019, F.S., and Rules 62-600.200 and 62-610.200, F.A.C.

Tertiary wastewater treatment refers to additional treatment processes aimed at further removing organic and inorganic materials, nutrients, metals, pathogens, and suspended solids as well as reducing turbidity remaining after secondary treatment. Methods of tertiary treatment include, but may not be limited to, sand filtration, low- and high-pressure membranes (microfiltration, ultrafiltration, and reverse osmosis), activated carbon, ion exchange, advanced oxidative processes, polishing ponds, and disinfection. While these tertiary processes are highly effective at mineralizing pharmaceutical waste, petroleum waste, dyes, and other unwanted agents, many of the processes can be quite costly and produce significant greenhouse gas emissions. Other tertiary methods known as green infrastructure, such as polishing ponds, for example, can significantly improve many water quality parameters with less associated costs and lower greenhouse gas emissions, but often require larger treatment facility footprints, which may not be available to some utilities, particularly in more urbanized areas.

Disinfection is employed during wastewater treatment to remove or incapacitate harmful microorganisms typically using chlorine or ultraviolet light. In Florida, disinfection levels are outlined in Rule 62-600.440, F.A.C, where designations focus on final fecal coliform levels, for basic level, and fecal coliform and total suspended solids for high level. Basic and high levels of disinfection indicate a facility's level of treated wastewater disinfection as described in Subsections 62-600.440(5) and 62-600.440(6), F.A.C., respectively.

Table 3 summarizes the minimum treatment and disinfection levels required for each application defined in Chapter 62-610, F.A.C., Reuse of Reclaimed Water and Land Application, and Chapter 62-565, F.A.C., Potable Reuse. Treatment levels for individual facilities can be found in the Reclaimed Water and Effluent Limitations and Monitoring Requirements section of each facility's FDEP wastewater permit.

The term advanced wastewater treatment (AWT) refers not to a treatment method, but to specified resultant water quality. With some exceptions, AWT, as defined in Section 403.086, F.S., generally refers to treatment(s) which will provide a reclaimed water product that meets the following standards:

- On a permitted annual average basis, not more than the following concentrations:
  - Biochemical Oxygen Demand (CBOD5), 5 milligrams per liter (mg/L)
  - Suspended Solids, 5 mg/L
  - Total Nitrogen, expressed as N, 3 mg/L
  - Total Phosphorus, expressed as P, 1 mg/L
- Has received high-level disinfection as defined by Subsection 62-600.440(6), F.A.C.

AWT may become more broadly implemented as reclaimed water becomes more widespread, especially when applied as irrigation in ecologically sensitive or protected areas. Furthermore, the removal of a greater number of chemical constituents by water utilities is required for the implementation of direct potable reuse programs. Florida Statutes do not require the implementation of specific tertiary treatment methods. As a result, utilities have flexibility in choosing the most appropriate and efficient treatment methods for their circumstances that will produce AWT quality water.

Table 3. An overview of required treatment and disinfection levels for common reuse applications.

Reuse Application Type	Description	Treatment	Disinfection	Notes
Chapter 62-610, F.A.C. – Reuse of Reclaimed Water and Land Application				
Slow-rate land application with no public access	Application of reclaimed water to a vegetated land surface where public access is restricted	Secondary	Basic	Most often includes sprayfields and pastures. Plant and soil matrix provides additional treatment.
Slow-rate land application with public access	Irrigation of areas accessible to the public (e.g., golf courses, parks, residential properties, and edible crops)	Secondary	High	Also includes toilet flushing, fire protection, street cleaning, dust control, and vehicle washing etc.
Rapid-rate land application	Rapid infiltration basins, percolation ponds, or absorption fields discharging to groundwater	Secondary	Basic and meet the nitrate standard of 12 mg/L	--
Aquifer storage and recovery	Injection of reclaimed water into a subsurface formation for storage and recovery of the stored reclaimed water for beneficial purposes later	Injected water must meet applicable groundwater requirements before injection.	Recovered water must meet fecal coliform standards for high-level disinfection.	Reclaimed water that has been stored in an aquifer is considered "reused" only when it has been recovered and used for beneficial purposes.

Table 3. Continued.

Reuse Application Type	Description	Treatment	Disinfection	Notes
Chapter 62-610, F.A.C. – Reuse of Reclaimed Water and Land Application (Continued)				
Recharge of Class F-I, G-I, and G-II groundwaters	Approved uses of reclaimed water include rapid-rate land application systems, injection, salinity barrier systems to impede migration of saltwater, and discharges to directly connected surface waters.	Requirements specific to the type and class of receiving groundwater		--
Wetlands creation, restoration, and enhancement	Reclaimed water used to create, restore, or enhance man-made wetlands as well as hydrologically altered wetlands	Wastewater wetlands that discharge to Class I surface waters or contiguous to Class I surface waters must meet the same requirements as other discharges to surface water.		--
Industrial uses	Reclaimed water used for cooling water, wash water, or process water at industrial facilities (but not in facilities that process food or beverages)	Secondary	Basic (in most cases)	Some applications may require different levels of treatment.
Chapter 62-565, F.A.C. – Potable Reuse				
Indirect potable reuse	Planned delivery or discharge of (advanced treated) reclaimed water to ground or surface waters for the development of, or to supplement or replace, potable water sources	Requirements specific to the type and class of receiving waterbody, resource, or distribution system		--
Direct potable reuse	Delivery of advanced treated water from an advanced treatment water facility to a drinking water treatment facility or directly into a potable water supply distribution system without an environmental buffer	Requirements to meet primary and secondary drinking water quality standards prescribed by the National Primary Drinking Water Regulations (40 CFR Part 141) of the United States Environmental Protection Agency and Chapter 62-550, F.A.C.		--

CFR = Code of Federal Regulations; F.A.C. = Florida Administrative Code; mg/L = milligrams per liter.

2.7 The Florida Potable Reuse Commission and Rules Governing Potable Reuse

Potable reuse has been safely implemented in other parts of the United States and internationally and has the potential to provide Florida with a new water source. Potable reuse refers to the implementation of a reuse system intended to be used for potable (drinkable) purposes directly or indirectly. Prior to use, potable reclaimed water is purified to meet or exceed federal and state drinking water standards.

The Florida Potable Reuse Commission (PRC), established in early 2017, was a coalition of a diverse group of water resource, industry, agricultural, environmental, and health professionals. The original goal of the PRC was the development of a consensus-based framework to advance the safe implementation of potable reuse in Florida for use by the water industry, regulators, and stakeholders. The PRC also included a group of leading water industry associations and ex officio organizations in the state, including the FDEP and representatives from Florida's five water management districts.

In 2020, the PRC published its final report titled, *Framework for the Implementation of Potable Reuse in Florida* (WateReuse Association 2020). Also in 2020, the Florida Legislature directed the FDEP to initiate rule revisions based on the recommendations of the PRC's 2020 report. The FDEP initiated rulemaking with the release of Potable Reuse Draft Rules in 2021 and held three public workshops to present the proposed rules. Draft rules were re-released in July 2024 and presented at the third public workshop. Rules went into effect February 26, 2025.

Rule revisions include updates to Chapters 62-610, 62-550, and 62-555, F.A.C., Reuse of Reclaimed Water and Land Application; Drinking Water Standards, Monitoring, and Reporting; Permitting, Construction, Operation, and Maintenance of Public Water Systems, respectively, and the creation of a new chapter to focus on potable reuse implementation, Chapter 62-565, F.A.C., Potable Reuse.

The revisions to Chapters 62-550 and 62-555 are directed largely to the acknowledgement of the new Chapter 62-565. The revisions to Chapter 62-610 remove references applicable to potable reuse and identify Chapter 62-565 as the location for rules governing potable reuse projects. The new Chapter 62-565 defines direct and indirect potable reuse, potable reuse systems, advanced treated water, and advanced treatment water facilities. This chapter also outlines all requirements of potable reuse systems regarding system pilot testing, monitoring, reporting, permitting, operations and maintenance, storage, and pathogen (disinfection) of advanced treatment water facilities. Treatment and disinfection standards are referenced in **Table 3**. Finally, Chapter 62-565 also clarifies requirements for aquifer storage and recovery (ASR) projects that are part of potable reuse systems.

Several Florida utilities have conducted pilot projects focused on potable reuse; however, they have restrained from implementing full-scale operations awaiting the final adoption of revised regulations. Now that the rules have been promulgated by the state, it is expected more pilot and full-scale potable reuse projects will be pursued.

2.8 Reclaimed Water: SFWMD Water Use Permitting

The FDEP has jurisdiction over permitting of wastewater and reclaimed water facility construction and operation, including treatment and disposal criteria. However, as part of the application criteria for a water use permit, utility applicants must evaluate the feasibility of implementing reuse, while applicants of other use types are required to use reclaimed water if it is feasible. To receive a general or individual water use permit, an applicant must demonstrate the proposed use is a reasonable-beneficial use of water as required by Section 373.223, F.S.

Section 2.2.3 of the District's *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (Applicant's Handbook; SFWMD 2022a) states if a source of water of lower quality is available and is feasible for all or a portion of an applicant's demand, the lower quality water, which may include reclaimed water, must be used before considering additional use of traditional water sources. Although this section applies to all permit applicants, it more practically applies to applicants that are not a utility.

Section 2.2.4 A. of the Applicant's Handbook (SFWMD 2022a) requires public water supply utilities that operate a WWTF, either directly or indirectly, to evaluate (a) the feasibility of implementing reuse along with documentation regarding the availability of reclaimed water within the utility's service area, (b) a schedule of reuse system implementation, (c) the quantity of available (uncommitted) reclaimed water supply, and (d) the presence of MRZs within the service area, if applicable. Further information is required if the utility requests water for supplementation of its reuse system.

Applicants that are not a utility, such as a homeowner's association, for example, requesting 0.10 mgd or more water (from a single location or under multiple permits from contiguous locations) are required to use reclaimed water unless they demonstrate the use of reclaimed water is not feasible through an end user feasibility evaluation as described in Section 2.2.4 B. of the Applicant's Handbook (SFWMD 2022a). The evaluation occurs based on required documentation supplied by the user and relevant utility with the intent of determining if the connection to and use of reclaimed water by the permit applicant is as follows:

1. Environmentally feasible – The FDEP has permitted the reuse facility that will provide the reclaimed water supply, and reclaimed water is of such quality that it is suitable/allowable for the proposed end use.

2. Technically feasible – The reclaimed water supply is accessible at the property boundary.

3. Economically feasible – Obtaining and using reclaimed water will not cause the applicant undue economic hardship.

In addition, Section 2.2.4 B. of the Applicant's Handbook (SFWMD 2022a) states that for projects located either wholly or partly within an MRZ, the quantity of conventional water permitted shall be limited to the volume needed to meet demands beyond those met by the currently available supply of reclaimed water and/or a quantity necessary for emergency backup purposes.

3 REUSE IN THE SFWMD

Reclaimed water used for a beneficial purpose (e.g., landscape irrigation, golf course irrigation, groundwater recharge, cooling water, and other industrial uses) has increased approximately 300% between FY1994 and FY2023 (**Figure 2**). Annual fluctuations in the volume of reclaimed water used are due to the addition of new users and variable amounts of supplemental irrigation due to rainfall. **Figure 3** shows reuse and related flows in the SFWMD in FY2022 and FY2023.

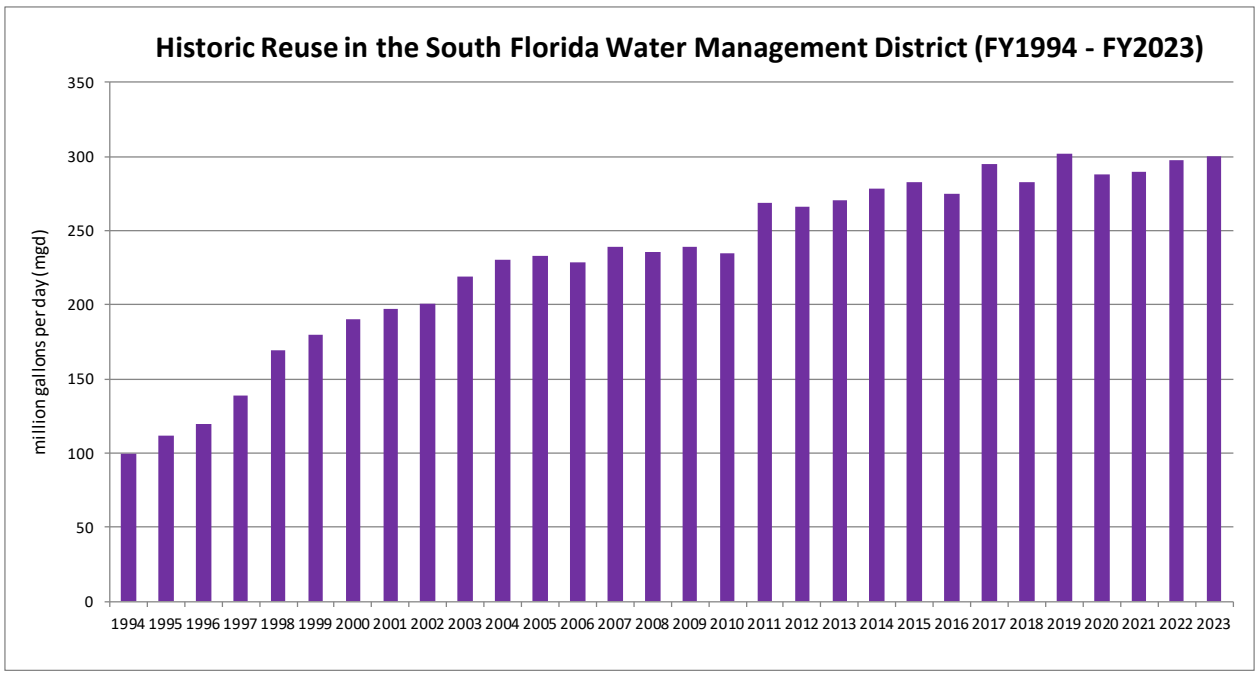

Figure 2. Annual average water reuse, in million gallons per day, used in the SFWMD from FY1994 to FY2023.

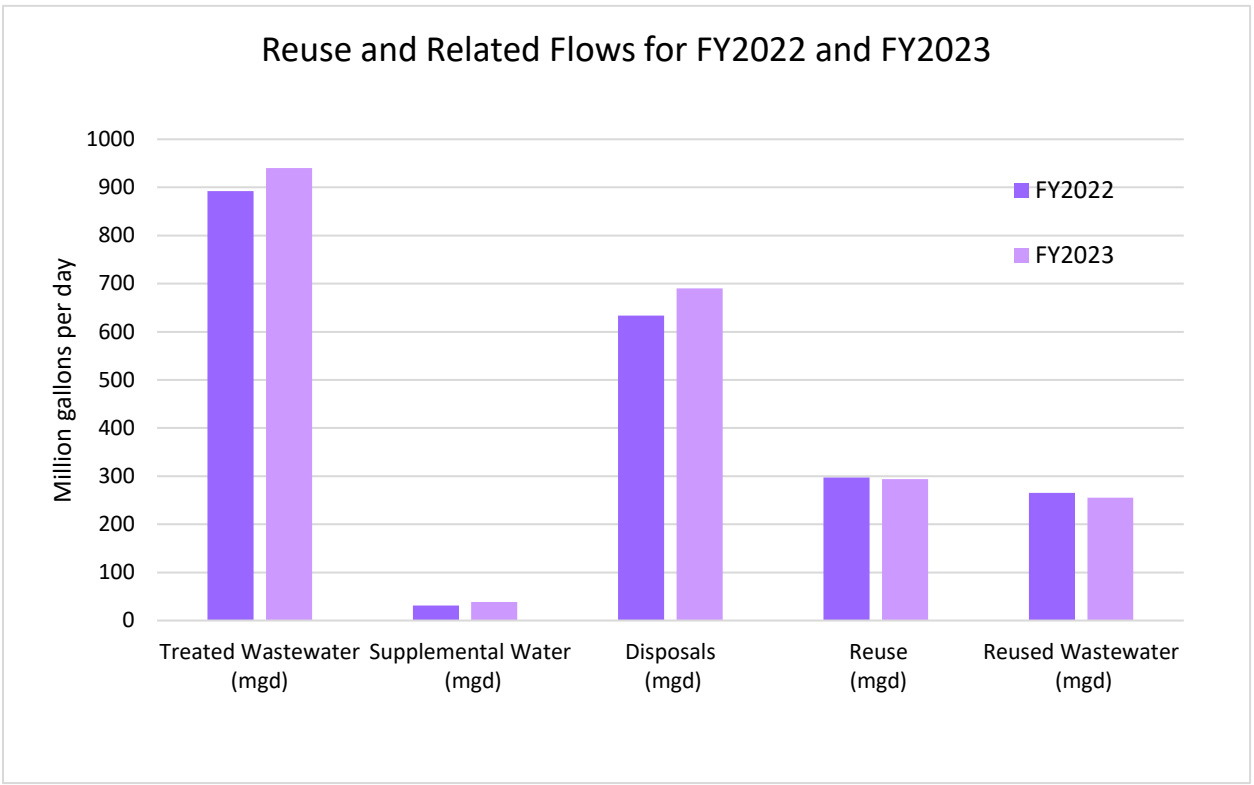

Figure 3. Reuse and related flow totals in the SFWMD in FY2022 and FY2023.

3.1 Reuse by Planning Area in the SFWMD

Population and selected reuse and related flow data for the SFWMD in FY2023 are shown by planning area in **Table 4**. Population figures are derived from the University of Florida's Bureau of Economic and Business Research and modified by SFWMD staff to reflect populations within the SFWMD for counties split with other water management districts.

Table 4. Population and percentages of selected reuse and related flows in FY2023 for the five planning areas in the SFWMD.

Parameter	LEC	LKB	LWC	UEC	UKB	SFWMD Total
WWTFs (≥ 0.10 mgd)	47*	4*	40*	20	17	128
Permanent Population	6,454,920	50,806	1,238,417	525,637	974,292	9,244,072
Percent of SFWMD Totals						
Population	69.8%	0.5%	13.4%	5.7%	10.5%	100.0%
Total Treated Wastewater	76.6%	0.1%	9.5%	2.9%	10.9%	100.0%
Reuse	33.1%	0.3%	31.3%	2.8%	32.6%	100.0%
Primary Application of Reuse	Landscape Irrigation	Agricultural Irrigation	Landscape Irrigation	Landscape Irrigation	Landscape Irrigation	Landscape Irrigation

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin; WWTF = wastewater treatment facility.

* Includes facilities owned and operated by the Seminole Tribe of Florida (one in the LWC, two in the LEC, and one in the LKB). Flows for those facilities were not analyzed for this report.

3.2 Reuse and Related Flows in the SFWMD

Key highlights from the FY2023 flow data for the 124 facilities analyzed for this report (omitting four facilities owned and operated by the Seminole Tribe of Florida and including the Sebring WWTF) follow directly below. Further analyses of FY2023 Districtwide flow data are presented later in this section.

- Total Treated Wastewater 940.37 mgd
- Total Reuse[a] 294.15 mgd
- Total Supplemental Water 38.76 mgd
- Total Reused Wastewater[b] 255.38 mgd (27.2% of total treated wastewater)
- Total Disposal 690.03 mgd (73.4% of total treated wastewater)

[a] Includes supplemental water.

[b] Total reuse minus total supplemental water.

Table 5 shows the population, reuse and related flows, and percentage of reused wastewater by county and planning area in FY2023.

Table 5. Population, reuse and related flow totals, and percentage of reused wastewater by county and planning area in FY2023.

County	Population	Planning Area	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Broward	1,993,650	LEC	237.99	0.17	224.64	18.07	17.90	7.5%
Charlotte	1,713	LWC	0.93	0.91	0.00	1.76	0.85	91.5%
Collier	400,356	LWC	31.03	5.82	7.09	29.48	23.66	76.2%
Glades	12,287	LWC	0.18	0.00	0.00	0.18	0.18	100.0%
Hendry	41,117	LWC	2.16	0.00	0.41	0.61	0.61	28.2%
Highlands	9,009	LKB	0.03	0.00	0.00	0.03	0.03	100.0%
Lee	827,339	LWC	54.85	25.08	20.63	59.58	34.50	62.9%
Martin	163,778	UEC	7.98	0.14	4.38	3.89	3.75	47.1%
Miami-Dade	2,792,246	LEC	353.35	0.00	340.62	18.67	18.67	5.3%
Monroe	84,681	LEC	8.52	0.07	10.24	0.38	0.31	3.6%
Okeechobee	38,519	LKB	1.30	0.00	0.47	0.83	0.83	63.6%
Orange	485,375	UKB	66.99	0.62	0.00	62.53	61.91	92.4%
Osceola	444,452	UKB	31.72	0.67	0.34	28.66	27.99	88.2%
Palm Beach	1,543,226	LEC	120.75	4.82	65.98	60.41	55.59	46.0%
Polk	44,465	UKB	3.55	0.00	0.30	4.75	4.75	133.9%[d]
St. Lucie	361,859	UEC	19.04	0.47	14.94	4.31	3.84	20.2%
Total	**9,244,072**		**940.37**	**38.76**	**690.03**	**294.15**	**255.38**	**27.2%**

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.

[b] Reused Wastewater = Reuse – Supplemental Water.

[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

[d] The percentage of reused wastewater in Polk County includes treated wastewater from facilities in Osceola County sent to reclaimed users within Polk County.

The differences in the proportions of total reuse flow to population, as can be observed in **Table 5**, can be due to several factors in each county and/or planning area. For example, the two largest and most populated counties in the LEC Planning Area, Miami-Dade and Broward, were heavily developed before reuse implementation became widespread in Florida and are heavily hardscaped, thus not having high demands for irrigation. This makes installation of reclaimed water transmission pipe and other infrastructure more costly to implement than in other less developed areas, such as the LWC Planning Area (Collier, Lee, and rural parts of Glades, Charlotte, and Hendry counties), which began experiencing growth and development more recently. Much of the growth in the UKB Planning Area (Orange, Osceola, and Polk counties) also began after water reuse became more commonly implemented in Florida. In addition, the nature of the UKB's water supply and aquifer withdrawal challenges have created a necessity for utilities in that planning area to diversify water supply sources, including reclaimed water.

In FY2023, Irrigation (Landscape and Agriculture) was the largest category of reclaimed water use in the District, accounting for 203.31 mgd (or 69.1% of the 294.15 mgd Districtwide total reuse), followed by Groundwater Recharge at 35.44 mgd (or 12.0% of the total reuse) and At Treatment Plant (treatment process) use at 28.59 mgd (or 9.7% of the total reuse). Industrial and Other uses at 24.74 mgd (or 8.4% of the total reuse) and Wetlands recharge at 2.06 mgd (or 0.7% of the total reuse) made up the remainder of the Districtwide reuse profile. **Figure 4** shows the reclaimed water totals by categories for the District as a whole. **Table 6** shows the Districtwide breakdown of reuse by category and county.

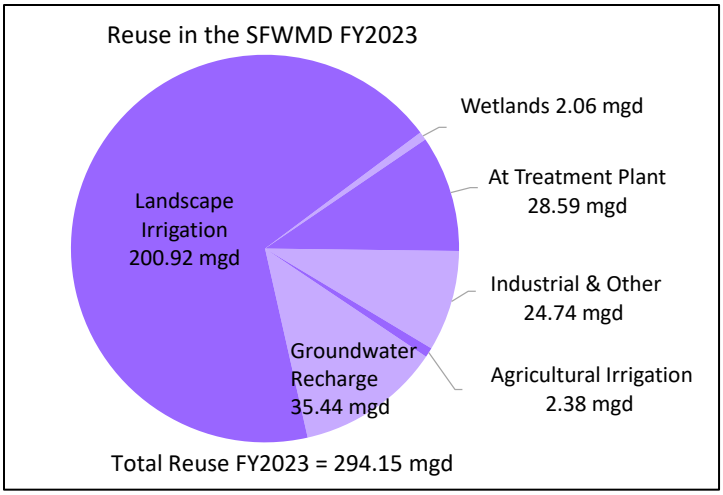

Figure 4. Districtwide reuse flows for categories (inclusive of supplemental water).

Table 6. Reuse by county in FY2023 (inclusive of supplemental water).

County	Planning Area	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Broward	LEC	0.00	7.15	0.34	0.00	9.84	0.75	18.07
Charlotte	LWC	0.00	1.56	0.05	0.00	0.00	0.15	1.76
Collier	LWC	0.11	28.91	0.46	0.00	0.00	0.00	29.48
Glades	LWC	0.00	0.00	0.00	0.18	0.00	0.00	0.18
Hendry	LWC	0.00	0.00	0.61	0.00	0.00	0.00	0.61
Highlands	LKB	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Lee	LWC	0.00	55.46	3.08	0.00	0.04	1.01	59.58
Martin	UEC	0.28	3.37	0.18	0.00	0.01	0.06	3.89
Miami-Dade	LEC	0.00	0.00	3.96	0.00	14.71	0.00	18.67
Monroe	LEC	0.00	0.35	0.00	0.00	0.00	0.02	0.38
Okeechobee	LKB	0.71	0.00	0.00	0.00	0.00	0.11	0.83
Orange	UKB	0.48	36.40	23.19	0.00	1.70	0.78	62.53
Osceola	UKB	0.71	22.25	3.16	0.00	0.00	2.55	28.66
Palm Beach	LEC	0.00	37.00	0.01	1.88	2.23	19.29	60.41
Polk	UKB	0.10	4.49	0.16	0.00	0.00	0.00	4.75
St. Lucie	UEC	0.00	3.99	0.22	0.00	0.07	0.04	4.31
Total	**Districtwide**	**2.38**	**200.92**	**35.44**	**2.06**	**28.59**	**24.74**	**294.15**

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

[a] Other can include, but may not be limited to, activities such as toilet flushing or dust suppression.

[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Due to the significant portion of the District's reuse profile accounted for by irrigation, inclusive of supplemental water, the reuse categories of Landscape Irrigation and Agricultural Irrigation are divided into subcategories as shown in **Figure 5**.

In FY2023, the Landscape Irrigation subcategory of residential properties, at 105.43 mgd, was the largest, accounting for 51.9% of all Landscape Irrigation reuse, followed by the subcategories of golf courses (56.92 mgd) and other public access areas (38.58 mgd). Agricultural Irrigation accounted for 2.38 mgd, including the subcategories of edible and nonedible crops. **Table 7** shows Landscape Irrigation and Agricultural Irrigation reuse by subcategory and by District planning area.

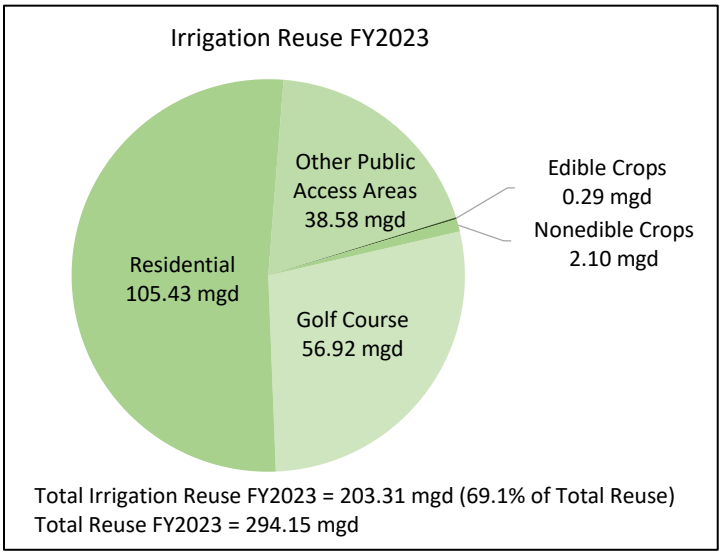

Figure 5. Districtwide irrigation reuse by irrigation subcategories (inclusive of supplemental water).

Table 7. Irrigation reuse by subcategory and county in FY2023 (inclusive of supplemental water).

County	Planning Area	Golf Course (mgd)	Residential (mgd)	Other Public Access (mgd)	Edible Crops (mgd)	Nonedible Crops (mgd)	Total Irrigation (mgd)	Acres Irrigated
Broward	LEC	1.72	4.65	0.78	0.00	0.00	7.15	2,545
Charlotte	LWC	0.28	0.55	0.73	0.00	0.00	1.56	528
Collier	LWC	9.44	14.94	4.53	0.00	0.11	29.02	9,906
Glades	LWC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hendry	LWC	0.00	0.00	0.00	0.00	0.00	0.00	198
Highlands	LKB	0.00	0.00	0.00	0.00	0.00	0.00	67
Lee	LWC	11.80	40.89	2.78	0.00	0.00	55.46	19,207
Martin	UEC	2.37	0.58	0.42	0.00	0.28	3.65	2,341
Miami-Dade	LEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monroe	LEC	0.20	0.12	0.04	0.00	0.00	0.35	311
Okeechobee	LKB	0.00	0.00	0.00	0.00	0.71	0.71	1,396
Orange	UKB	4.31	15.22	16.87	0.29	0.19	36.88	37,831
Osceola	UKB	3.91	11.37	6.98	0.00	0.71	22.96	9,606
Palm Beach	LEC	20.50	11.08	5.42	0.00	0.00	37.00	11,752
Polk	UKB	0.67	3.80	0.02	0.00	0.10	4.59	1,314
St. Lucie	UEC	1.73	2.24	0.02	0.00	0.00	3.99	8,048
Total	**Districtwide**	**56.92**	**105.43**	**38.58**	**0.29**	**2.10**	**203.31**	**105,049**

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

3.3 Supplemental Sources to Meet Reclaimed Water Demand

Although wastewater, the precursor to reclaimed water, is generated year-round, in many systems there is variability to the flow due to seasonal population, tourism, and rainfall (infiltration/inflow increases). The demand for reclaimed water can also have a seasonal variability, especially in areas where reclaimed water is primarily used for irrigation due to rainfall and cooler winter months. In South Florida, seasonal population increases are not concomitant with (higher) summer demands for irrigation, which is the largest application use of reclaimed water. Therefore, supplemental water is sometimes added to reclaimed water systems by utilities to increase the volume and reliability of their reclaimed water supply, especially to meet peak demands during dry periods.

In the SFWMD, supplemental water sources include the following:

- Surface water
- Groundwater
- Aquifer storage and recovery (ASR)
- Membrane concentrate from drinking water facilities
- Drinking water

When utilities add membrane concentrate from a potable water facility to their reclaimed water supply, this augments their reclaimed water supply while simultaneously providing a disposal method for this water treatment byproduct. **Figure 6** shows the Districtwide breakdown of the water sources used to supplement reclaimed water.

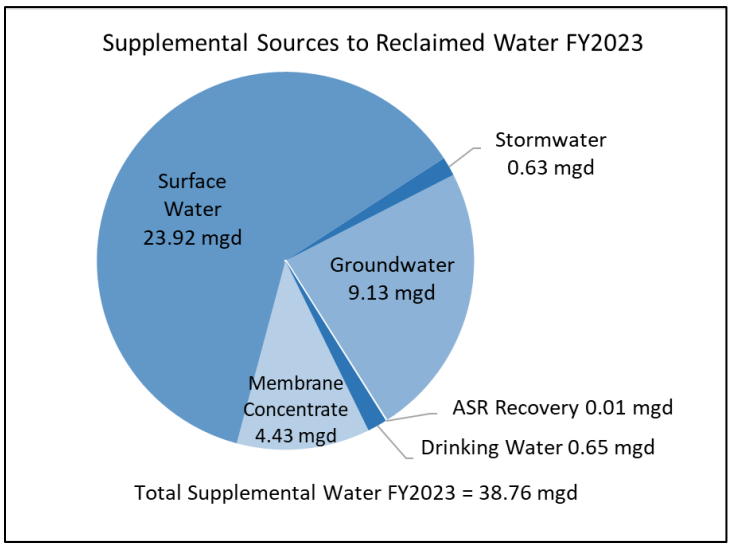

Figure 6. Districtwide supplemental water flows by source.

As stated previously, the total supplemental water use in the SFWMD in FY2023 was 38.76 mgd. Of the total supplemental water, almost two-thirds of that flow (23.92 mgd) was sourced from surface water, followed by 9.13 mgd from groundwater, 4.43 mgd from membrane concentrate, 0.65 mgd from drinking water, 0.63 mgd from stormwater, and 0.01 mgd from ASR.

The use of supplemental water supplies is subject to District water use permitting requirements and water shortage restrictions for most supplemental sources. **Table 8** shows the breakdown of supplemental water by type and county.

Table 8. Supplemental water use by source and county in FY2023.

County	Planning Area	Surface Water (mgd)	Stormwater (mgd)	Groundwater (mgd)	Drinking Water (mgd)	Membrane Concentrate (mgd)	ASR (mgd)	Total Supplemental Water (mgd)
Broward	LEC	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Charlotte	LWC	0.00	0.00	0.83	0.00	0.08	0.00	0.91
Collier	LWC	2.08	0.00	3.67	0.00	0.06	0.01	5.82
Glades	LWC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hendry	LWC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Highlands	LKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	LWC	21.42	0.22	3.45	0.00	0.00	0.00	25.08
Martin	UEC	0.00	0.00	0.14	0.00	0.00	0.00	0.14
Miami-Dade	LEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monroe	LEC	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Okeechobee	LKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orange	UKB	0.00	0.00	0.62	0.00	0.00	0.00	0.62
Osceola	UKB	0.41	0.00	0.24	0.00	0.02	0.00	0.67
Palm Beach	LEC	0.00	0.00	0.15	0.41	4.25	0.00	4.82
Polk	UKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00
St. Lucie	UEC	0.00	0.41	0.04	0.00	0.02	0.00	0.47
Total	**Districtwide**	**23.92**	**0.63**	**9.13**	**0.65**	**4.43**	**0.01**	**38.76**

ASR = aquifer storage and recovery; LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

3.4 Effluent Disposal

Effluent is treated wastewater that is not reused, per Rule 62-600.200, F.A.C. The disposal of effluent is an expense to a water utility that provides no water supply benefit to the utility's service area. Because wastewater is the precursor to water reuse, effluent disposal is the loss of potentially reusable water. Therefore, effluent disposal can be considered a metric of the efficient use of water by a utility or region. However, it may be unrealistic to presume all treated wastewater can be applied as reuse in all cases, as there are some circumstances where the establishment or expansion of a reclaimed water system is not feasible. Such circumstances may include the existing state of development of a community, where roads and other urban infrastructure make the installation of transmission lines costly and technically difficult. Other obstacles include a low demand for alternative (reclaimed) water, environmental water quality restrictions in ecologically sensitive areas, or coastal areas where saltwater has infiltrated into wastewater collection systems, increasing salinity of treated wastewater in excess of the salt tolerance of most irrigated landscapes. In addition, in some applications, meeting more stringent water quality standards can push treatment costs higher than the costs to dispose of effluent.

Wastewater and/or reclaimed water not used for a beneficial purpose is disposed of in the SFWMD via the following methods:

- Deep well injection
- Ocean discharge (phasing out except as emergency backup by 2026)
- Surface water discharge (phasing out with some exceptions by 2032)
- Coastal or estuarine discharge (phasing out with some exceptions by 2032)
- Shallow well injection (limited in the SFWMD to the Florida Keys)
- Other discharge (percolation ponds, sprayfields, borrow pits)

As stated previously, the total disposal in the SFWMD in FY2023 was 690.03 mgd, representing 73.4% of the total treated wastewater generated therein. Of the total disposal, 477.49 mgd (69.2%) was injected into deep aquifer systems (not connected to potable aquifer sources). This is, in part, because many utilities have determined increasing deep well injection is more feasible than expanding water reuse at this time. Additionally, demand for reclaimed water tends to decrease during periods of wet weather when irrigation demands are lowest, thus forcing utilities to maintain a reliable disposal option. Hence, most utilities, including ones with active reuse programs, operate deep injection wells. For these reasons, deep well injection will continue to be the most prevalent means of effluent disposal into the future within South Florida, even as utilities continue to expand their reclaimed water systems.

Following deep well injection, ocean discharge made up the next most significant method of effluent disposal at 192.02 mgd, or 27.8% of the Districtwide total disposal. **Figure 7** shows the Districtwide breakdown of effluent disposal. **Table 9** shows effluent disposal by method and by planning area.

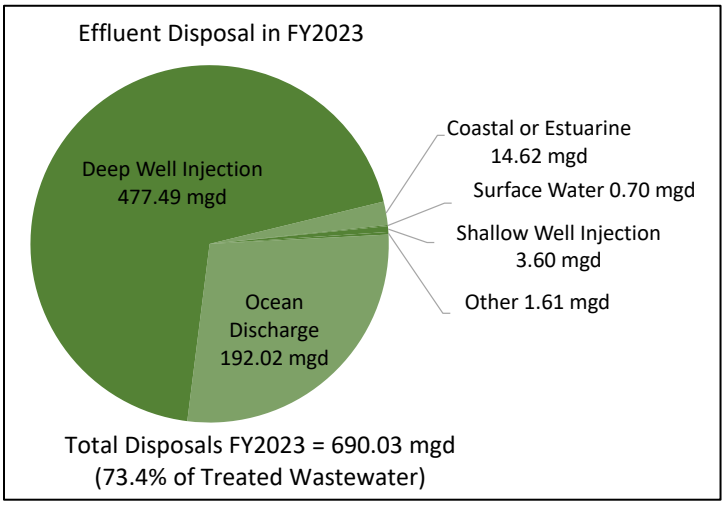

Figure 7. Districtwide effluent disposal by method.

Table 9. Effluent disposal by method and county in FY2023.

County	Planning Area	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water Discharge (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Treated Wastewater Disposed[b]
Broward	LEC	63.16	0.00	0.00	160.99	0.00	0.49	224.64	94.4%
Charlotte	LWC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Collier	LWC	0.00	0.00	0.00	7.07	0.00	0.02	7.09	22.8%
Glades	LWC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Hendry	LWC	0.00	0.00	0.41	0.00	0.00	0.00	0.41	18.9%
Highlands	LKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Lee	LWC	0.00	14.61	0.00	5.86	0.00	0.15	20.63	37.6%
Martin	UEC	0.00	0.00	0.00	4.38	0.00	0.00	4.38	55.0%
Miami-Dade	LEC	122.91	0.00	0.00	217.71	0.00	0.00	340.62	96.4%
Monroe	LEC	0.00	0.00	0.00	6.21	3.60	0.43	10.24	120.2%
Okeechobee	LKB	0.00	0.00	0.00	0.47	0.00	0.00	0.47	36.4%
Orange	UKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%

Table 9. Continued.

County	Planning Area	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water Discharge (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Treated Wastewater Disposed[b]
Osceola	UKB	0.00	0.00	0.00	0.34	0.00	0.00	0.34	1.1%
Palm Beach	LEC	5.93	0.00	0.00	59.53	0.00	0.52	65.98	54.6%
Polk	UKB	0.00	0.00	0.30	0.00	0.00	0.00	0.30	8.3%
St. Lucie	UEC	0.01	0.00	0.00	14.93	0.00	0.00	14.94	78.5%
Total	**Districtwide**	**192.02**	**14.62**	**0.70**	**477.49**	**3.60**	**1.61**	**690.03**	**73.4%**

LEC = Lower East Coast; LKB = Lower Kissimmee Basin; LWC = Lower West Coast; mgd = million gallons per day; UEC = Upper East Coast; UKB = Upper Kissimmee Basin.

[a] Other disposal methods include percolation ponds, sprayfields, and borrow pits that are not considered reuse.

[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4 REUSE AND RELATED FLOWS IN THE SFWMD BY WATER SUPPLY PLANNING AREA

This section provides an overview of reuse and related flows, as defined in this document (refer to **Section 1**), in each of the five planning areas of the SFWMD.

4.1 Reuse and Related Flows in the Lower East Coast

4.1.1 Regional Overview: Lower East Coast

The LEC Planning Area includes all of Palm Beach, Broward, and Miami-Dade counties, most of Monroe County, and the eastern portions of Hendry and Collier counties (**Figure 1**). Palm Beach County is projected to experience strong population growth and development through 2045. Concurrently, reuse implementation is expected to increase as well. Although population growth is expected through 2045 in Broward and Miami-Dade counties, reuse implementation is expected to increase only slowly. This is partially due to the high costs associated with installing reclaimed water transmission lines in previously developed (urban) areas. Monroe County is projected to experience low population growth through 2045. The portions of Hendry and Collier in the LEC Planning Area are rural or natural areas and do not contain any operating WWTFs.

In FY2023, the LEC Planning Area contained 45 WWTFs permitted to treat ≥ 0.10 mgd of wastewater. Key highlights from the FY2023 flow data (omitting two facilities owned and operated by the Seminole Tribe of Florida) for this planning area follow directly below. Further analyses of FY2023 flow data for this planning area are presented later in this section.

- Total Treated Wastewater 720.60 mgd
- Total Reuse[a] 97.53 mgd
- Total Supplemental Water 5.05 mgd
- Total Reused Wastewater[b] 92.47 mgd (12.8% of total treated wastewater)
- Total Disposal 641.48 mgd (89.0% of total treated wastewater)

[a] Includes supplemental water.

[b] Total reuse minus total supplemental water.

Landscape Irrigation was the most significant reuse category in the LEC Planning Area. **Figure 8** shows the breakdown of total reuse by category in the LEC Planning Area.

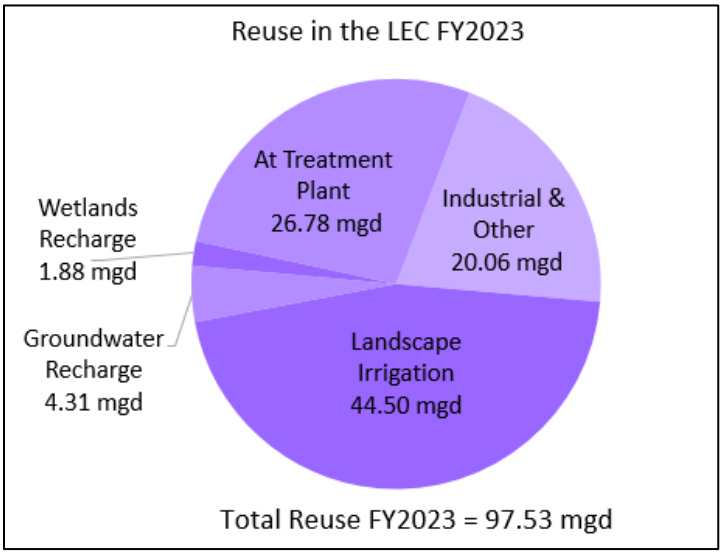

Figure 8. Reuse by category in the LEC Planning Area (inclusive of supplemental water).

4.1.2 Summary and Project Information

Notable occurrences and observations from reuse and related flow data and communications with utilities from the LEC Planning Area in FY2023 are as follows:

- The LEC Planning Area contained 69.8% of the District's total permanent resident population and accounted for 76.6% of the total treated wastewater in the District.
- More than 90% of total the Districtwide effluent was disposed of by the counties in the LEC Planning Area (641 mgd of 690 mgd).
- Approximately 13% of the total treated wastewater in the planning area was reused.
- Landscape Irrigation reuse in the LEC Planning Area accounted for almost half of all reclaimed water use (44.50 mgd of 97.53 mgd of total reuse).
- Supplemental water use (5.05 mgd) was not significant.
- Effluent disposal in the LEC Planning Area accounted for 89% of its total treated wastewater (641 mgd of 721 mgd).
- Palm Beach County accounted for nearly two-thirds of all reuse in the region, with Miami-Dade and Broward counties combined accounting for approximately 20% each. Monroe County reused less than 1%.
- Of the 641.48 mgd of effluent disposed of in the LEC Planning Area, 444.44 mgd (or 69.3% of the total planning area's effluent) was disposed of via deep well injection, and 192.00 mgd (29.9%) was discharged to the ocean.
- Much (or all) of the ocean outfall discharges should be eliminated by 2026 pursuant to the OOL requirements.

- The Broward County – Palm Beach County reclaimed water transmission interconnect will convey approximately 10.5 mgd of reclaimed water from the Broward County North WWTF to users in southern Palm Beach County by 2028. Additionally, by 2045, approximately 5.5 mgd of reclaimed water will be sent to the City of Coconut Creek, the North Springs Improvement District, and the City of Deerfield Beach (all within Broward County) via this interconnection as well.
- The Miami-Dade Water and Sewer Department South WWTF will provide up to 15 mgd of reclaimed water to the Florida Power and Light Turkey Point Clean Energy Center beginning in 2025.
- For the utilities and cities affected by the OOL, the *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) indicated that reuse is projected to increase by over 145 mgd, total disposal is projected to decrease by 20 mgd, and ocean outfall disposal is projected to decrease by approximately 160 mgd by 2026. During the same period, wastewater flows in these utilities and cities are projected to increase by approximately 100 mgd.
- The cities of Miramar, Hollywood, and Cooper City (all within Broward County) have entered into contractual (virtual) reuse agreements (see **Section 2.2** Leah Schad Memorial Ocean Outfall Program).
- The City of Pompano Beach (Broward County) diverted 2.80 mgd of treated wastewater from Broward County's ocean outfall pipeline for reuse. Because Broward County will cease using its ocean outfall except for backup disposal due to the OOL, a dedicated effluent pipeline is being constructed from the Broward County North WWTF to the Pompano Beach Reuse Facility, and estimated completion is by 2025. The Pompano Beach Reuse Facility will receive approximately 5 mgd of treated wastewater (increasing up to 10 mgd by 2045) via the dedicated pipeline. The City of Pompano Beach continues to add end users (residential irrigation) to its reclaimed water service area annually (500 additional homes expected from 2024 to 2025).
- The Tindall Hammock (Broward County) WWTF is discontinuing its reclaimed water program by 2027 due to storage issues. All effluent will be disposed of via deep well injection.
- The City of Marathon (Monroe County) has committed to interconnecting all five of its WWTFs and installing a deep injection well for disposal. The interconnections are strictly to minimize the number of required deep injection wells. The City of Marathon does not currently have significant demand for reclaimed water.
- For FY2025, the Florida Keys Aqueduct Authority (FKAA) will add a reclaimed water expansion project titled "Big Coppitt Reclaimed Water System Expansion" to its 5-year Capital Improvement Plan. FKAA is also evaluating the expansion of reclaimed water at Duck Key WWTF.
- Palm Beach County Water Utilities Department has initiated construction of their Reclaimed Education & Center for Advanced Water Purification (RECAP) & Green Cay Phase II Wetland project. This project, slated to open in 2026, will purify 2 mgd of reclaimed water and replenish groundwater supplies through created wetlands.
- The *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a) indicated there are seven utilities with proposed project expansions of reclaimed water production capacity totaling 32.35 mgd in the LEC Planning Area. This would increase the reclaimed water production capacity in the LEC Planning Area from approximately 302 mgd to 335 mgd by 2045. Several utilities also have proposed reclaimed water distribution expansion projects.*

* A full list of proposed reclaimed water facility or distribution line expansion projects is available in Chapter 8 of the *2023–2024 Lower East Coast Water Supply Plan Update* (SFWMD 2024a).

4.1.3 Reuse and Related Flows by County: Lower East Coast

Reuse and related flows by county, supporting some of the notable occurrences and observations stated previously in this section, are included in **Tables 10** to **13**.

Table 10. Reuse and related flow totals and the percentage of reused wastewater by county in the LEC Planning Area.

County	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Broward	237.99	0.17	224.64	18.07	17.90	7.5%
Miami-Dade	353.35	0.00	340.62	18.67	18.67	5.3%
Monroe	8.52	0.07	10.24	0.38	0.31	3.6%
Palm Beach	120.75	4.82	65.98	60.41	55.59	46.0%
LEC Planning Area Total	**720.60**	**5.05**	**641.48**	**97.53**	**92.47**	**12.8%**

LEC = Lower East Coast; mgd = million gallons per day.
[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.
[b] Reused Wastewater = Reuse – Supplemental Water.
[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

Table 11. Reuse by category and county in the LEC Planning Area.

County	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Broward	0.00	7.15	0.34	0.00	9.84	0.75	18.07
Miami-Dade	0.00	0.00	3.96	0.00	14.71	0.00	18.67
Monroe	0.00	0.35	0.00	0.00	0.00	0.02	0.38
Palm Beach	0.00	37.00	0.01	1.88	2.23	19.29	60.41
LEC Planning Area Total	**0.00**	**44.50**	**4.31**	**1.88**	**26.78**	**20.06**	**97.53**

LEC = Lower East Coast; mgd = million gallons per day.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Table 12. Supplemental water by source and county in the LEC Planning Area.

County	Surface Water (mgd)	Stormwater (mgd)	Groundwater (mgd)	Drinking Water (mgd)	Membrane Concentrate (mgd)	Total Supplemental Water (mgd)
Broward	0.00	0.00	0.00	0.17	0.00	0.17
Miami-Dade	0.00	0.00	0.00	0.00	0.00	0.00
Monroe	0.00	0.00	0.00	0.07	0.00	0.07
Palm Beach	0.001*	0.00	0.15	0.41	4.25	4.82
LEC Planning Area Total	**0.001***	**0.00**	**0.15**	**0.65**	**4.25**	**5.05**

LEC = Lower East Coast; mgd = million gallons per day.
* Shown as reported by the facility (Seacoast Utilities).

Table 13. Effluent disposal by method and county in the LEC Planning Area.

County	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Wastewater Disposed[b]
Broward	63.16	0.00	0.00	160.99	0.00	0.49	224.64	94.4%
Miami-Dade	122.91	0.00	0.00	217.71	0.00	0.00	340.62	96.4%
Monroe	0.00	0.00	0.00	6.21	3.60	0.43	10.24	120.2%
Palm Beach	5.93	0.00	0.00	59.53	0.00	0.52	65.98	54.6%
LEC Planning Area Total	**192.00**	**0.00**	**0.00**	**444.44**	**3.60**	**1.43**	**641.48**	**89.0%**

LEC = Lower East Coast; mgd = million gallons per day.

[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.

[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4.1.4 Reuse System Interconnections in the Lower East Coast

As stated in **Section 1**, reuse system interconnections exist where two or more reclaimed water systems or WWTFs are interconnected. These types of interconnections add flexibility, efficiency, and reliability of reclaimed water service. Existing system interconnections in the LEC Planning Area are shown in **Figures 8** to **10**, northern Palm Beach County, southern Palm Beach and Broward counties, and Miami-Dade County, respectively.

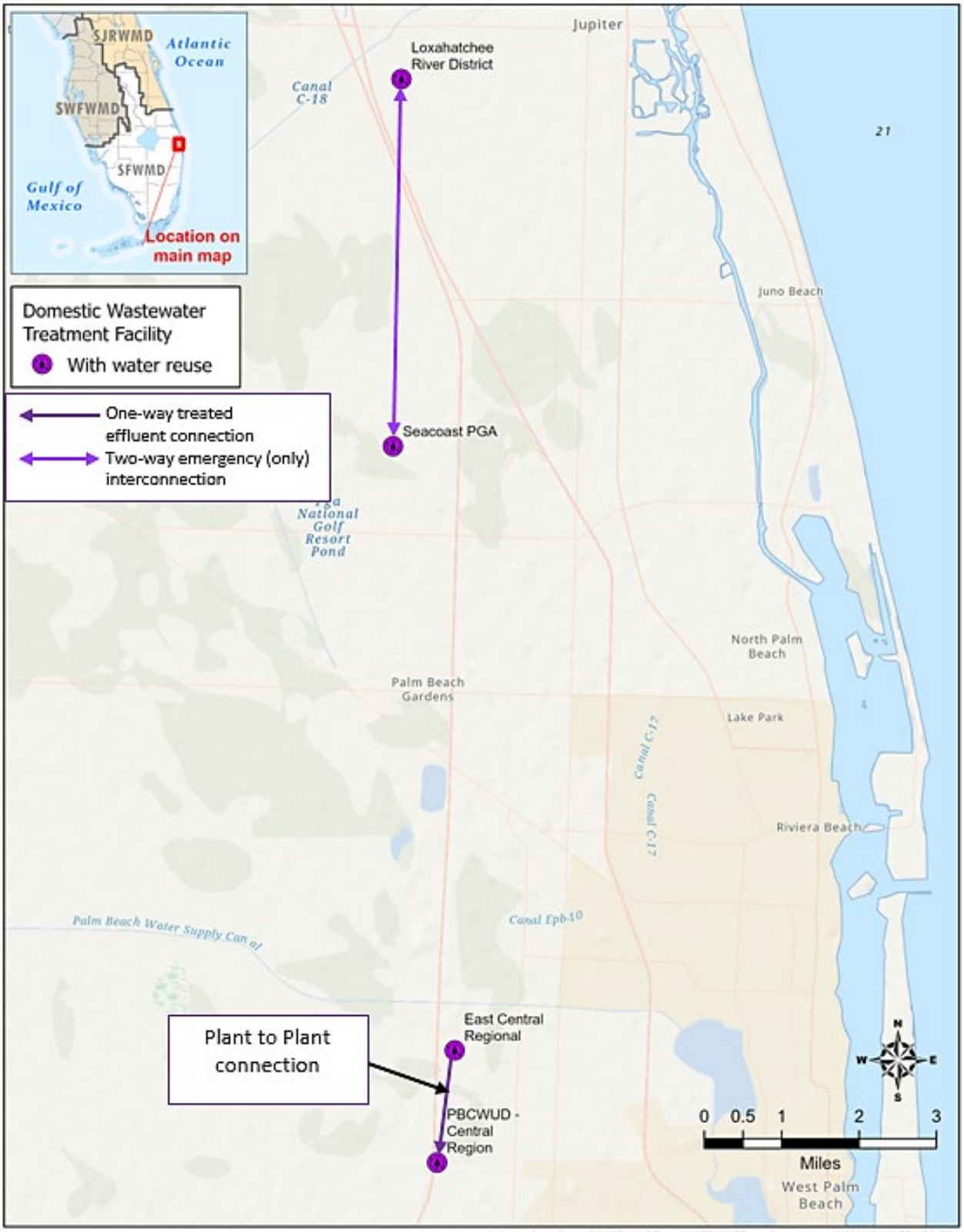

Figure 9. Reuse system interconnections in northern Palm Beach County. Arrows show direction of interconnection flow.

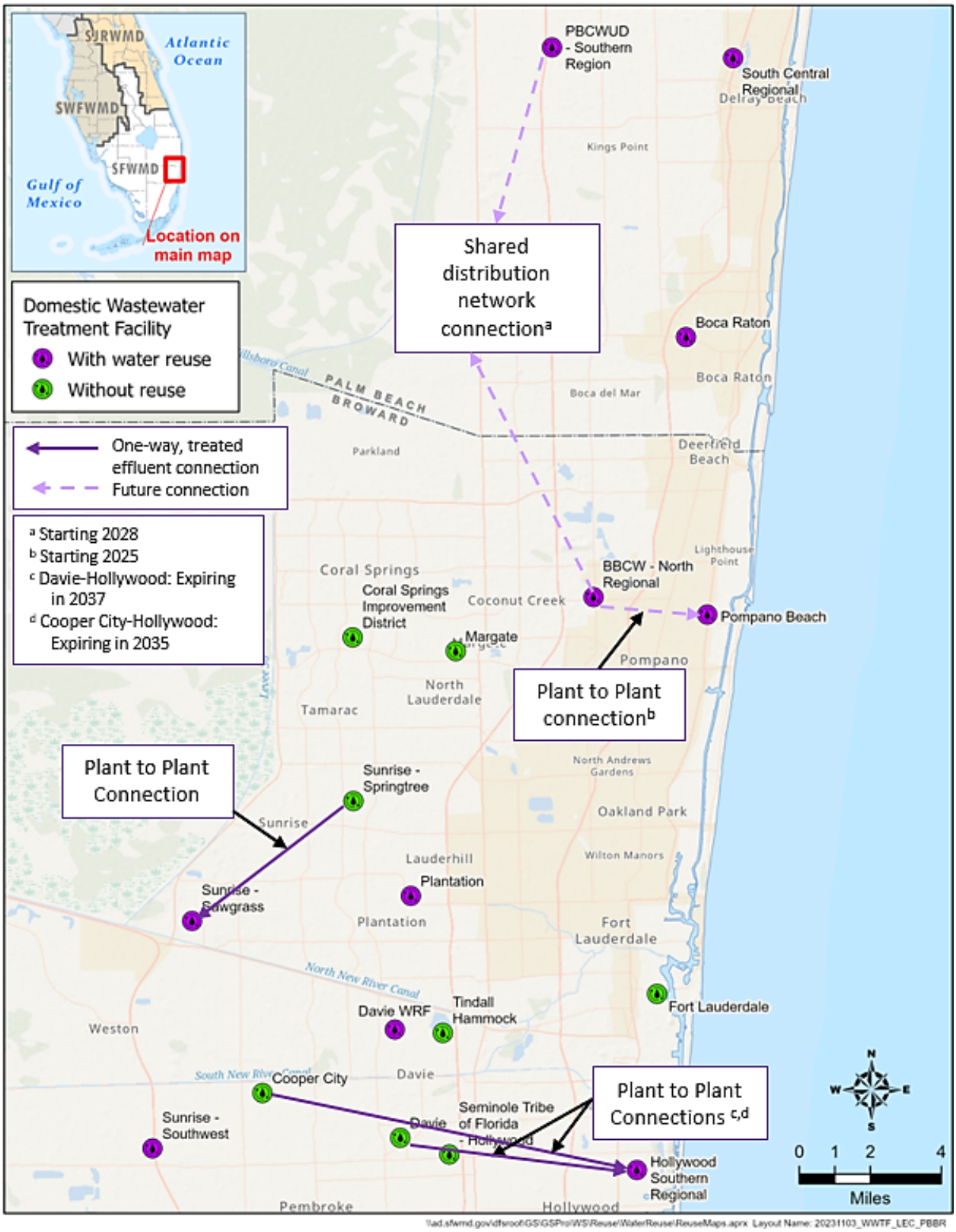

Figure 10. Reuse system interconnections in southern Palm Beach and Broward counties. Arrows show direction of interconnection flow.

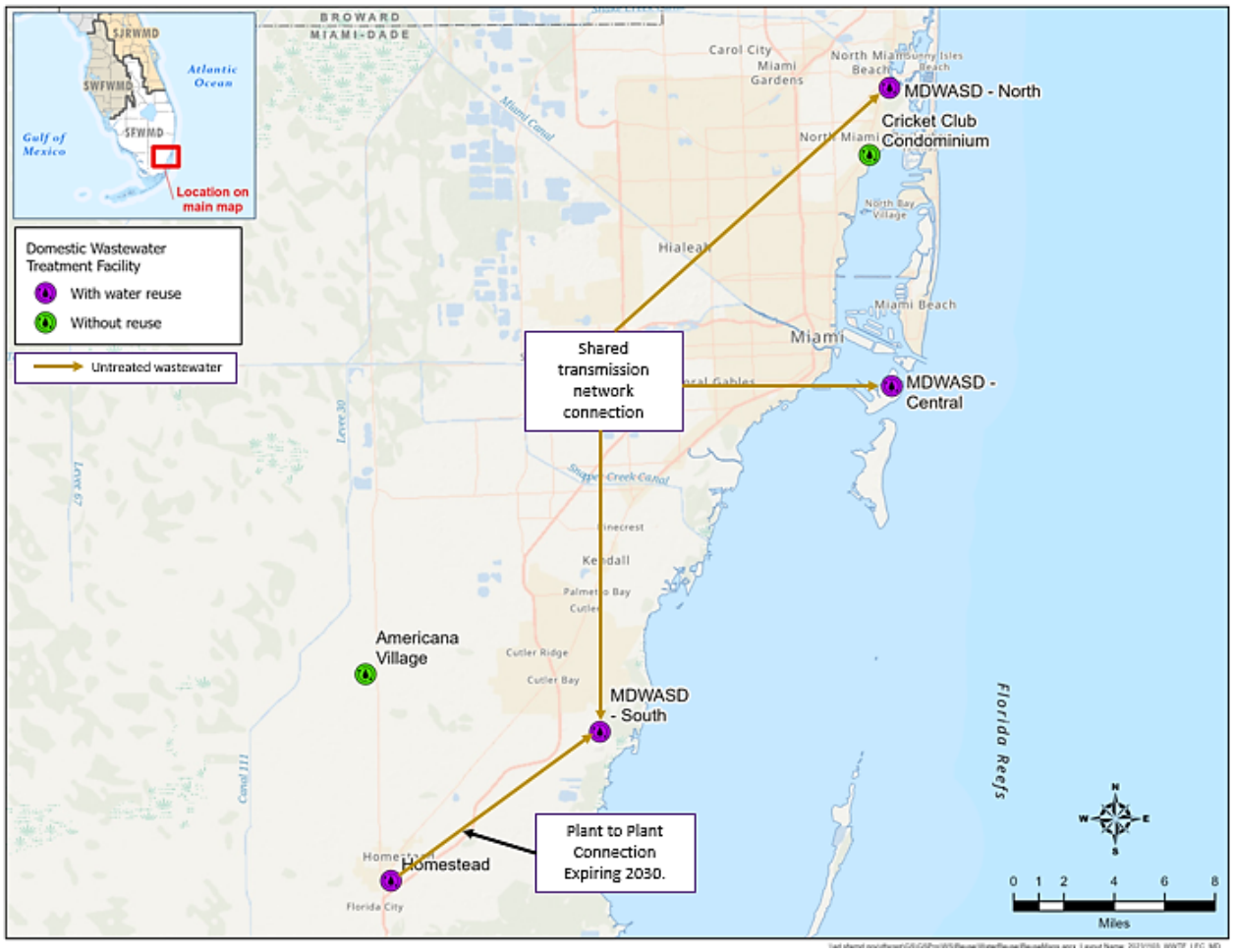

Figure 11. Reuse system interconnections in Miami-Dade County. Arrows show direction of interconnection flow.

4.2 Reuse and Related Flows in the Lower Kissimmee Basin

4.2.1 Regional Overview: Lower Kissimmee Basin

The LKB Planning Area includes portions of Glades, Okeechobee, and Highlands counties (**Figure 1**). The LKB Planning Area is mostly rural and is projected to grow slightly by approximately 6,000 permanent residents by 2045. The portion of Glades County in the LKB Planning Area does not contain any operating WWTFs. A portion of Highlands County is split with the Southwest Florida Water Management District (SWFWMD), and data included in this report are only for the portion located within the SFWMD.

In FY2023, the planning area contained two WWTFs permitted to treat ≥ 0.10 mgd of wastewater and the Sebring Airport, permitted at 0.09 mgd. The Sebring Airport is included in this report as it is the only other facility in the planning area that produces reclaimed water.

Key highlights from the FY2023 flow data (omitting one facility owned and operated by the Seminole Tribe of Florida) for this planning area follow directly below. Further analyses of FY2023 flow data for this planning area are presented later in this section.

- Total Treated Wastewater 1.34 mgd
- Total Reuse[a] 0.86 mgd
- Total Supplemental Water 0.00 mgd
- Total Reused Wastewater[b] 0.86 mgd (64.6% of total treated wastewater)
- Total Disposal 0.47 mgd (35.4 % of total treated wastewater)

[a] Includes supplemental water.
[b] Total reuse minus total supplemental water.

Agricultural Irrigation was the most significant reuse category in the LKB Planning Area. **Figure 12** shows the breakdown of total reuse by category in the LKB Planning Area.

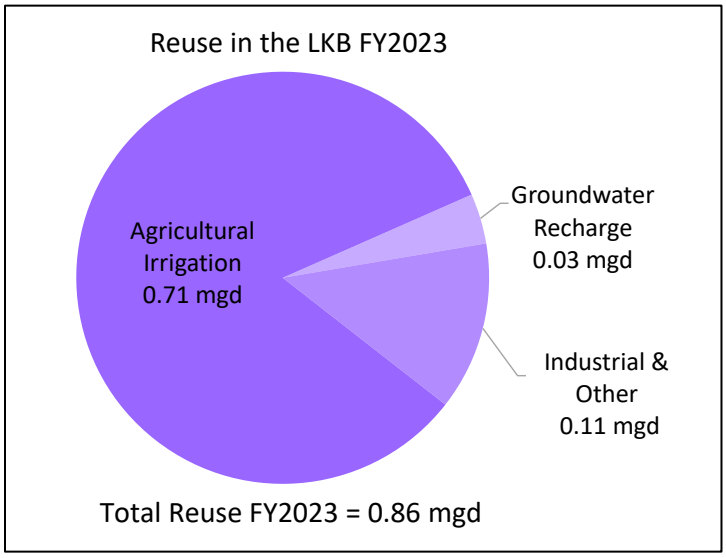

Figure 12. Reuse by category in the LKB Planning Area.

4.2.2 Summary and Project Information

Notable occurrences and observations from reuse and related flow data and communications with utilities from the LKB Planning Area in FY2023 are as follows:

- The LKB Planning Area contained less than 1% of the District's permanent resident population.
- Almost two-thirds of the total treated wastewater was reused (0.86 mgd of 1.34 mgd total treated wastewater).
- At 0.86 mgd, the LKB Planning Area had the smallest volume of reuse in the District.
- Agricultural Irrigation accounted for 0.71 mgd, or 82.8% of the total reuse.
- Approximately one-third of the total treated wastewater generated in the planning area was disposed of, all of which was disposed of via deep well injection.
- Supplemental water was not added to any reuse systems.

There were no proposed reclaimed water facility or distribution line expansion projects listed in the *2024 Lower Kissimmee Basin Water Supply Plan Update* (SFWMD 2024b).

4.2.3 Reuse and Related Flows by County: Lower Kissimmee Basin

Reuse and related flows by county, supporting some of the notable occurrences and observations stated previously in this section, are included in **Tables 14** to **16**.

Table 14. Reuse and related flow totals and the percentage of reused wastewater by county in the LKB Planning Area.

County	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Highlands	0.03	0.00	0.00	0.03	0.03	100.0%
Okeechobee	1.30	0.00	0.47	0.83	0.83	63.6%
LKB Planning Area Total	**1.34**	**0.00**	**0.47**	**0.86**	**0.86**	**64.6%**

LKB = Lower Kissimmee Basin; mgd = million gallons per day.
[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.
[b] Reused Wastewater = Reuse – Supplemental Water.
[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

Table 15. Reuse by category and county in the LKB Planning Area.

County	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Highlands	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Okeechobee	0.71	0.00	0.00	0.00	0.00	0.11	0.83
LKB Planning Area Total	**0.71**	**0.00**	**0.03**	**0.00**	**0.00**	**0.11**	**0.86**

LKB = Lower Kissimmee Basin; mgd = million gallons per day.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Table 16. Effluent disposal by method and county in the LKB Planning Area.

County	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Wastewater Disposed[b]
Highlands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Okeechobee	0.00	0.00	0.00	0.47	0.00	0.00	0.47	36.4%
LKB Planning Area Total	**0.00**	**0.00**	**0.00**	**0.47**	**0.00**	**0.00**	**0.47**	**35.4%**

LKB = Lower Kissimmee Basin; mgd = million gallons per day.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4.2.4 Reuse System Interconnections in the Lower Kissimmee Basin

There are no facility interconnections within the LKB Planning Area.

4.3 Reuse and Related Flows in the Lower West Coast

4.3.1 Regional Overview: Lower West Coast

The LWC Planning Area includes all of Lee County, most of Collier County, and portions of Charlotte, Glades, Hendry, and Monroe counties (**Figure 1**). Lee and Collier counties are significantly more populated and growing more rapidly than other locations in the LWC Planning Area. A portion of Charlotte County is split with the SWFWMD, and data included in this report are only for the portion located within the SFWMD. The portion of Monroe County in the LWC Planning Area is mostly rural and does not contain any operating WWTFs.

In FY2023, the LWC Planning Area contained 39 WWTFs permitted to treat ≥ 0.10 mgd of wastewater. Key highlights from the FY2023 flow data (omitting one facility owned and operated by the Seminole Tribe of Florida) for this planning area follow directly below. Further analyses of FY2023 flow data for this planning area are presented later in this section.

- Total Treated Wastewater 89.15 mgd
- Total Reuse[a] 91.61 mgd
- Total Supplemental Water 31.81 mgd
- Total Reused Wastewater[b] 59.80 mgd (67.1% of total treated wastewater)
- Total Disposal 28.12 mgd (31.5% of total treated wastewater)

[a] Includes supplemental water.
[b] Total reuse minus total supplemental water.

Landscape Irrigation was the most significant reuse category in the LWC Planning Area. **Figure 13** shows the breakdown of total reuse by category in the LWC Planning Area.

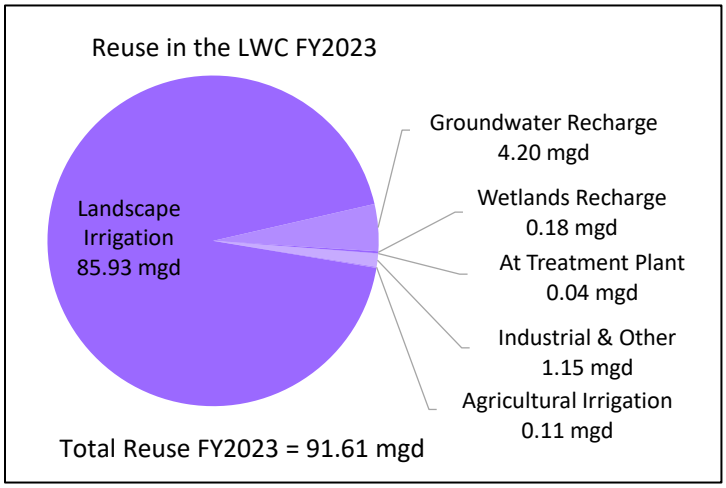

Figure 13. Reuse by category in the LWC Planning Area (inclusive of supplemental water).

Lee and Collier counties accounted for approximately 97.2% of the total reuse in the region in FY2023. Of the 39 WWTFs, (excluding one facility owned and operated by the Seminole Tribe of Florida not factored in flow calculations) 34 were located in these two counties.

4.3.2 Summary and Project Information

Notable occurrences and observations from reuse and related flow data and communications with utilities from the LWC Planning Area in FY2023 are as follows:

- The LWC Planning Area contained 13.4% of the District's total permanent resident population.
- Approximately two-thirds of the total treated wastewater was reused.
- Landscape Irrigation accounted for 93.8% of all reclaimed water (85.93 mgd of 91.61 mgd total reuse).
- Supplemental water use, at 31.81 mgd, was more significant and volumetrically greater in the LWC Planning Area than in any other planning area.
- Approximately one-third of the total treated wastewater generated in the planning area (28.12 mgd) was disposed of, with 12.93 mgd (or 46% of the total disposal) accounted for by deep well injection and 14.61 mgd (or 52% of the total disposal) discharged to the Caloosahatchee River.
- The subaqueous interconnection between the Cape Coral Everest WWTF and Fort Myers South WWTF was completed in January in 2024 and will reduce the discharges from Fort Myers to the Caloosahatchee River by up to 12 mgd.
- The Fiesta Village WWTF interconnect with Fort Myers Beach WWTF was completed in FY2023.
- The Fort Myers Central WWTF will be expanded by 6 mgd by 2029
- The Fort Myers South WWTF treatment upgrade, completed in January 2024, has enabled the facility to provide up to 12 mgd of reclaimed water.
- The Cape Coral Southwest WWTF will undergo some rehabilitation and potential plant capacity re-rating by 2027. The city is constructing a new North water reclamation facility by 2029–2030.
- The Everglades City WWTF is transitioning away from reclaimed water production. The new plant will treat to AWT standards for deep well disposal per the WWTF operations permit.
- The Naples WWTF recovered 0.01 mgd of reclaimed water from its ASR system in FY2023. This system is one of three ASR systems in the LWC Planning Area established to support a reclaimed water program but was the only one used for this purpose in FY2023.
- The *2022 Lower West Coast Water Supply Plan Update* (SFWMD 2022b) indicated nine utilities have proposed expansions of reclaimed water production capacity totaling 39.70 mgd. This would increase the reclaimed water production capacity in the planning area from approximately 159 mgd to 199 mgd by 2045. Several utilities also proposed reclaimed water distribution expansion projects.*

* A full list of proposed reclaimed water facility or distribution line expansion projects is available in Chapter 8 of the *2022 Lower West Coast Water Supply Plan Update* (SFWMD 2022b).

4.3.3 Reuse and Related Flows by County: Lower West Coast

Reuse and related flows by county, supporting some of the notable occurrences and observations stated previously in this section, are included in **Tables 17** to **20**.

Table 17. Reuse and related flow totals and the percentage of reused wastewater by county in the LWC Planning Area.

County	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Charlotte	0.93	0.91	0.00	1.76	0.85	91.5%
Collier	31.03	5.82	7.09	29.48	23.66	76.2%
Glades	0.18	0.00	0.00	0.18	0.18	100.0%
Hendry	2.16	0.00	0.41	0.61	0.61	28.2%
Lee	54.85	25.08	20.63	59.58	34.50	62.9%
LWC Planning Area Total	**89.15**	**31.81**	**28.12**	**91.61**	**59.80**	**67.1%**

LWC = Lower West Coast; mgd = million gallons per day.
[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.
[b] Reused Wastewater = Reuse – Supplemental Water.
[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

Table 18. Reuse by category and county in the LWC Planning Area.

County	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Charlotte	0.00	1.56	0.05	0.00	0.00	0.15	1.76
Collier	0.11	28.91	0.46	0.00	0.00	0.00	29.48
Glades	0.00	0.00	0.00	0.18	0.00	0.00	0.18
Hendry	0.00	0.00	0.61	0.00	0.00	0.00	0.61
Lee	0.00	55.46	3.08	0.00	0.04	1.01	59.58
LWC Planning Area Total	**0.11**	**85.93**	**4.20**	**0.18**	**0.04**	**1.15**	**91.61**

LWC = Lower West Coast; mgd = million gallons per day.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Table 19. Supplemental water by source and county in the LWC Planning Area.

County	Surface Water (mgd)	Stormwater (mgd)	Groundwater (mgd)	Drinking Water (mgd)	Membrane Concentrate (mgd)	ASR (mgd)	Total Supplemental Water (mgd)
Charlotte	0.00	0.00	0.83	0.00	0.08	0.00	0.91
Collier	2.08	0.00	3.67	0.00	0.06	0.01	5.82
Glades	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hendry	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lee	21.42	0.22	3.45	0.00	0.00	0.00	25.08
LWC Planning Area Total	**23.50**	**0.22**	**7.94**	**0.00**	**0.14**	**0.01**	**31.81**

ASR = aquifer storage and recovery; LWC = Lower West Coast; mgd = million gallons per day.

Table 20. Effluent disposal by method and county in the LWC Planning Area.

County	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Wastewater Disposed[b]
Charlotte	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Collier	0.00	0.00	0.00	7.07	0.00	0.02	7.09	22.8%
Glades	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Hendry	0.00	0.00	0.41	0.00	0.00	0.00	0.41	18.9%
Lee	0.00	14.61	0.00	5.86	0.00	0.15	20.63	37.6%
LWC Planning Area Total	**0.00**	**14.62**	**0.41**	**12.93**	**0.00**	**0.17**	**28.12**	**31.5%**

LWC = Lower West Coast; mgd = million gallons per day.

[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.

[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4.2.4 Reuse System Interconnections in the Lower West Coast

As stated in **Section 1**, reuse system interconnections exist where two or more reclaimed water systems or WWTFs are interconnected. These types of interconnections add flexibility, efficiency, and reliability of reclaimed water service. Existing system interconnections in the LWC Planning Area are shown in **Figure 13**.

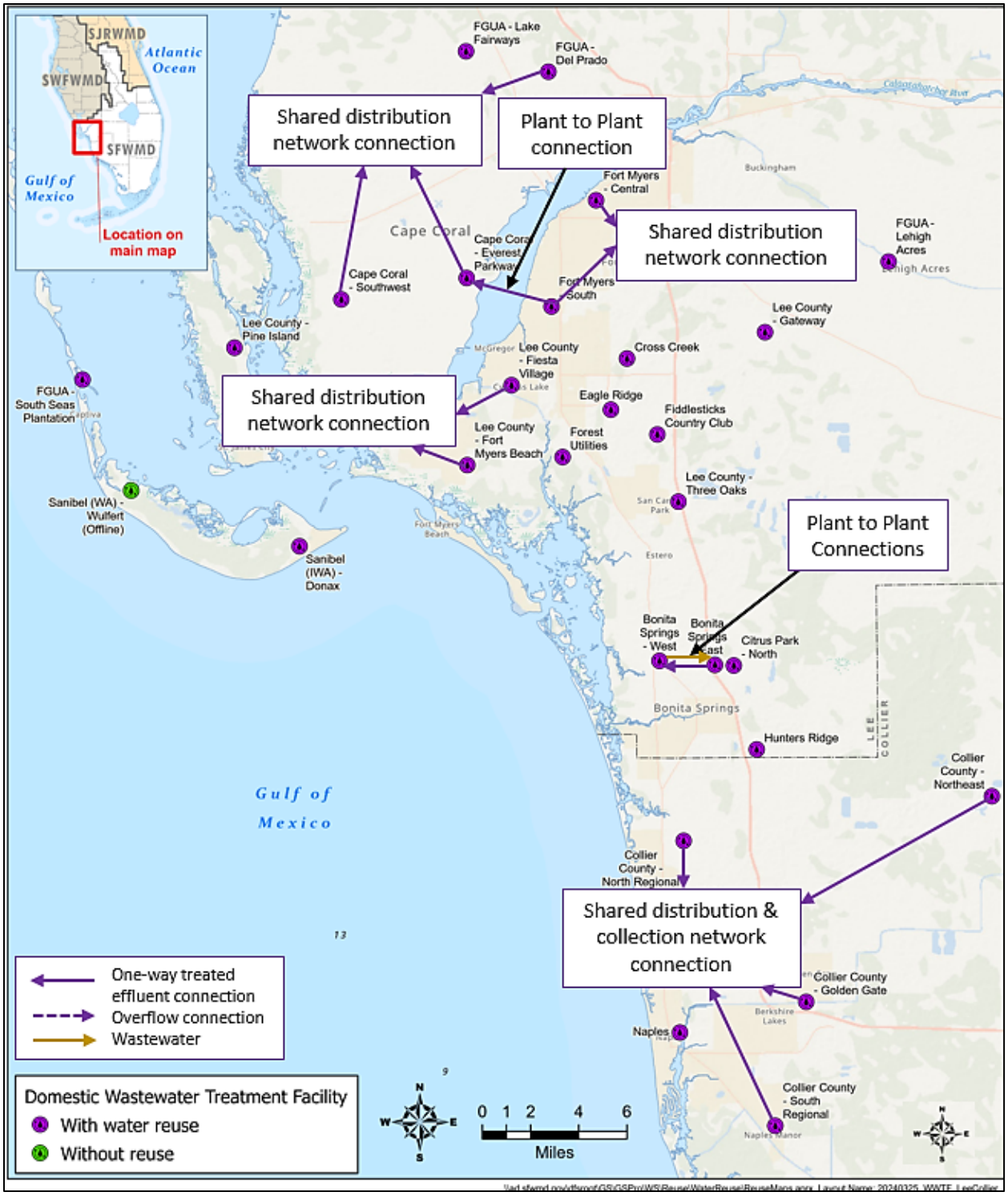

Figure 14. Reuse system interconnections in the LWC Planning Area. Arrows show direction of interconnection flow.

4.4 Reuse and Related Flows in the Upper East Coast

4.4.1 Regional Overview: Upper East Coast

The UEC Planning Area includes all of Martin and St. Lucie counties and the northeastern portion of Okeechobee County (**Figure 1**). Both Martin and St. Lucie counties are projected to experience substantial population growth through 2045. The portion of Okeechobee County in the UEC Planning Area is rural and projected to increase its population by less than 100 persons. It does not contain any operating WWTFs.

In FY2023, the UEC Planning Area contained 20 WWTFs permitted to treat ≥ 0.10 mgd of wastewater. Key highlights from the FY2023 flow data for this planning area follow directly below. Further analyses of FY2023 flow data for this planning area are presented later in this section.

- Total Treated Wastewater 27.02 mgd
- Total Reuse[a] 8.20 mgd
- Total Supplemental Water 0.61 mgd
- Total Reused Wastewater[b] 7.59 mgd (28.1% of total treated wastewater)
- Total Disposal 19.33 mgd (71.5% of total treated wastewater)

[a] Includes supplemental water.
[b] Total reuse minus total supplemental water.

Landscape Irrigation was the most significant reuse category in the UEC Planning Area. **Figure 15** shows the breakdown of total reuse by category in the UEC Planning Area.

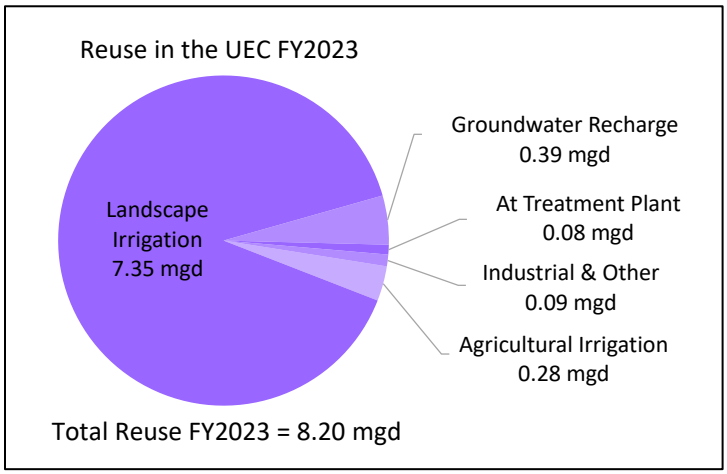

Figure 15. Reuse by category in the UEC Planning Area (inclusive of supplemental water).

4.4.2 Summary and Project Information

Notable occurrences and observations from reuse and related flow data and communications with utilities from the UEC Planning Area in FY2023 are as follows:

- The UEC Planning Area contained 5.7% of the District's total permanent resident population.
- Although the population of St. Lucie County was over two times that of Martin County, both counties produced approximately the same volume of reclaimed water (4.31 mgd and 3.89 mgd, respectively).

- Almost one-third of the total treated wastewater generated in the planning area was reused (7.59 mgd of 27.02 mgd).
- Landscape Irrigation accounted for 90% of the total reuse (7.35 mgd of 8.20 mgd).
- Supplemental water used (0.61 mgd) was not significant.
- Approximately 71.5% of the total wastewater was disposed of, with 99.9% of the total disposal flows (19.31 mgd of 19.33 mgd) being disposed of via deep well injection.
- Fort Pierce Utilities Authority (FPUA) has begun constructing a mainland water reclamation facility to replace the existing Island WWTF and is on track for commissioning the fourth quarter of 2025 as planned. The new facility will initially provide 2 to 3 mgd of reclaimed water to the neighboring Treasure Coast Energy Center plant starting in 2025. FPUA is working on another initiative to deliver reclaimed water to several concrete plants located near the new WWTF.
- The Tropicana industrial WWTF was recently aquired by St. Lucie County in 2024 with the intention of upgrading the facility to treat an additional 2 mgd of domestic wastewater. The treated industrial wastewater will be blended into the county's reclaimed water system. The system upgrades are being timed to meet irrigation demands for two new residential developments west of the facility. Operational completion is expected by 2028.
- The *2021 Upper East Coast Water Supply Plan Update* (SFWMD 2021a) indicated that four utilities have proposed project expansions of their reclaimed water production capacity totaling 17.20 mgd. This would increase the reclaimed water production capacity in the UEC Planning Area from approximately 40 mgd to 57 mgd by 2045. Several utilities also proposed reclaimed water distribution expansion projects.*

* A full list of proposed reclaimed water facility or distribution line expansion projects is available in Chapter 8 of the *2021 Upper East Coast Water Supply Plan Update* (SFWMD 2021a).

4.4.3 Reuse and Related Flows by County: Upper East Coast

Reuse and related flows by county, supporting some of the notable occurrences and observations stated previously in this section, are included in **Tables 21** to **24**.

Table 21. Reuse and related flow totals and the percentage of reused wastewater by county in the UEC Planning Area.

County	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Martin	7.98	0.14	4.38	3.89	3.75	47.1%
St. Lucie	19.04	0.47	14.94	4.31	3.84	20.2%
UEC Planning Area Total	**27.02**	**0.61**	**19.33**	**8.20**	**7.59**	**28.1%**

mgd = million gallons per day; UEC = Upper East Coast.
[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.
[b] Reused Wastewater = Reuse – Supplemental Water.
[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

Table 22. Reuse by category and county in the UEC Planning Area.

County	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Martin	0.28	3.37	0.18	0.00	0.01	0.06	3.89
St. Lucie	0.00	3.99	0.22	0.00	0.07	0.04	4.31
UEC Planning Area Total	**0.28**	**7.35**	**0.39**	**0.00**	**0.08**	**0.09**	**8.20**

mgd = million gallons per day; UEC = Upper East Coast.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Table 23. Supplemental water by source and county in the UEC Planning Area.

County	Surface Water (mgd)	Stormwater (mgd)	Groundwater (mgd)	Drinking Water (mgd)	Membrane Concentrate (mgd)	Total Supplemental Water (mgd)
Martin	0.00	0.00	0.14	0.00	0.00	0.14
St. Lucie	0.00	0.41	0.04	0.00	0.02	0.47
UEC Planning Area Total	**0.00**	**0.41**	**0.18**	**0.00**	**0.02**	**0.61**

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

Table 24. Effluent disposal by method and county in the UEC Planning Area.

County	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Wastewater Disposed[b]
Martin	0.00	0.00	0.00	4.38	0.00	0.00	4.38	55.0%
St. Lucie	0.01	0.00	0.00	14.93	0.00	0.00	14.94	78.5%
UEC Planning Area Total	**0.01**	**0.00**	**0.00**	**19.31**	**0.00**	**0.00**	**19.33**	**71.5%**

mgd = million gallons per day; UEC = Upper East Coast.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4.4.4 Reuse System Interconnections in the Upper East Coast

As stated in **Section 1**, reuse system interconnections exist where two or more reclaimed water systems or WWTFs are interconnected. These types of interconnections add flexibility, efficiency, and reliability of reclaimed water service. Existing system interconnections in the UEC Planning Area are shown in **Figure 16**.

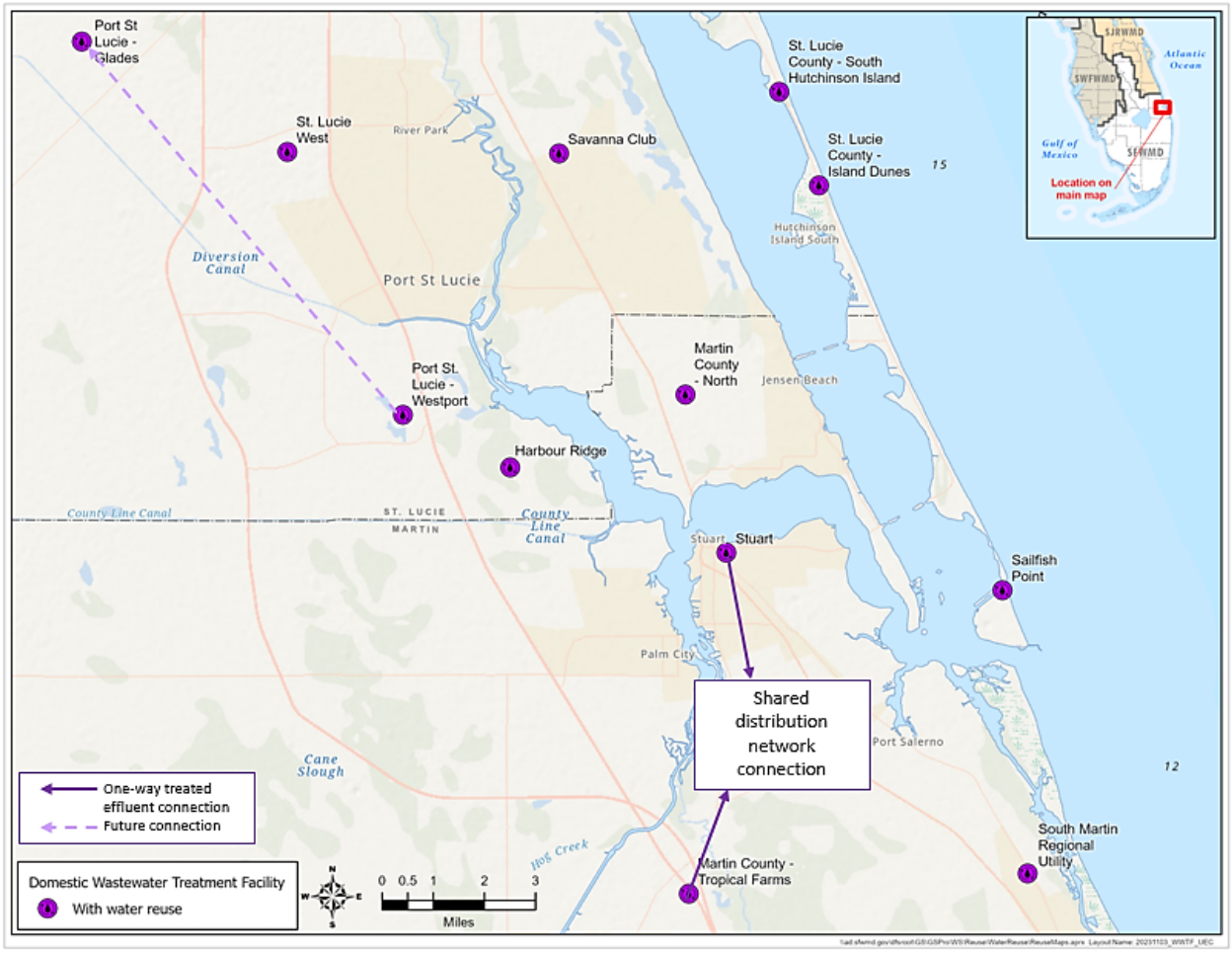

Figure 16. Reuse system interconnections in the UEC Planning Area. Arrows show direction of interconnection flow.

4.5 Reuse and Related Flows in the Upper Kissimmee Basin

4.5.1 Regional Overview: Upper Kissimmee Basin

The UKB Planning Area includes portions of Orange and Osceola counties (split with the St. Johns River Water Management District [SJRWMD]) and portions of Polk County (split with the SWFWMD) (**Figure 1**). The data included in this report are only for the portions of the counties located within the SFWMD. This planning area's growth began after reuse was firmly established in Florida. Therefore, the UKB Planning Area facilities reuse nearly all wastewater generated.

In FY2023, The UKB Planning Area contained 17 WWTFs permitted to treat ≥ 0.10 mgd of wastewater. Key highlights from the FY2023 flow data for this planning area follow directly below. Further analyses of FY2023 flow data for this planning area are presented later in this section.

- Total Treated Wastewater 102.26 mgd
- Total Reuse[a] 95.95 mgd
- Total Supplemental Water 1.29 mgd
- Total Reused Wastewater[b] 94.65 mgd (92.6% of total treated wastewater)
- Total Disposal 0.64 mgd (0.6% of total treated wastewater)

[a] Includes supplemental water.
[b] Total reuse minus total supplemental water.

Landscape Irrigation was the most significant reuse category in the UKB Planning Area. **Figure 17** shows the breakdown of total reuse by category in the UKB Planning Area.

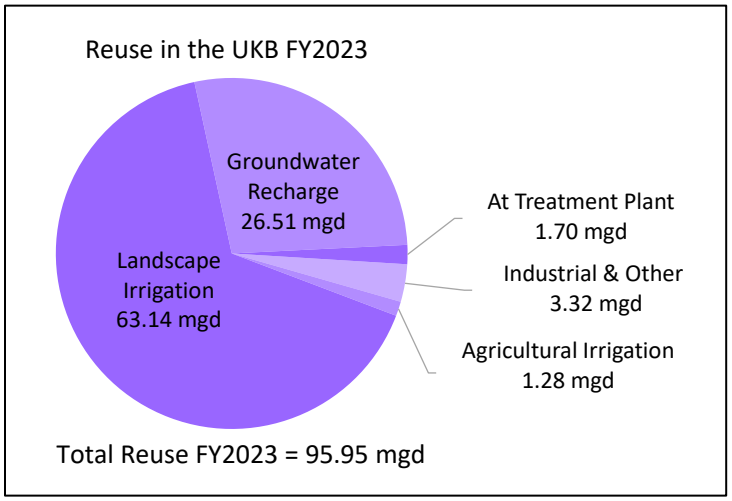

Figure 17. Reuse by category in the UKB Planning Area.

The UKB Planning Area is within the boundary of the Central Florida Water Initiative (CFWI), which contains some of the fastest growing areas in Florida. The CFWI is a collaborative water supply planning effort among the state's three largest water management districts (SJRWMD, SFWMD, and SWFWMD), the FDEP, and several other state agencies. These agencies along with additional stakeholder groups are working to plan and implement water resource and water supply development and management strategies to protect, conserve, and restore water resources in the area. Per the most recent *Draft 2025 Central Florida Water Initiative Regional Water Supply Plan: Planning Document* (CFWI 2025), strong growth is expected through 2045.

4.5.2 Summary and Project Information

Notable occurrences and observations from reuse and related flow data and communications with utilities from the UKB Planning Area in FY2023 are as follows:

- The UKB Planning Area contained 10.5% of the District's total permanent resident population.
- Approximately 93% of the total treated wastewater generated in the planning area was reused. This was more than any other planning area.

- At 94.65 mgd, the UKB Planning Area was one of the two largest volumetric providers of reclaimed water in the District, with the LEC Planning Area being second. However, the population of the UKB Planning Area was approximately one-seventh that of the LEC Planning Area.
- Landscape Irrigation accounted for almost two-thirds of all reclaimed water in the UKB Planning Area (63.14 mgd of 95.95 mgd total reuse). Additionally, about 28% (26.51 mgd) was reused for Groundwater Recharge.
- Supplemental water use, at 1.29 mgd, was not significant.
- Less than 1% of the total wastewater (0.64 mgd) was disposed.
- The Tohopekaliga Water Authority (TWA) took over management and operation of the St. Cloud WWTF and service area in October of 2022.
- The TWA took over management and operation of the Sunbridge WWTF and service area in November of 2023.
- TWA is constructing the Toho Reservoir which will receive water from East City Ditch and Mill Slough. Reservoir water will be withdrawn and treated to reclaimed water standards to augment the TWA reclaimed water supply by approximately 6 mgd by the year 2027.
- The *Draft 2025 Central Florida Water Initiative Regional Water Supply Plan: Planning Document* (CFWI 2025) included 82 proposed reclaimed water distribution projects CFWI-wide representing a total capacity increase of approximately 227 mgd.*

* A full list of proposed reclaimed water facility or distribution line expansion projects will be available in the upcoming *2025 Central Florida Water Initiative Regional Water Supply Plan: Planning Document* (CFWI 2025).

4.5.3 Reuse and Related Flows by County: Upper Kissimmee Basin

Reuse and related flows by county, supporting some of the notable occurrences and observations stated previously in this section, are included in **Tables 25** to **28**.

Table 25. Reuse and related flow totals and the percentage of reused wastewater by county in the UKB Planning Area.

County	Treated Wastewater (mgd)	Supplemental Water (mgd)	Disposal (mgd)	Reuse[a] (mgd)	Reused Wastewater[b] (mgd)	% Reused Wastewater[c]
Orange	66.99	0.62	0.00	62.53	61.91	92.4%
Osceola	31.72	0.67	0.34	28.66	27.99	88.2%
Polk	3.55	0.00	0.30	4.75	4.75	133.9%
UKB Planning Area Total	**102.26**	**1.29**	**0.64**	**95.95**	**94.65**	**92.6%**

mgd = million gallons per day; UKB = Upper Kissimmee Basin.

[a] Reuse is beneficially used reclaimed water inclusive of supplemental water.

[b] Reused Wastewater = Reuse – Supplemental Water.

[c] % Reused Wastewater = (Reuse – Supplemental Water) / Treated Wastewater.

Table 26. Reuse by category and county in the UKB Planning Area.

County	Agricultural Irrigation (mgd)	Landscape Irrigation (mgd)	Groundwater Recharge (mgd)	Wetlands Recharge (mgd)	At Treatment Plant (mgd)	Industrial & Other[a] (mgd)	Total Reuse[b] (mgd)
Orange	0.48	36.40	23.19	0.00	1.70	0.78	62.53
Osceola	0.71	22.25	3.16	0.00	0.00	2.55	28.66
Polk	0.10	4.49	0.16	0.00	0.00	0.00	4.75
UKB Planning Area Total	**1.28**	**63.14**	**26.51**	**0.00**	**1.70**	**3.32**	**95.95**

mgd = million gallons per day; UKB = Upper Kissimmee Basin.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] Reuse is beneficially used reclaimed water inclusive of supplemental water.

Table 27. Supplemental water by source and county in the UKB Planning Area.

County	Surface Water (mgd)	Stormwater (mgd)	Groundwater (mgd)	Drinking Water (mgd)	Membrane Concentrate (mgd)	Total Supplemental Water (mgd)
Orange	0.00	0.00	0.62	0.00	0.00	0.62
Osceola	0.41	0.00	0.24	0.00	0.02	0.67
Polk	0.00	0.00	0.00	0.00	0.00	0.00
UKB Planning Area Total	**0.41**	**0.00**	**0.86**	**0.00**	**0.02**	**1.29**

mgd = million gallons per day; UKB = Upper Kissimmee Basin.

Table 28. Effluent disposal by method and county in the UKB Planning Area.

County	Ocean Discharge (mgd)	Coastal or Estuarine (mgd)	Surface Water (mgd)	Deep Well Injection (mgd)	Shallow Well Injection (mgd)	Other[a] (mgd)	Total Disposal (mgd)	% Wastewater Disposed[b]
Orange	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Osceola	0.00	0.00	0.00	0.34	0.00	0.00	0.34	1.1%
Polk	0.00	0.00	0.30	0.00	0.00	0.00	0.30	8.3%
UKB Planning Area Total	**0.00**	**0.00**	**0.30**	**0.34**	**0.00**	**0.00**	**0.64**	**0.6%**

mgd = million gallons per day; UKB = Upper Kissimmee Basin.
[a] Other can include, but may not be limited to, activities such as toilet flushing and dust suppression.
[b] % Wastewater Disposed = Disposed Effluent / Treated Wastewater.

4.4.4 Reuse System Interconnections in the Upper Kissimmee Basin

As stated in **Section 1**, reuse system interconnections exist where two or more reclaimed water systems or WWTFs are interconnected. These types of interconnections add flexibility, efficiency, and reliability of reclaimed water service. Existing system interconnections in the UKB Planning Area are shown in **Figure 18**.

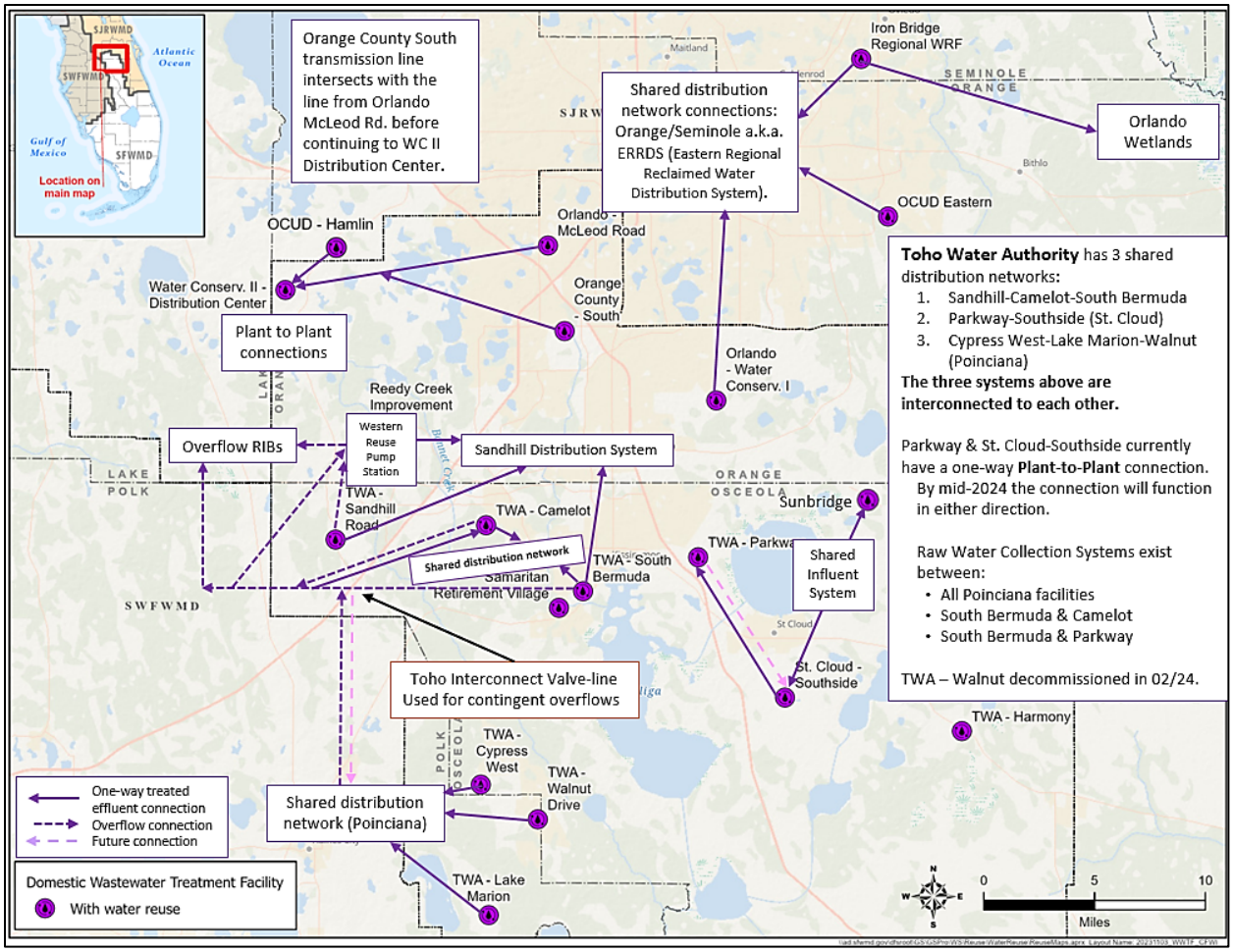

Figure 18. Reuse system interconnections in the UKB Planning Area. Arrows show direction of interconnection flow.

5 CONCLUSIONS AND TAKEAWAY POINTS

- Population growth, regulatory limitations on the use of freshwater resources, and fewer permittable effluent disposal methods will continue to drive the use of alternative water sources, including reclaimed water, to meet future demands and more sustainably manage treated wastewater.
- WWTF interconnections and MRZs are two approaches to water reuse implementation that can increase the use, efficiency, and reliability of reclaimed water systems. Water reuse implementation is also promoted via the SFWMD's water use permit application process.
- Challenges to increasing water reuse implementation in Florida include construction costs associated with reclaimed water infrastructure, especially in more urbanized areas, and the uncertainty of future regulations regarding reclaimed water quality, especially for direct potable reuse.
- FDEP rulemaking to support potable reuse was promulgated in February 2025. The new rules have the potential to provide Florida with a new water source. More pilot and full-scale potable reuse projects are expected to be pursued.

- Tertiary treatment of reclaimed water is necessary to achieve AWT standards. While AWT processes are effective at removing residual nutrients and unwanted agents from wastewater, achieving these standards is often costly, especially for some utilities with limited space and/or finances. However, it is probable AWT will be more broadly implemented as more utilities seek to comply with changes to Section 403.064, F.S., per Chapter 2021-168, Laws of Florida and implement indirect and direct potable reuse as a means of improved wastewater management.
- Key highlights from the FY2023 flow data (omitting four facilities owned and operated by the Seminole Tribe of Florida) for the District as a whole follow directly below.
    - Total Treated Wastewater 940.37 mgd
    - Total Reuse[a] 294.15 mgd
    - Total Supplemental Water 38.76 mgd
    - Total Reused Wastewater[b] 255.38 mgd (27.2% of total treated wastewater)
    - Total Disposal 690.03 mgd (73.4% of total treated wastewater)

    [a] Includes supplemental water.

    [b] Total reuse minus total supplemental water.

- The LEC and the UKB planning areas currently reuse the greatest volumes of treated wastewater. The LEC Planning Area reuses the smallest percentage of its treated wastewater, while the UKB Planning Area reuses the greatest percentage of its treated wastewater.
- Landscape Irrigation represents the greatest portion of the District's reuse profile (68.3%; 200.92 mgd), followed by Groundwater Recharge (12.0%; 35.44 mgd), At Treatment Plant (9.7%; 28.59 mgd), Industrial and Other (8.4%; 24.74 mgd), Agricultural Irrigation (<1%; 2.38 mgd), and Wetlands Recharge (<1%; 2.06 mgd).
- Districtwide supplemental water used was 38.76 mgd, with 82.1% of all supplemental water flow occurring in the LWC Planning Area.
- The total disposal Districtwide was 690.03 mgd, with the LEC Planning Area accounting for 93.0% of that total (641.48 mgd). The implementation of the OOL should reduce the total disposal in the LEC Planning Area by approximately 168.00 mgd by 2026.

REFERENCES

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WateReuse Association. 2020. *Framework for the Implementation of Potable Reuse in Florida*. Prepared for the Florida Potable Reuse Commission. WateReuse Association, Alexandria, VA. January 2020.

APPENDIX A: FLORIDA STATUTES AND FLORIDA ADMINISTRATIVE CODE REFERENCES

Table A-1. Florida Statutes referenced in this document.

Florida Statutes	
163.01	Intergovernmental Programs (Florida Interlocal Cooperation Act of 1969)
373	Natural Resources, Conservation, Reclamation, and Use
373.019	Natural Resources, Conservation, Reclamation, and Use (Definitions)
373.223	Natural Resources, Conservation, Reclamation, and Use (Conditions for a [Consumptive Use] permit)
403	Environmental Control
403.086	Environmental Control (Sewage disposal facilities; advanced and secondary waste treatment)
403.086(10)	Environmental Control (Sewage disposal facilities; advanced and secondary waste treatment) (Ocean outfalls)

Table A-2. Florida Administrative Codes referenced in this document.

Florida Administrative Codes	
62-40	Water Resource Implementation Rule
62-550	Drinking Water Standard, Monitoring, and Reporting
62-555	Permitting, Construction, Operation, and Maintenance of Public Water Systems
62-565	Potable Reuse
62-600	Domestic Wastewater Facilities
62-600.200	Domestic Wastewater Facilities (Definitions)
62-600.440	Domestic Wastewater Facilities (Disinfection Requirements)
62-600.440(5)	Domestic Wastewater Facilities (Disinfection Requirements) (Basic disinfection)
62-600.440(6)	Domestic Wastewater Facilities (Disinfection Requirements) (High-level disinfection)
62-610	Reuse of Reclaimed Water and Land Application
62-610.200	Reuse of Reclaimed Water and Land Application (Definitions)
62-610.810	Reuse of Reclaimed Water and Land Application (Classification of Projects as “Reuse” or “Disposal”)