3

Demand Management: Water Conservation

TOPICS

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

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

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

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

CONSERVATION MEASURES

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

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

Outdoor Water Use (Irrigation)

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

Agriculture

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

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

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

Urban

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

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

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

INFO ⓘ

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

In addition to hardware and scheduling improvements, incorporating Florida-Friendly Landscaping (FFL) principles can further reduce outdoor water use in urban settings. The FFL Program, developed by the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), promotes the selection of drought-tolerant plants, appropriate turf areas, soil improvement, and efficient irrigation design. Local governments and utilities are encouraged to adopt FFL principles or incentive programs that promote water-efficient landscape retrofits and new installations. Integrating FFL education into local outreach efforts complements irrigation audits, smart-controller use, and compliance with the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, Florida Administrative Code [F.A.C.]) by reducing the long-term demand for supplemental irrigation.

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

Indoor Water Use

Another area of potential conservation savings is indoor water use in single-family and multifamily residences and commercial/institutional buildings (e.g., office buildings, restaurants, movie theaters, long-term care facilities, and hospitals). Feasible measures include detecting and repairing water leaks and replacing older, inefficient plumbing fixtures (e.g., toilets, urinals, faucets, showerheads) with models that have been tested and shown to meet the USEPA's WaterSense program specifications for water efficiency and performance. For more information on the WaterSense program and to find labeled products, visit https://www.epa.gov/watersense. In addition, older, inefficient appliances can be replaced with water-efficient models that have received the ENERGY STAR label. For more information on the ENERGY STAR program and to find labeled products, visit https://www.energystar.gov.

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

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

CONSERVATION PROGRAMS

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

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

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

Education, Outreach, and Marketing

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

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

Cost-Share Funding Programs

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

Cooperative Funding Program

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

Environmental Quality Incentives Program

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

Other Programs

Agricultural Best Management Practices Program

The Florida Department of Agriculture and Consumer Services (FDACS) develops and adopts agricultural BMPs by rule for various types of agricultural operations. While not all BMPs are directly focused on water conservation, many are designed to improve or have secondary benefits related to water use efficiency in agricultural operations. As of December 31, 2025, there are 289,757 agricultural acres enrolled in the FDACS BMP program within the UEC Planning Area. This includes 128,349 acres in Martin County, 126,182 acres in St. Lucie County, and 35,226 acres in the northeastern portion of Okeechobee County. All agricultural water users are encouraged to enroll in the FDACS BMP program and to learn about the FDACS Agricultural-Environmental Leadership Award which recognizes environmentally innovative farming practices. Integrating FDACS BMP implementation data into regional conservation assessments provides a more accurate accounting of realized water savings. Therefore, local governments and agencies should consider promoting these programs to agricultural operations. Additional information is available on the FDACS webpage (https://www.fdacs.gov/Water/Agricultural-Water-Field-Services/Agricultural-Best-Management-Practices).

Conservation Innovation Grants

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

Florida Automated Weather Network

The Florida Automated Weather Network (FAWN), operated by UF/IFAS, provides weather information throughout the state at 15-minute intervals. In addition to weather monitoring, FAWN offers decision-supporting tools that utilize historical and real-time data, along with crop modeling to assist with scheduling irrigation, estimating evapotranspiration, and helping to optimize water use decisions. These tools assist growers in both short- and long-term planning, thereby maximizing the efficiency of irrigation practices (UF/IFAS 2026). Currently, there are two FAWN stations (St. Lucie West and Fort Pierce) supported by the SFWMD in the UEC Planning Area. Additional information is available at http://www.fawn.ifas.ufl.edu.

Agricultural Mobile Irrigation Labs

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

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

Certification and Recognition Programs

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

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

Development of a Conservation Ethic

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

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

REGULATORY INITIATIVES

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

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

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

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

POTENTIAL FOR WATER CONSERVATION SAVINGS

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

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

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

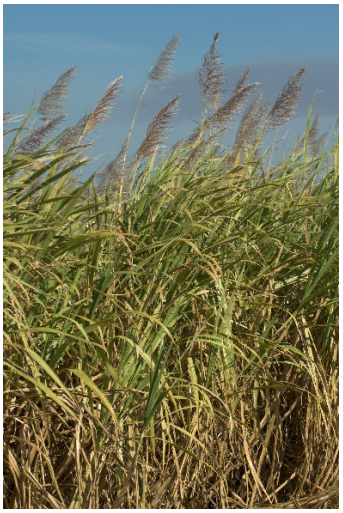
Use Category	County			2050 Total by Sector
	Martin	St. Lucie	Okeechobee[a]	
Agriculture	3.90	2.46	0.16	**6.52**
Public Supply[b]	1.70	2.42	--	**4.12**
Domestic Self-Supply[b]	0.05	0.19	--	**0.24**
Landscape/Recreational	1.42	2.38	0.01	**3.81**
Total	**7.07**	**7.45**	**0.17**	**14.69**

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

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

[b] Includes passive savings.

Agriculture



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

The amount of potential AG conservation savings in the UEC Planning Area was determined using the Florida Statewide Agricultural Irrigation Demand (FSAID) geodatabase, which is an online user interface available on the FDACS webpage (https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Water-Supply-Planning). Estimated efficiency improvement (i.e., conservation estimate) is one of the parameters calculated by the FSAID model, and the spatially based data are available for water management district planning basins. According to the 2023–2050 FSAID XII report (FDACS 2025), historical trends in irrigation water use indicate that on average Florida farmers have continued to reduce water used per irrigated acre, resulting in projected irrigation efficiency improvements through 2050.

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

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

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

Public Supply and Domestic Self-Supply

PS is the second largest water use category in the UEC Planning Area, and water use demands are projected to increase through the planning horizon. PS accounted for an estimated 68.83 mgd of finished water demands in 2024 and 99.83 mgd in projected 2050 demands (**Chapter 2**). DSS is estimated to have demands of 6.23 mgd in 2024 and projected to have 3.59 mgd in 2050. Historical conservation efforts in PS are reflected in the per capita use rate, which has declined approximately 32% between 2000 and 2024. This decline likely is the result of new construction using higher-efficiency fixtures and/or designed for more efficient water use, the SFWMD's Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, F.A.C.), the adoption of local ordinances modeled on this rule, conservation rate structures, public education, and other conservation factors.

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

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

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

Landscape/Recreational

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

Landscape Irrigation

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

Golf Course Irrigation

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

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

To estimate the potential water conservation savings for golf courses, a regional level assumption of hardware upgrade potential was developed based on the methodology presented in the 2021 UEC Plan Update (SFWMD 2021). In the absence of facility-specific

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

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

Commercial/Industrial/Institutional

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

Power Generation

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

SUMMARY OF DEMAND MANAGEMENT: WATER CONSERVATION

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

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

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

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

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