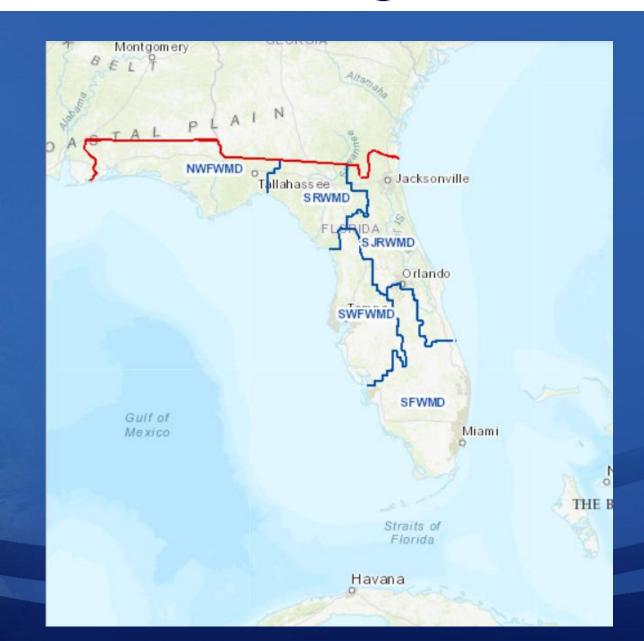


# Florida's Water Management Districts

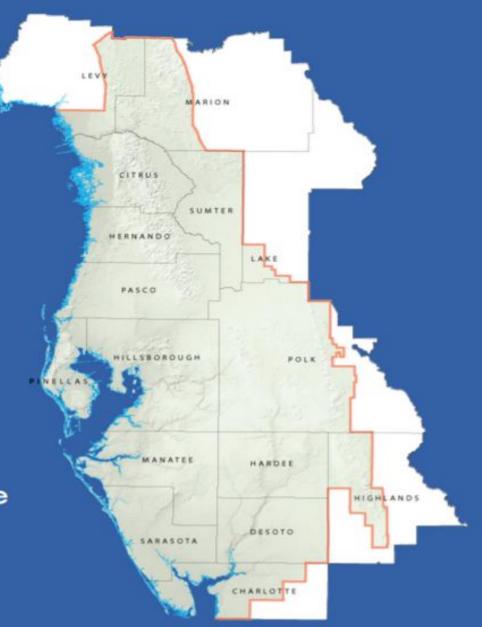






### Who We Are

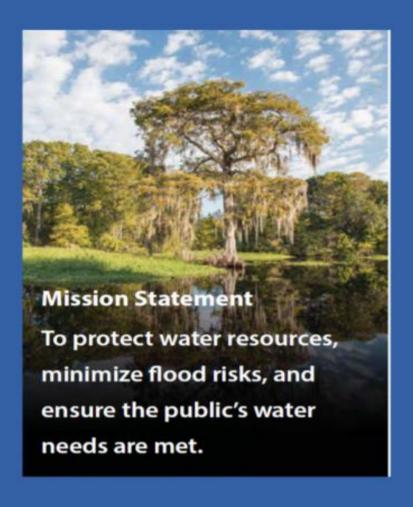
- 10,000 Square Miles
- All or Part of 16 Counties
- Nearly 6 Million Population
- Numerous Water Resources
  - o About 1,800 Lakes
  - o 13 Major Rivers
  - Three Estuaries of National Recognition
  - Thousands of Acres of Productive Wetlands







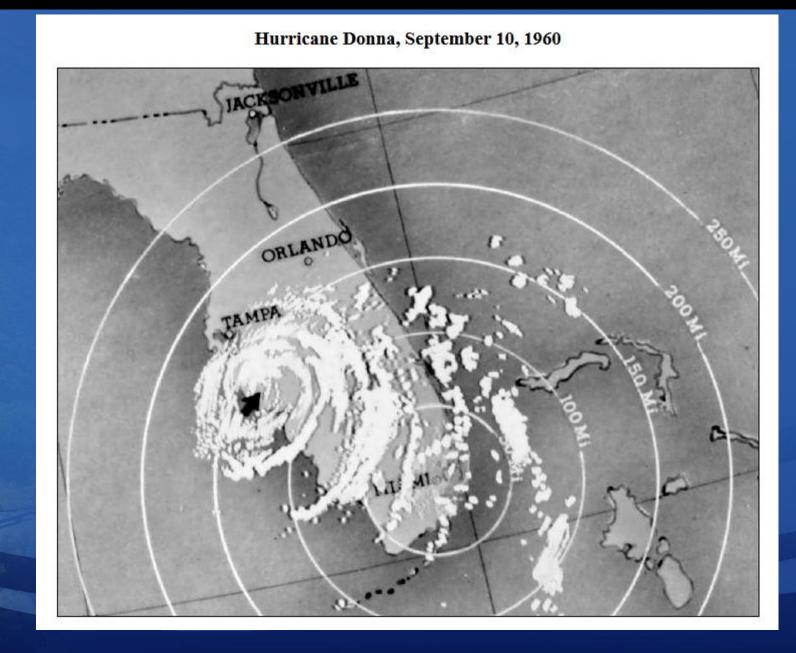
# What We Do - Today





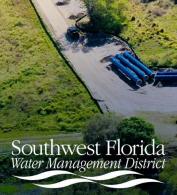


### Southwest Florida Water Management District









Aftermath of Hurricane Donna. 1960. Plant City Photo Archives and History Center.











# What We Do – Early Days

- Hurricane Donna 1960
- District Formed in 1961 as a Flood Control District
  - o Tampa Bypass Canal
  - Lake Tarpon Outfall Canal
  - o Masaryktown Canal





# Water Supply

- 1. Regional Water Supply Planning
- 2. Alternative Water Supplies
- 3. Reclaimed Water
- 4. Conservation

# Natural Systems

- 1. MFL Establishment/Recovery
- 2. Conservation and Restoration

# Water Quality

- 1. Assessment and Planning
- 2. Maintenance and Improvement

### Flood Protection

- 1. Floodplain Management
- 2. Maintenance and Improvement
- 3. Emergency Flood Response



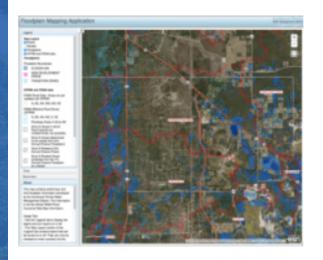
# Watershed Management Program







## Floodplain Map Viewer

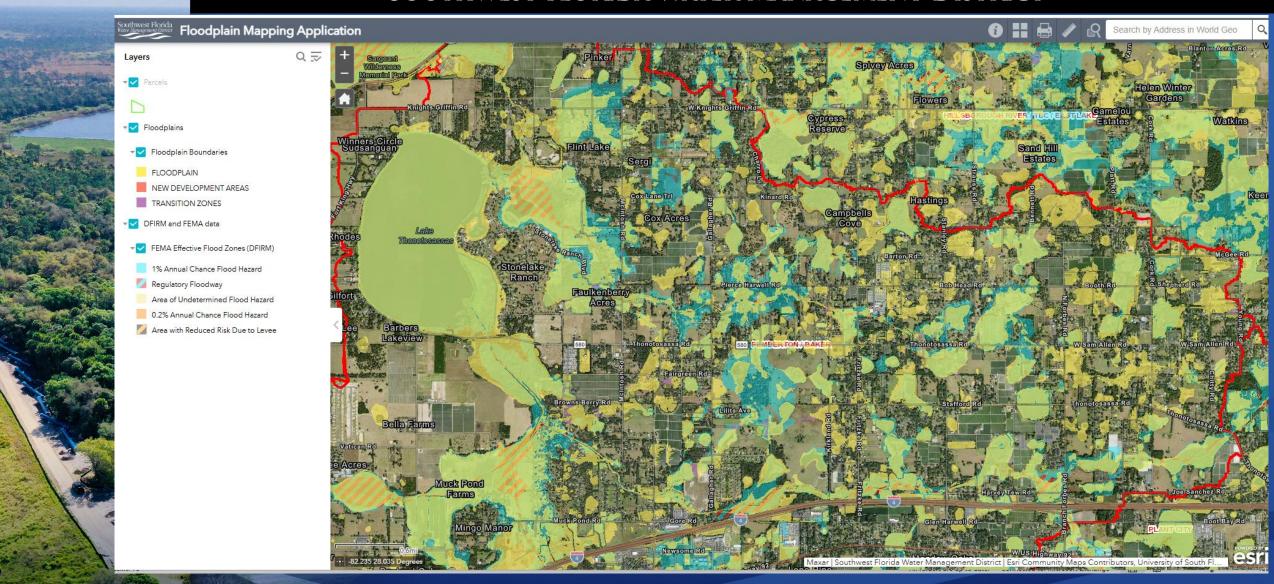


The Southwest Florida Water Management District, in cooperation with local governments, is developing flood risk information for watersheds throughout west-central Florida. The floodplain map viewer is an interactive tool that allows you to view flood risk information that has been developed to date as part of the District's Watershed Management Program. The information is provided as an advisory tool for flood hazard awareness and to present preliminary floodplain results for public review and comment. Once finalized, the

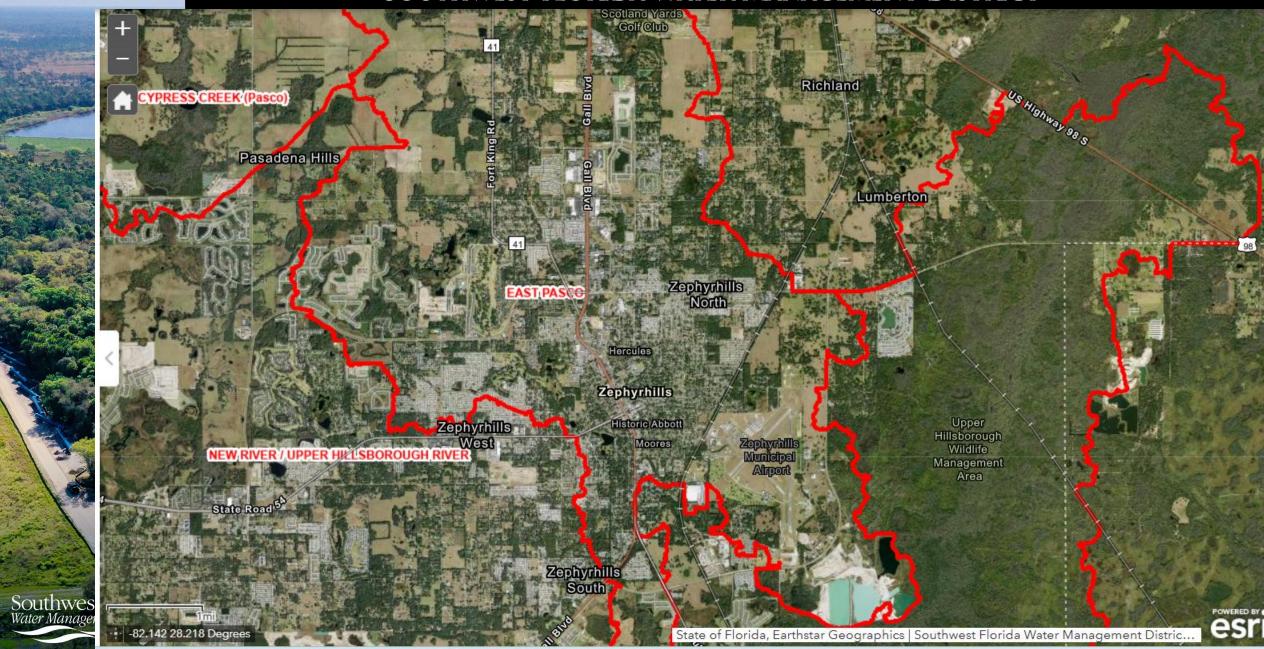
flood hazard information will be used by the District as the most appropriate information for **environmental resource permitting** and will, in the future, be used to revise the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs).

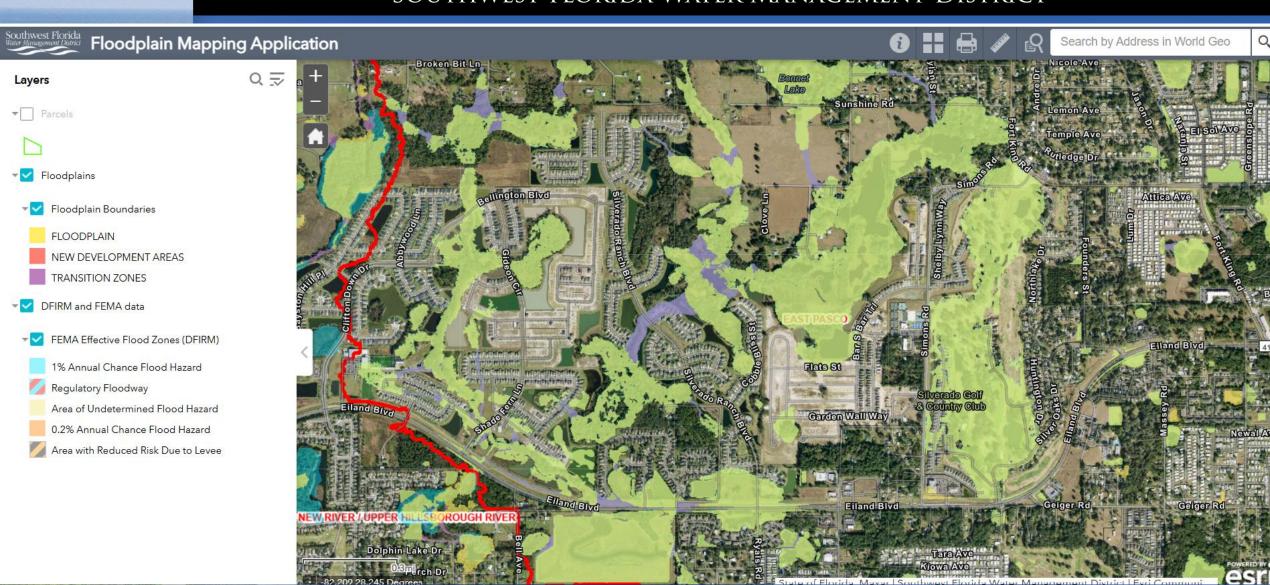
If you do not know which watershed you live in, you may submit an address using the **watershed** search tool to find out.



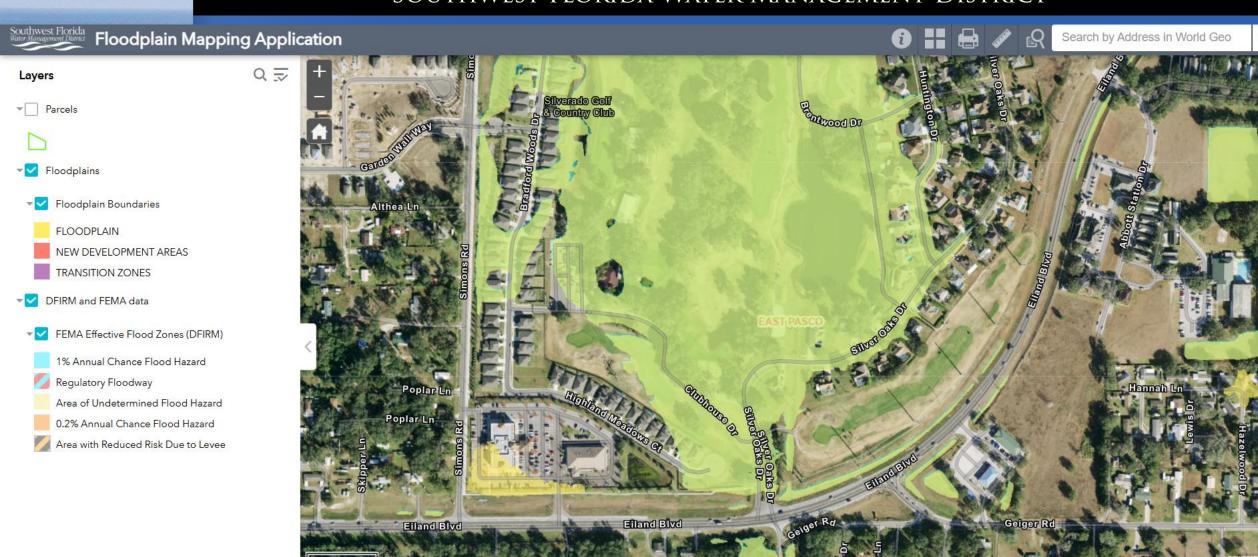


### Southwest Florida Water Management District

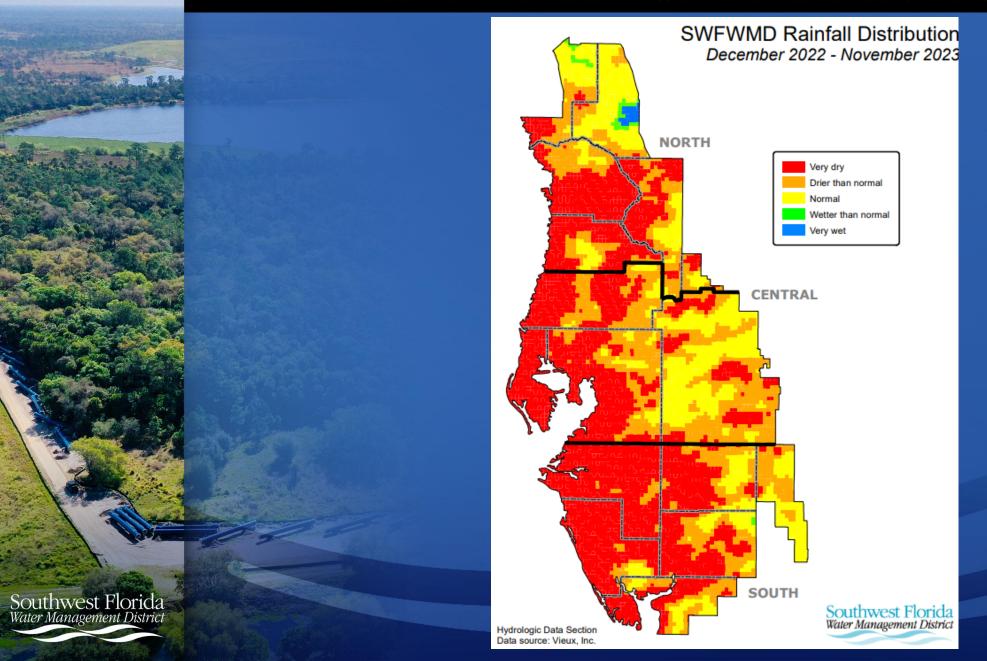


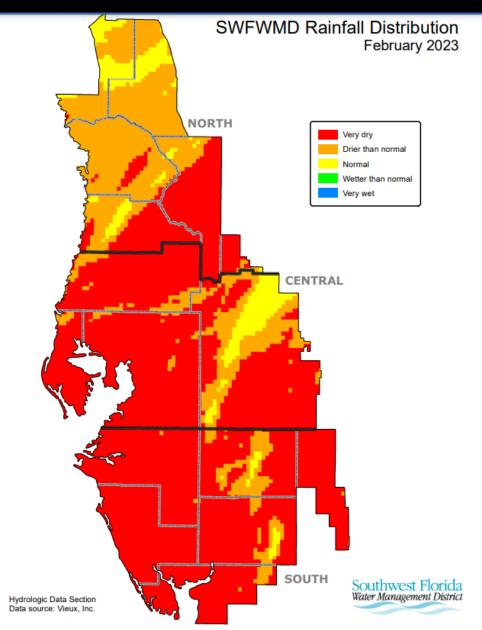


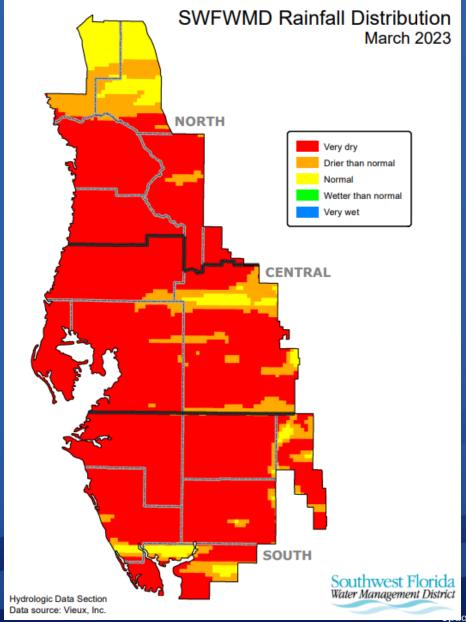






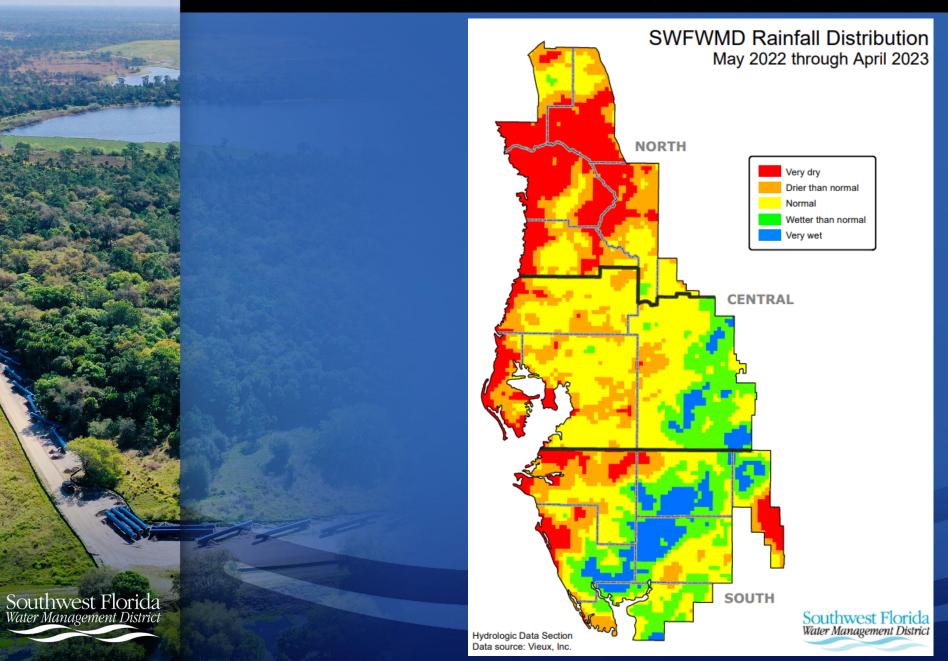


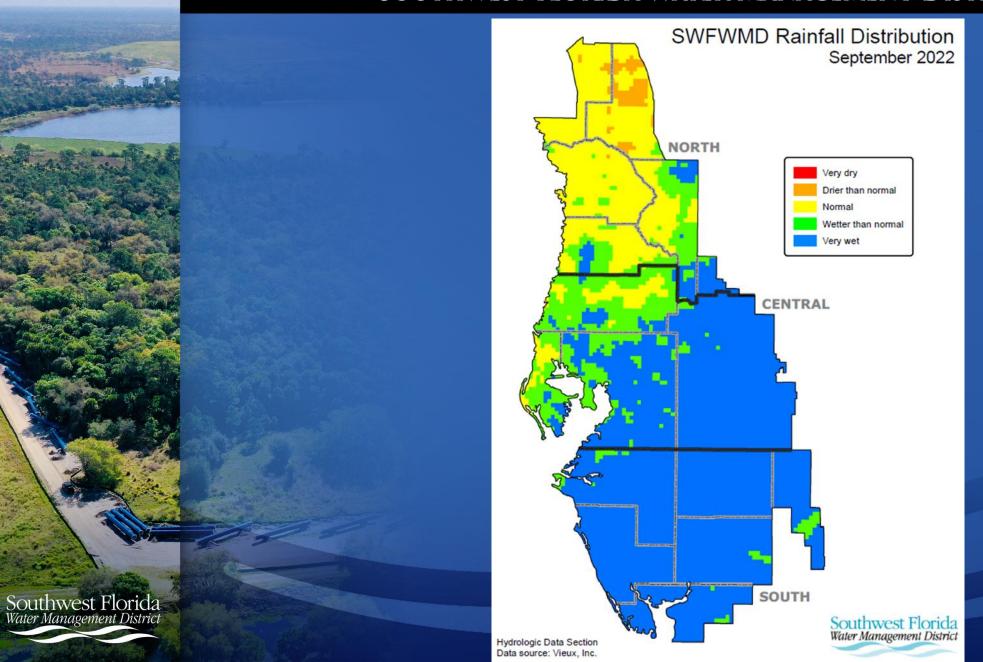


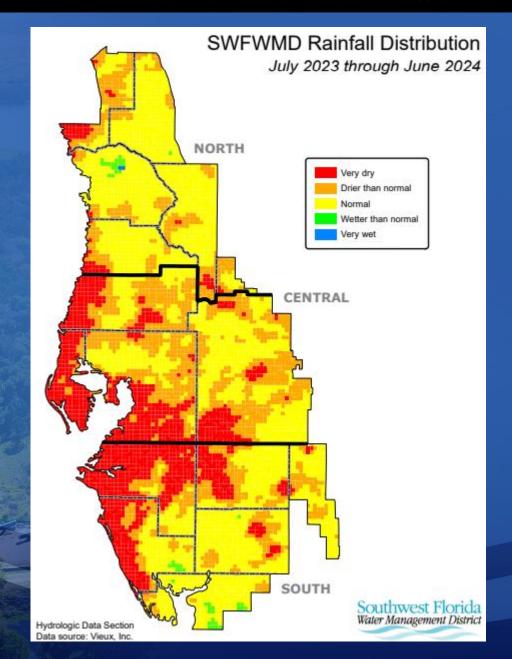


Southwest Florida Water Management District

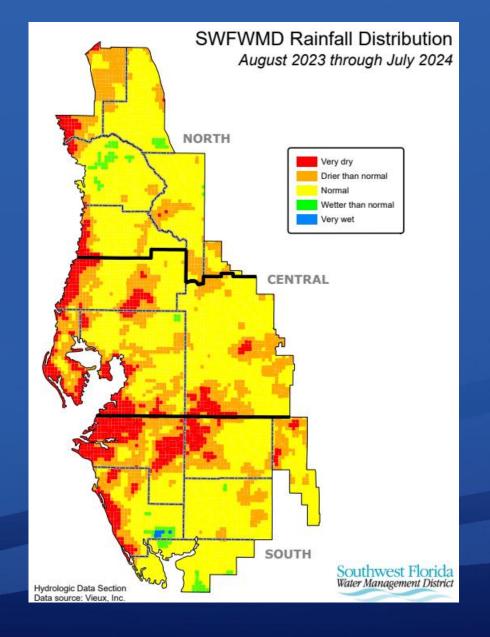
ate by Amber E. Smith







Southwest Florida



# Modified Phase I Water Shortage Restrictions

### Q: What are the new water restrictions for the Southwest Florida Water Management District?

A: The District's Modified Phase I water shortage restrictions are in effect Nov. 21, 2023, through Sept. 1, 2024, except where stricter measures have been imposed by local governments. The following restrictions apply to all of Citrus, DeSoto, Hardee, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, Sarasota and Sumter counties; portions of Charlotte, Highlands and Lake counties; the City of Dunnellon and The Villages in Marion County; and the portion of Gasparilla Island in Lee County.

As of Dec. 1, 2023, Hillsborough, Pasco and Pinellas counties will be under a Modified Phase I Water Shortage Order that limits watering to once per week through Sept. 1, 2024. Some local governments such as unincorporated Citrus, Hernando and Sarasota counties, and the cities of Dunedin and Venice, have local ordinances that remain on one-day-per-week schedules.

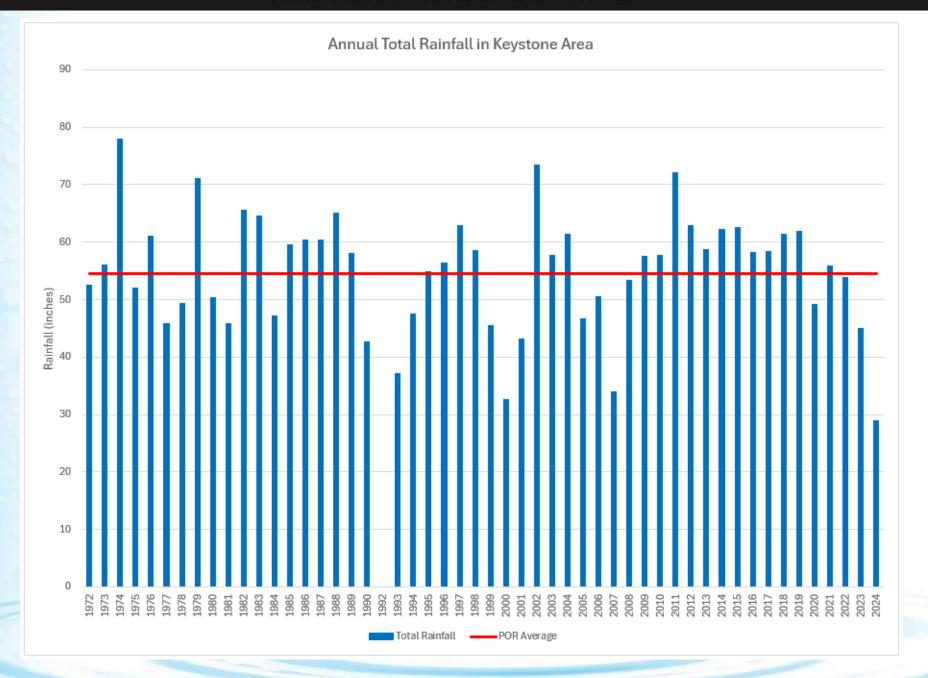
### Q: Why did the District declare a Modified Phase I Water Shortage?

A: The District received lower than normal rainfall during its summer rainy season (June-September) and had a 12.77-inch rainfall deficit compared to the average 12-month total. In addition, water levels in the District's water resources, such as aquifers, rivers and lakes, were beginning to decline.

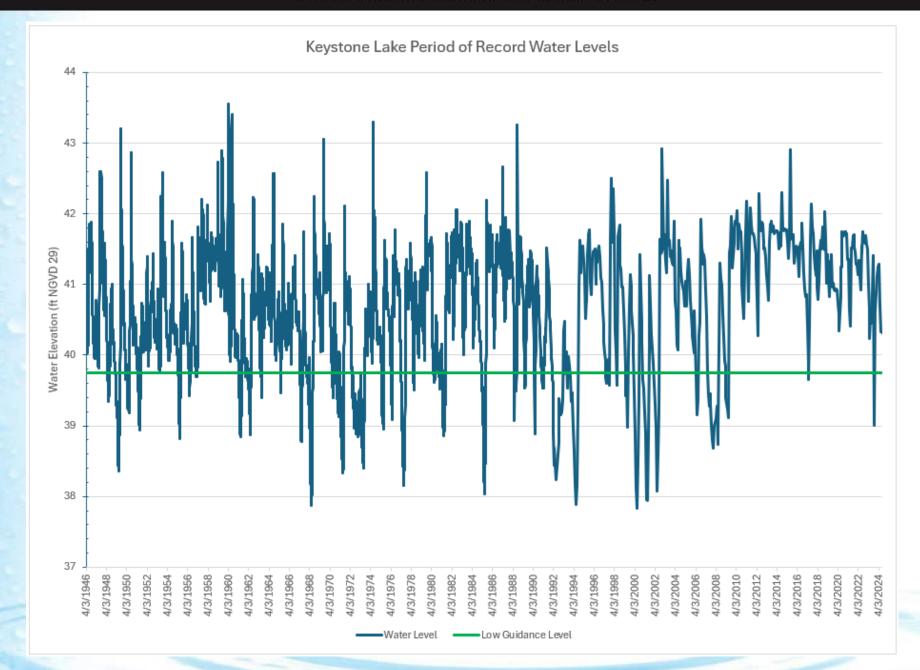
### Q: Why did the District extend the one-day-per-week water restrictions for Hillsborough, Pasco and Pinellas counties?

A: Despite having Districtwide above-average rainfall during the winter months (Nov.-Jan.), we still have a Districtwide 12-month rainfall deficit of about **7.4 inches** (based on data through May). The 12-month rainfall total through May in the Northern Region of the District matches the historical average, while it is below average in the Southern and the Central regions, which includes the Tampa Bay area. June rainfall through June 19 is near the historical average in the Southern Region of the District, while it is below average in the Northern and Central regions. Additionally, Tampa Bay Water's 15.5-billion-gallon C.W. Bill Young Regional Reservoir is still approximately 12.5 billion gallons below its normal capacity.











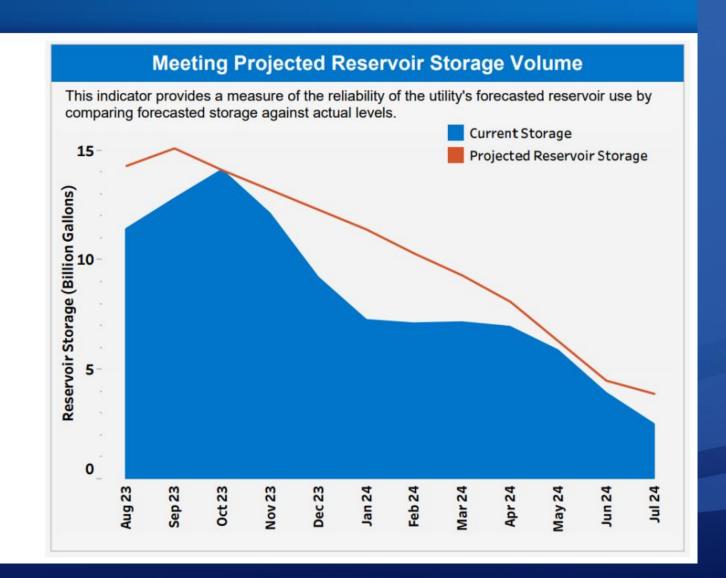
### Southwest Florida Water Management District

Cosme Odessa Wellfield	
Water Year Pumping Data - mgd	
	Average
Water Year	Pumping Rate
2000	7.10
2001	10.83
2002	10.41
2003	6.63
2004	4.84
2005	5.87
2006	8.91
2007	8.65
2008	6.66
2009	5.98
2010	1.59
2011	4.93
2012	4.37
2013	4.37
2014	5.03
2015	6.62
2016	6.14
2017	7.89
2018	7.12
2019	6.65
2020	7.64
2021	8.74
2022	7.69
2023	8.44
2024	2.74



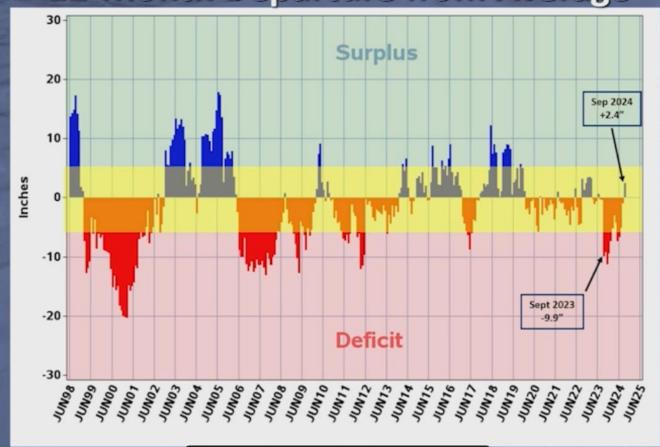
### TAMPA BAY WATER

# C.W. Bill Young Regional Reservoir





# District-wide Rainfall: 12-Month Departure from Average

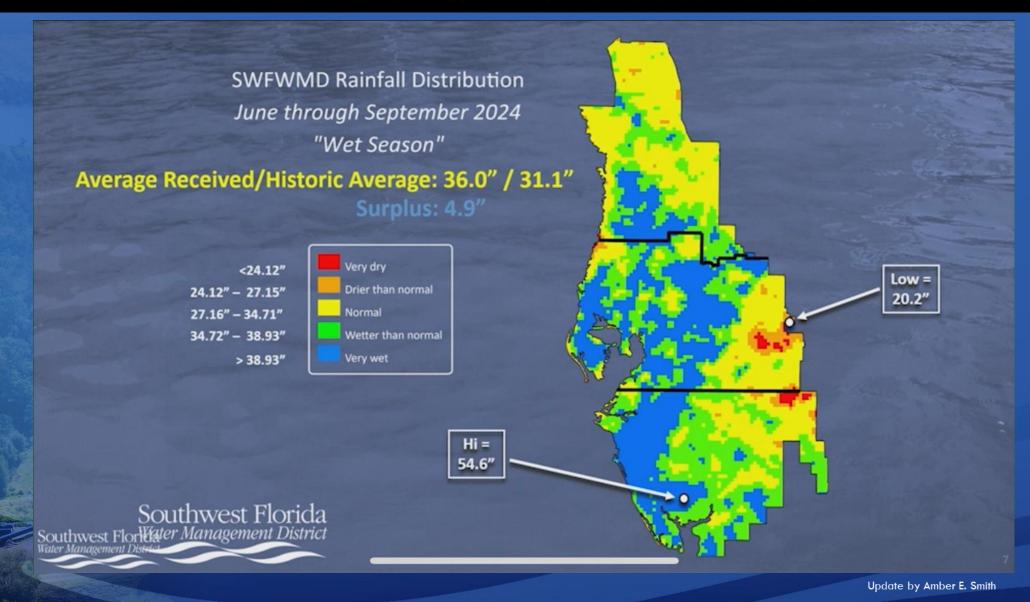




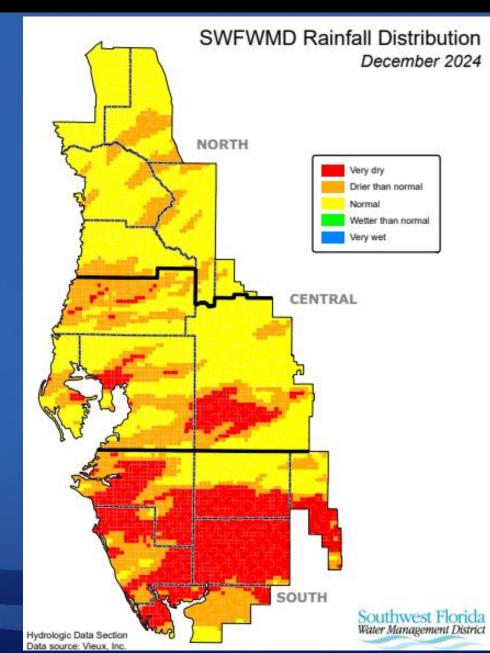


Update by Amber E. Smith

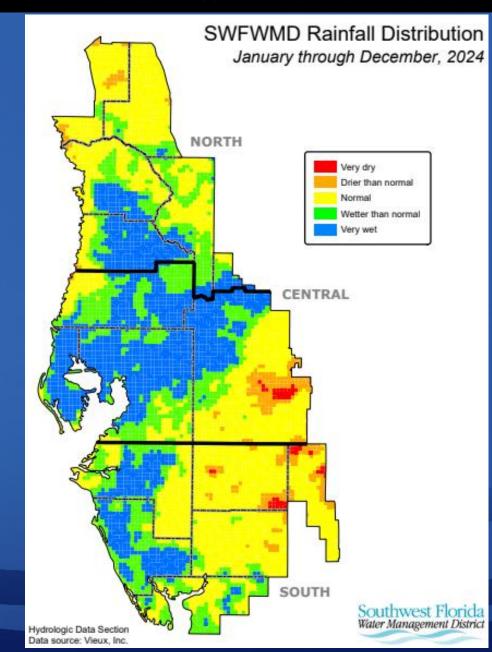
### Southwest Florida Water Management District



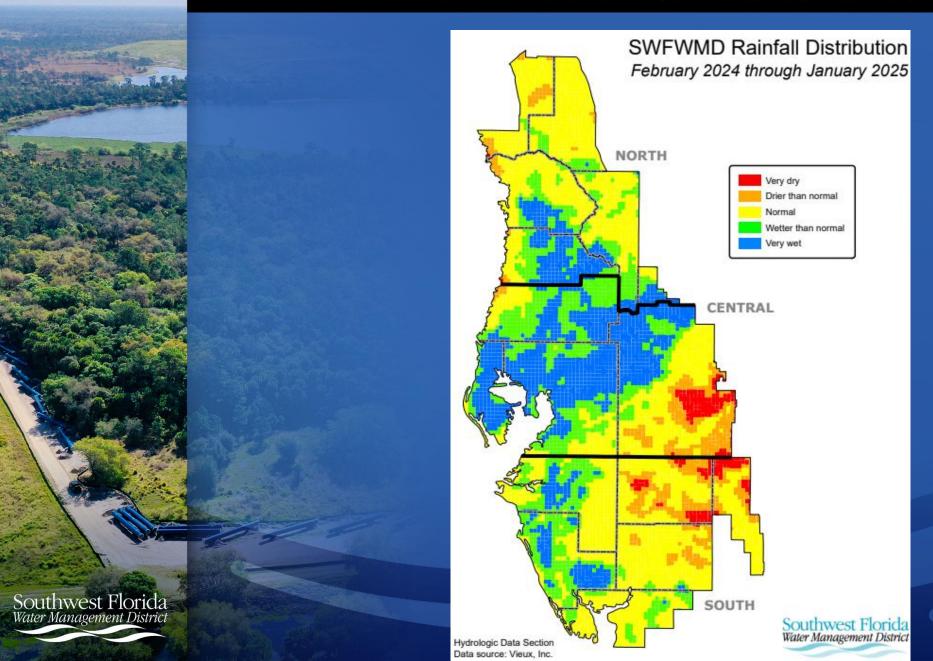


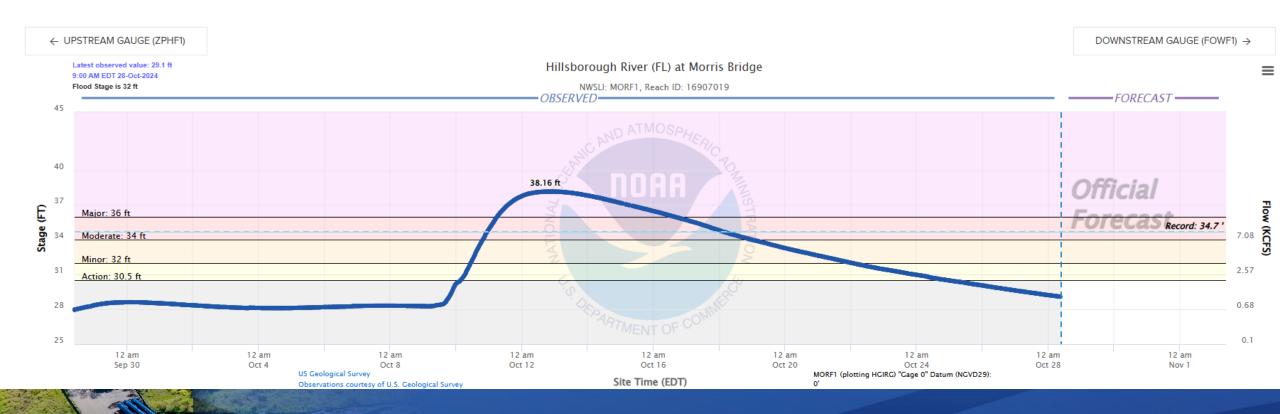


Southwest Florida Water Management District Update by Amber E. Smith



Southwest Florida Water Management District Update by Amber E. Smith



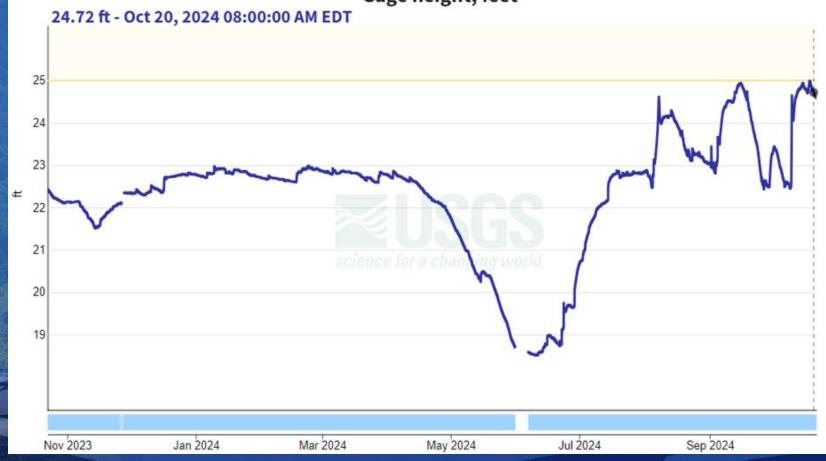




# Hillsborough R at Fowler AV Near Temple Terrace FL - 02304000

October 22, 2023 - October 21, 2024

Gage height, feet

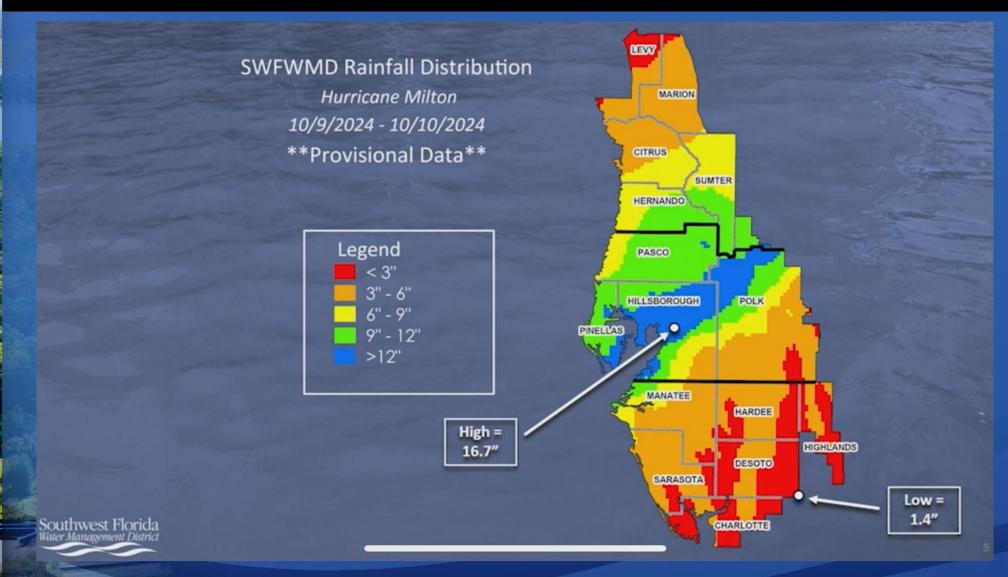




Southwest Florida









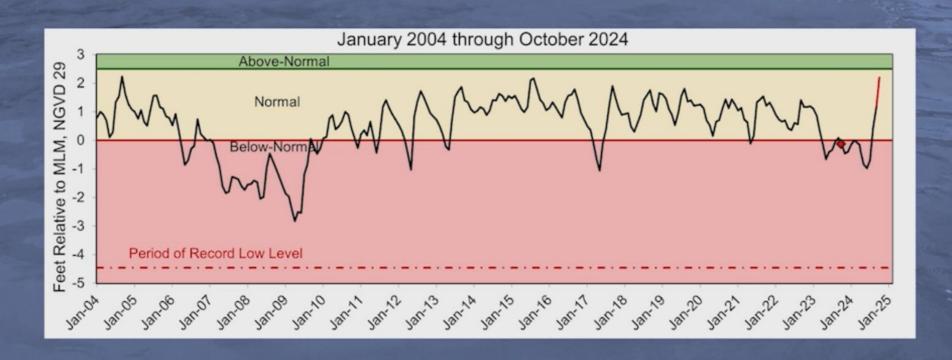
Update by Amber E. Smith



Southwest Florida



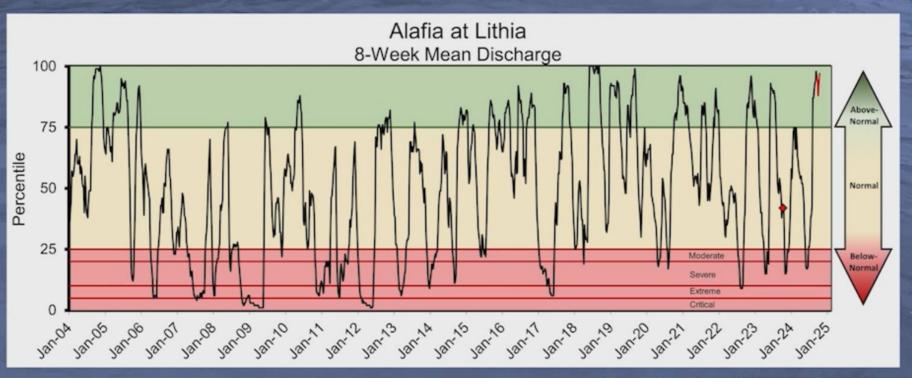
## Surface Water Levels: Tampa Bay Lakes



Southwest Florida Water Management District



## Surface Water Discharge: Alafia River



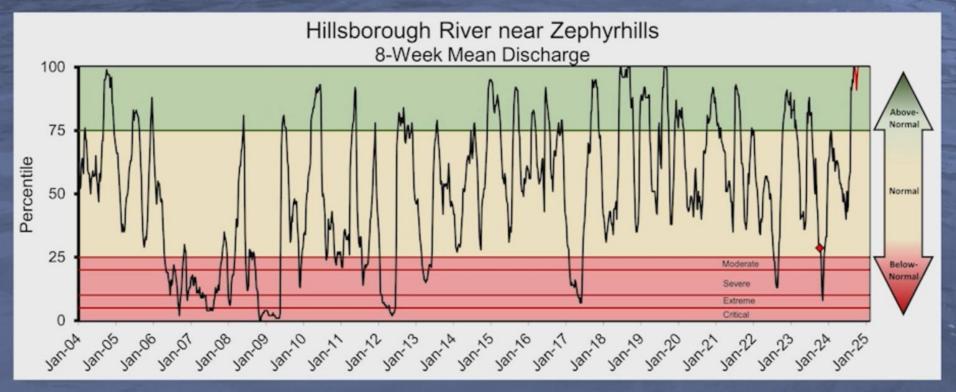
Data Source: United States Geological Survey





Update by Amber E. Smith

## Surface Water Discharge: Hillsborough River

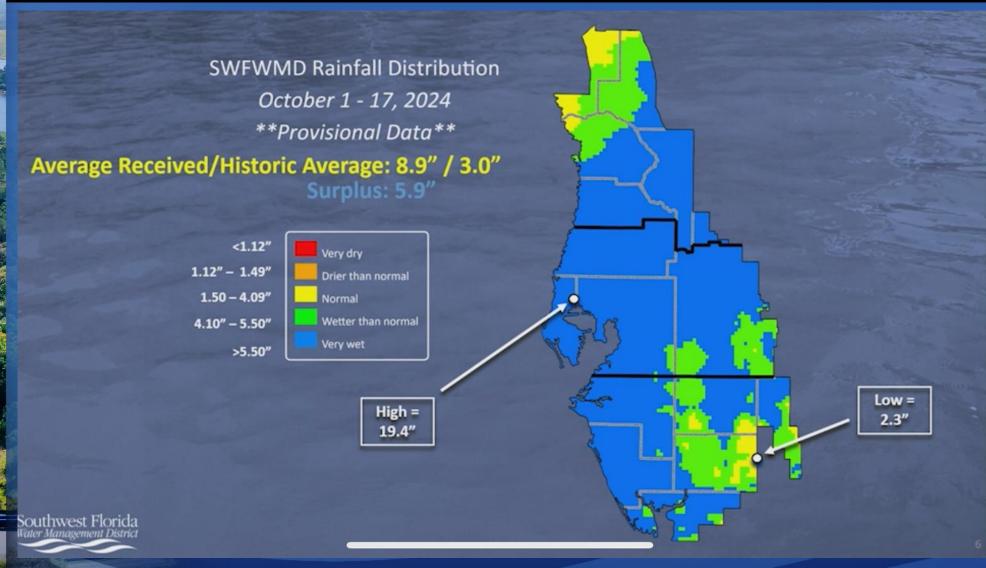


Data Source: United States Geological Survey













#### Water Resource Weekly Update

Aquifer\* Levels (percentile)

Regions **	Oct. 23 percentile***	Previous week percentile	Same date last year percentile	Normal range percentile****	
North	85	87	37	25 – 75	
Central	93	93	36	25 – 75	
South	73	74	36	25 – 75	

<sup>\*</sup> Aquifers are underground layers of rock and sand that hold water. In southwest Florida, more than 80 percent of the water supply comes from aquifers.

\*\* North (Citrus, Hernando, Lake, Levy, Marion and Sumter counties)

Central (Hillsborough, Pasco, Pinellas and Polk counties)

South (Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota counties)

\*\*\* The **percentile** compares current aquifer levels to historical levels during the same time of year on a scale of 0-100. For example, if the groundwater level is at the 50<sup>th</sup> percentile, it means that half of the historical levels for this time of year were higher and half were lower than the current level.



### Aquifer\* Levels (percentile)

Regions **	Feb. 12 percentile***	Previous week percentile	Same date last year percentile	Normal range percentile****	
North	70	71	47	25 – 75	
Central	60	64	56	25 – 75	
South	39	44	69	25 – 75	

<sup>\*</sup> Aquifers are underground layers of rock and sand that hold water. In southwest Florida, more than 80 percent of the water supply comes from aquifers.

\*\* North (Citrus, Hernando, Lake, Levy, Marion and Sumter counties)
Central (Hillsborough, Pasco, Pinellas and Polk counties)
South (Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota counties)

\*\*\* The **percentile** compares current aquifer levels to historical levels during the same time of year on a scale of 0-100. For example, if the groundwater level is at the 50<sup>th</sup> percentile, it means that half of the historical levels for this time of year were higher and half were lower than the current level.





#### Aquifer\* Levels (percentile)

Regions **	Sept. 10 percentile***	Previous week percentile	Same date last year percentile	Normal range percentile****	
North	39	40	73		
Central	41	44	71	25 – 75	
South	37	38	54	25 – 75	

<sup>\*</sup> Aquifers are underground layers of rock and sand that hold water. In southwest Florida, more than 80 percent of the water supply comes from aquifers.

\*\* North (Citrus, Hernando, Lake, Levy, Marion and Sumter counties)
Central (Hillsborough, Pasco, Pinellas and Polk counties)
South (Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota counties)

\*\*\* The **percentile** compares current aquifer levels to historical levels during the same time of year on a scale of 0-100. For example, if the groundwater level is at the 50<sup>th</sup> percentile, it means that half of the historical levels for this time of year were higher and half were lower than the current level.





#### Aquifer\* Levels (percentile)

Regions **	Sept. 30 percentile***	Previous week percentile	Same date last year percentile	Normal range percentile****  25-75  25-75	
North	26	31	70		
Central	31	36	73		
South	25	29	60	25-75	

<sup>\*</sup> Aquifers are underground layers of rock and sand that hold water. In southwest Florida, more than 80 percent of the water supply comes from aquifers.

\*\* North (Citrus, Hernando, Lake, Levy, Marion and Sumter counties)
Central (Hillsborough, Pasco, Pinellas and Polk counties)
South (Charlotte, DeSoto, Hardee, Highlands, Manatee and Sarasota counties)

\*\*\* The **percentile** compares current aquifer levels to historical levels during the same time of year on a scale of 0-100. For example, the if groundwater level is at the 50<sup>th</sup> percentile, it means that half of the historical levels for this time of year were higher and half were lower than the current level.



	Sept. 30	Sep	tember	Year to date	January – September		
	Actual **	Historic Avg.***	Normal Range***	Actual**	Historic Avg.***	Normal Range***	
North	3.33	6.32	4.16 – 8.03	34.84	46.06	41.43 – 50.54	
Central	2.78	6.92	4.82 – 7.98	37.07	45.17	40.06 – 48.62	
South	3.52	7.47	5.36 – 9.18	36.10	45.51	40.40 – 50.22	

## Historic Rainfall (January - December in inches)

	2024	2023	2022	2021	2020	2019	2018	2017	Jan. through Dec.	
	Actual	Historic Avg.***	Normal Range***							
North	58.57	48.00	51.78	60.87	47.77	57.02	66.66	52.41	54.01	48.63 – 58.08
Central	61.49	42.23	55.14	50.15	52.10	56.03	59.62	51.37	52.20	46.83 – 56.56
South	55.68	40.82	60.49	45.70	52.23	48.56	56.53	57.43	52.64	47.05 – 57.09





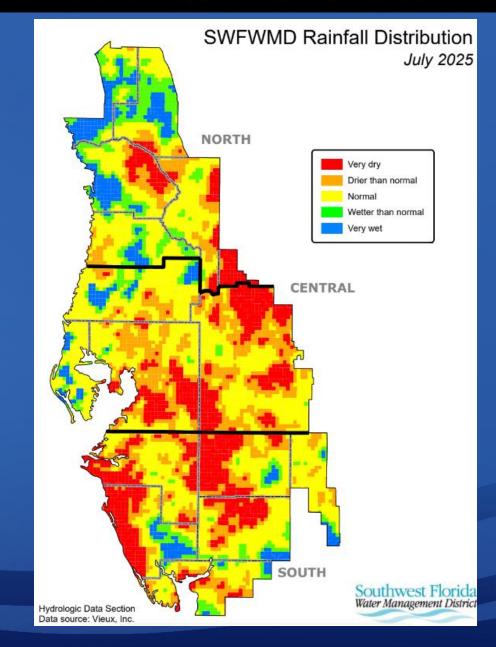
# CONSENT AGENDA October 22, 2024

Regulation Committee: Consider Rescinding Water Shortage Order No. SWF 23-041

On November 14, 2023, the Governing Board issued Water Shortage Order No. SWF 23-041, declaring a modified Phase I water shortage across portions of the District. Phase II water shortage restrictions, including limitations on residential lawn and landscape irrigation, went into effect in Hillsborough, Pinellas, and Pasco Counties. The Governing Board extended the water shortage for all areas on February 27, and subsequently extended Phase II water shortage restrictions for Hillsborough, Pinellas, and Pasco Counties on June 25 and August 27, 2024. These restrictions remain in effect until December 23, 2024, unless modified or rescinded by the Governing Board.

Since the most recent extension of the Water Shortage Order, the District has experienced severe hydrologic conditions that necessitate reconsideration of the water shortage restrictions. As of October 14, 2024, the storage volume of the C.W. Bill Young Regional Reservoir was at 14.99 billion gallons, or 97% full, due to high rainfall received from Hurricanes Debby, Helene, and Milton.

As a result of the conditions described above, staff recommends that SWF Order No. 23-041, as modified on August 27, 2024, be rescinded.





#### Stay Informed

- Know your flood zone by visiting hcfl.gov/floodmaps
- Know your evacuation zone and sign-up for emergency alerts at hcfl.gov/departments/emergency
- Visit the NOAA Storm Prediction Center Website at www.spc.noaa.gov
- Follow the U.S. National Weather Service Tampa Bay on Facebook or X
- Call Hillsborough County Customer Service & Support at (813) 272-5900

#### **Important Numbers**

#### Hillsborough County:

Development Services (813) 272-5600Road or Drainage Problems (813) 635-5400

 Customer Service & Support (813) 272-5900 (en Español)

#### City of Tampa:

Stormwater Operations (813) 274-3101

Construction Services Center (813) 274-3100

#### City of Temple Terrace:

• Public Works (813) 506-6570

Community Development (813) 506-6480

#### City of Plant City:

• Stormwater (813) 707-7200

Development Services (813) 659-4200

PRSRT STD U.S. POSTAGE PAID TAMPA, FL 33601 Permit No. 295

> c Works Department iox 1110 a, FL 33601-1110











## Florida Water Star Ordinances

- Florida Water Star (FWS)
  - Indoor appliances, plumbing fixtures, irrigation systems and landscapes Florida
  - 48,000 gallons less per year
- 13 ordinances to date since 2018
  - More than 27,000 homes
  - 1.3 billion gallons saved annually
- Bay Laurel Utilities (Ocala) and City of Zephyrhills
- Total 56,000 properties and 2.7 billion gallons saved annually at build out.



The Northern Tampa Bay Water Use Caution Area (NTB WUCA) was established in 1989. At that time, our region was experiencing unprecedented drought and population growth, and large amounts of water were being pumped out of the Floridan Aquifer, causing surface water bodies to lose water resulting in significant harm to the natural ecosystem. Some lakes and wetlands in the area had completely dried up, which caused much concern.

The Southwest Florida Water Management District (District) and Tampa Bay Water which represents six local governments and municipalities in Hillsborough, Pasco and Pinellas counties, partnered together in 1998 to develop a recovery plan. The plan included reducing the amount of groundwater withdrawals allowed under Tampa Bay Water's consolidated permit and developing alternative water sources. Tampa Bay Water invested nearly \$2 billion in alternative water supplies and pipelines to fully connect its system. The District provided more than \$300 million, which has been used in joint efforts with local governments to study the area and develop alternative water supplies.

Legend

Tampa Bay Water

Wellfields

NTR WUCA

1:250.000 Streams

Consolidated Permit

Cross Bar Ranch

Cypress Creek

Morris Bridg

Cypress Bridge

Starkey

Eldridge-Wilde

South Pasco

■ Section 21

Northwest Hillsboroug

# Northern Tampa Bay Water Use Caution Area

The Northern Tampa Bay Water Use Caution Area (NTB WUCA) includes all of Pinellas and Pasco counties, and the majority of Hillsborough County.

## **NTB Recovery Plan a Success**

District staff conducted a hydrologic assessment of the Northern Tampa Bay wellfield recovery in August and September of 2020. The assessment indicated that by reducing groundwater withdrawals by about 50 percent since the 1990s, improved rainfall conditions, and implementation of a robust wellfield operations strategy by TBW that prioritized environmental preservation, all MFL lakes and all but one MFL wetland (located on the Morris Bridge wellfield) were meeting their levels, the ecological health of lakes and wetlands had significantly improved, and aquifer water levels were near their highest elevations in four to six decades.

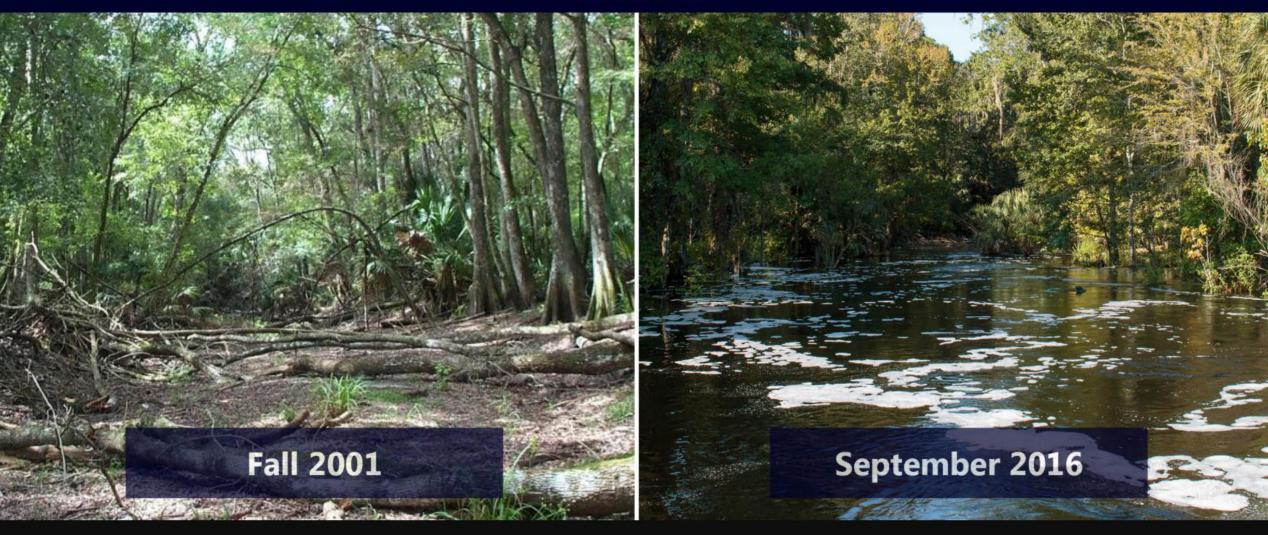
## Southwest Florida Water Management District

# Cross Bar Ranch Location Q-08





# Cypress Creek Location W-21



## Southwest Florida Water Management District

# Starkey Location S-18 Mud Lake

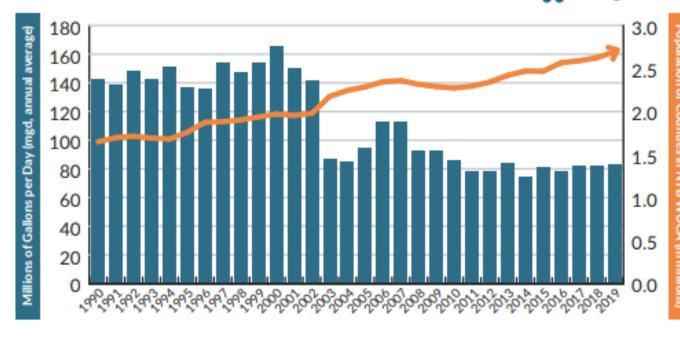




## Groundwater Withdrawals from Wellfields in Consolidated Permit and Population Growth in the NTB WUCA



Over the last 20 years, the District has worked closely with Tampa Bay Water and its member governments to reduce the consolidated permitted groundwater withdrawals by about 50%. Meanwhile, the population of the area has grown by almost 60% or by about 1 million people.





## **Reductions Through Permitting**

Before the consolidated permit was issued in 1998, collectively there was a total permitted annual average of 192 million gallons per day (mgd) of groundwater withdrawals for the 11 wellfields in the area. The original consolidated permit was issued for 158 (mgd) with plans to reduce withdrawals to 121 mgd by 2003 and 90 mgd by 2008. Reductions were achieved through the development of alternative water supplies. In 2010, the District's Governing Board adopted the second phase of the recovery strategy and has since continued to evaluate the amount of environmental recovery achieved while withdrawals remain at or below 90 mgd.

## **Recovery Plan**

The District established MFLs in the NTB area for cypress wetlands, lakes, rivers, springs and the Upper Floridan aquifer beginning in the late-1990s. Phase One (approved in 1999) required that new withdrawals not violate established MFLs, unless the withdrawal was part of the NTB WUCA Recovery Strategy. Phase Two was approved in 2009 for implementation through 2020.

Since the approval of the recovery plan, TBW has implemented three projects including Big Fish Lake Augmentation, Cross Bar Ranch Wellfield Wetlands Restoration and Cypress Creek Surface Water Management Project, which benefit up to 745 acres of wetlands. An additional eight projects are in development.



## **Alternative Water Supply Projects**

Several approaches were taken by the District and TBW to develop alternative water sources for the Tampa Bay area, including building the largest **seawater desalination plant** in North America located in Apollo Beach, pulling water from various river sources, constructing a **regional offstream reservoir** in southern Hillsborough County, installing many miles of pipelines to connect systems, and completion of a surface water treatment plant. These alternative water resources have helped tremendously to compensate for the reduction in groundwater withdrawals and the rise in demand for water due to population growth in the area. These alternative sources also provide resiliency, allowing Tampa Bay Water flexibility in its water source so that resources can be rested before they become stressed.

## Minimum Flows and Levels within the NTBWUCA

The District has established **minimum flows and levels (MFLs)** at approximately 30 wetlands, 71 lakes, two springs, three rivers and seven aquifer sites in NTB. All MFLs in the area are meeting levels except for one wetland located on the Morris Bridge wellfield and the **Lower Hillsborough River (LHR)** at the City of Tampa's Dam location.



## Major Alternative Water Supply Projects

The District has partnered with Tampa Bay Water on several major projects to develop innovative solutions for alternative water supplies to offset reductions in groundwater withdrawals. Tampa Bay Water built, owns and operates these facilities:



## Tampa Bay Regional Surface Water Treatment Plant

- Began operating in 2002
- ▶ Total Capital Cost \$274 million
- District contributed \$95 million
- Treats up to 120 million gallons of surface water per day



#### C.W. "Bill" Young Regional Reservoir

- Began operating in 2005
- Total Capital Cost \$146 million
- District contributed \$26 million
- Holds 15.5 billion gallons of water



## Tampa Bay Seawater Desalination Plant

- Completed in 2007
- ▶ Total Capital Cost \$158 million
- ▶ District contributed \$95 million
- Treats up to 25 million gallons per day







Configuration I: \$183 million



Configuration II: \$122 million



West Pasco Infrastructure Project: \$11.25 million



Brandon Booster Station: \$5.3 million



South Hillsborough Pipeline: \$145 million



Other Projects: \$5.8 million

# ~\$473 million received or committed for funding

Southwest Florida Water Management District



## Southern Water Use Caution Area

A **Water Use Caution Area**, or WUCA, is an area where regional action is necessary to address cumulative water withdrawals which are causing or may cause adverse impacts to the water and related natural resources or the public interest. The District Governing Board designates WUCAs and establishes rules that enhance the protection and/or recovery of the water resources.

#### What

The **Southern Water Use Caution Area (SWUCA)** was designated in 1992 to address declines in aquifer levels due primarily to groundwater withdrawals. Drawdowns in aquifer levels in some areas exceeded 50 feet.

#### Where

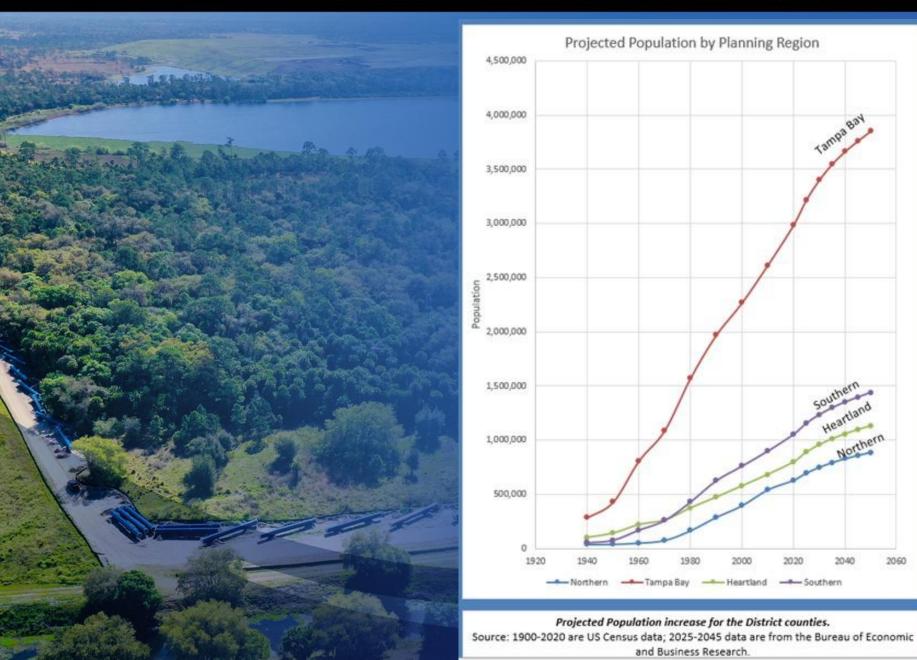
The area encompasses approximately 5,100 square miles, including all of DeSoto, Hardee, Manatee and Sarasota counties, and parts of Charlotte, Highlands, Hillsborough and Polk counties.

#### **Challenges**

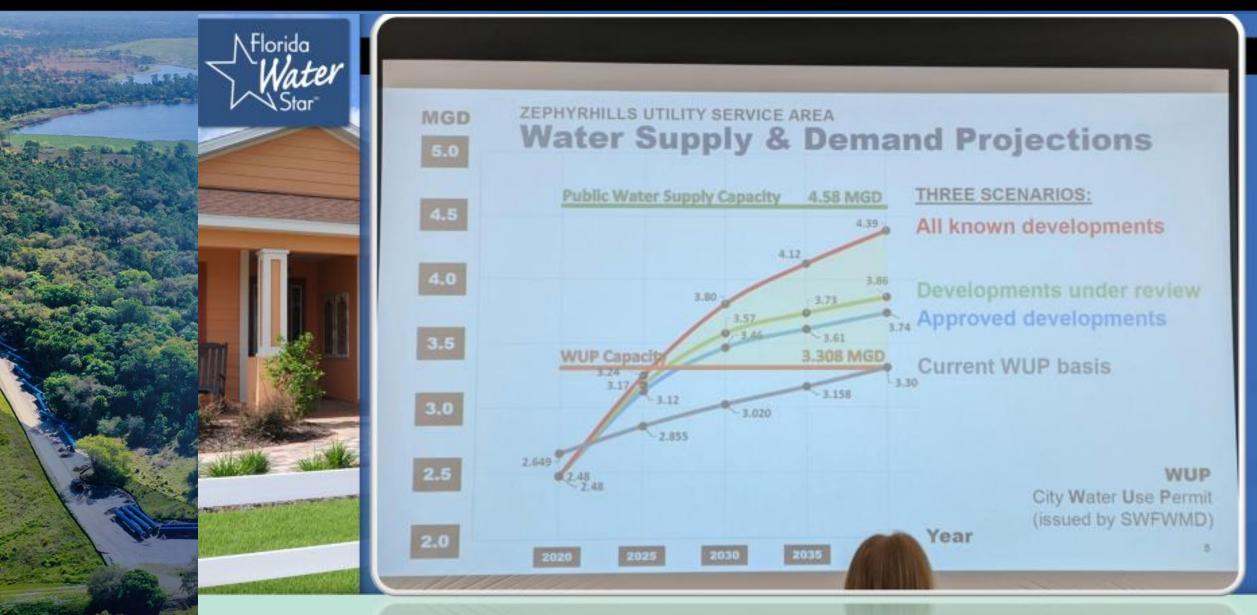
- Reduced flows in the upper Peace River
- Reduced lake levels in the Ridge Lakes area (extends roughly 90 miles along the center of the state in Polk and Highlands counties)
- Rate of saltwater intrusion into the Upper Floridan aquifer along the coast, especially in the Most
  Impacted Area (MIA), area of about 708 square miles located along the coast of southern
  Hillsborough, Manatee and northwestern Sarasota counties

The District has adopted **minimum flows and levels (MFL)** for 41 priority water bodies in the SWUCA. An MFL is the limit at which further withdrawals would be significantly harmful to the water resources or ecology. More than half of the established MFLs are not being met.





Update by Amber E. Smith



## Southwest Florida Water Management District





HOME AGENCY → SUPPLY → QUALITY → CONSERVATION → CAREE

02

#### Rainfall Deficit Calls for Conservation Measures





NEWS RELEASE

FOR IMMEDIATE RELEASE

Contact: Brandon Moore bmoore@tampabaywater.org (727) 791-2304 | (727) 470-0702

**CLEARWATER, Fla. (Oct. 2, 2023)** – Tampa Bay Water has sufficient drinking water supplies to serve the region; however, the Tampa Bay region is now in a Stage 1 water shortage due to below-average regional rainfall on a 12-month rolling average. The Stage 1 shortage is declared under the regional Water Shortage Mitigation Plan, Tampa Bay Water's supply management plan to proactively mitigate water supply shortages driven by prolonged, below-normal hydrologic conditions.

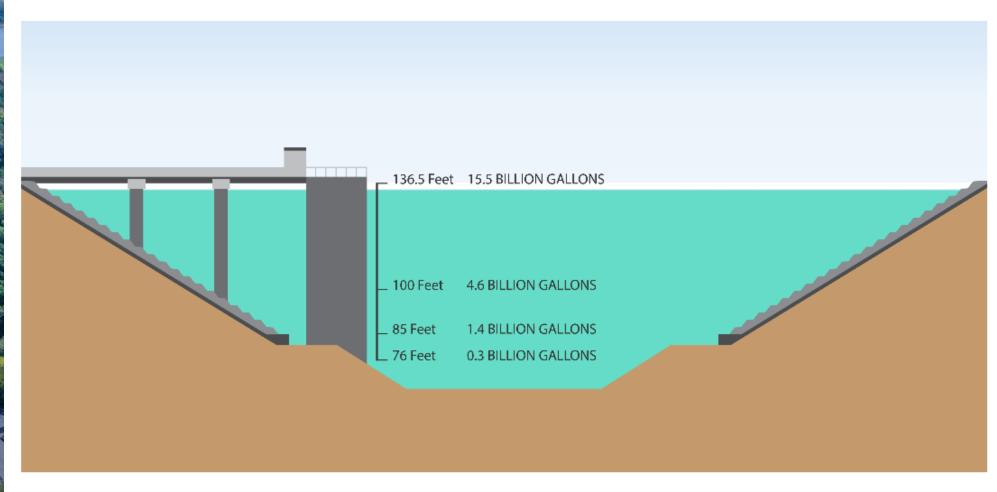
The region enters a Stage 1 water shortage when the rainfall deficit is more than 5 inches. Regional rainfall totals averaged 8.3 inches below normal over the past 12 months.

Tampa Bay Water's diverse water supply system is built to withstand dry conditions with the use of the regional reservoir and seawater desalination plant. Tampa Bay Water's C.W. Bill Young Regional Reservoir, the region's water savings account, is nearly full at 14 billion gallons of its 15.5-billion-gallon capacity, which will help maintain water supply to the Tampa Bay Regional Surface Water Treatment Plant. The Tampa Bay Seawater Desalination Plant, the region's drought-proof water supply, is expected to deliver water beginning in November.

It's important to take proactive measures in a Stage 1 water shortage and residents can help by conserving water during these drier than normal conditions. Regional water supply demands in September averaged 208.5 million gallons per day (mgd), 7.45 mgd higher than August 2023 average demand mostly due to outdoor watering.

Update by Amber E. Smith





Previous Water Level: 134.51

Previous Volume: **14.65** 

Previous Read Date: Oct 6 2025 12:00AM

Water Level Change: 0.08 feet

Volume Change: 0.03 BG

Current Water Level: 134.59

Current Volume: 14.68

Current Read Date: Oct 7 2025 12:00AM





- Tampa Bay Water Wise
  - Promoting multi-family rebates
- County promotion of rain sensor requirements and rebates
- County education and enforcement of watering restrictions

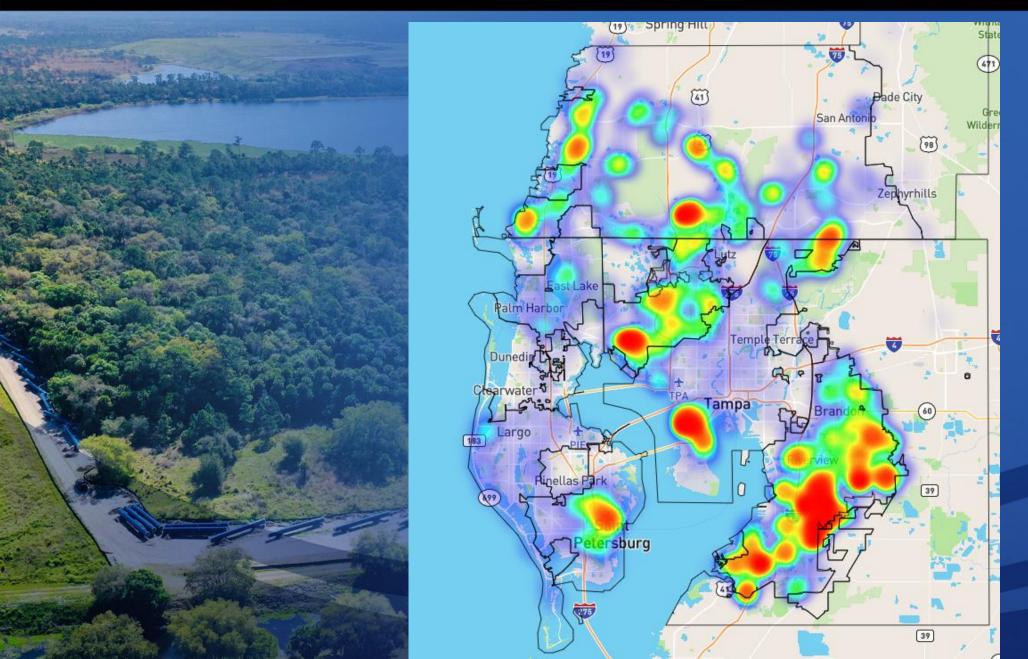




## Southwest Florida Water Management District



## Southwest Florida Water Management District





## \$152 Million Invested in Conservation Cost-Share Projects

CFI Cooperative Funding Initiative

213 Projects

More than \$61 Million Total Project Costs FARMS
Facilitating Ag Resources
Management Systems

242 Projects

Nearly \$87 Million Total Project Costs

Mini-FARMS

305 Projects

More Than \$2 Million Total Project Costs Since 2007

## **About WISE Program**

Grants (cost-share reimbursements) of up to \$20,000 are available for water conservation projects that improve water use efficiency and help protect the region's water resources. A wide variety of nonagricultural water users are eligible for the program, such as:

- Commercial properties
- Hotels
- · Apartment complexes
- HOAs and condo associations
- Industrial facilities
- · Government facilities
- Schools
- · Golf courses and more!

Funds are available for projects throughout the District, and applications are accepted year round.

## **WISE Program Quick Facts**

- Maximum reimbursement of 50% of eligible project costs, up to \$20,000 per project
- Project must receive District approval before expenditures begin
- Water savings will need to be calculated on a project-by-project basis
- Projects must be completed within one year of the awarded date
- Projects must take place within the District (see map)
- Funding will be awarded on a "first come, first serve" basis until depleted
- Through a partnership with Tampa Bay Water Wise, some water users may qualify for additional funding (total incentive up to \$40,000)



## WATER INCENTIVES SUPPORTING EFFICIENCY

#### Funding Available for Water Conservation Projects

Cost-share reimbursements are available for water conservation projects throughout the Southwest Florida Water Management District (District) that improve water use efficiency and help protect the region's water resources. The District will reimburse approved applicants 50% of project costs up to \$20,000 per project. Applications will be accepted year-round until all project year funds are awarded.

## RECEIVE UP TO \$20,000

#### Conservation Projects That May Be Eligible

- · Toilet, showerhead and plumbing fixture replacements
- Florida-Friendly Landscaping™ conversions
- Irrigation system modifications
- · Weather stations for irrigation control
- · Cooling tower modifications and pretreatment systems
- High-efficiency commercial/industrial processing equipment

Additional projects not listed may be eligible for funding. Please contact District staff to discuss ideas.

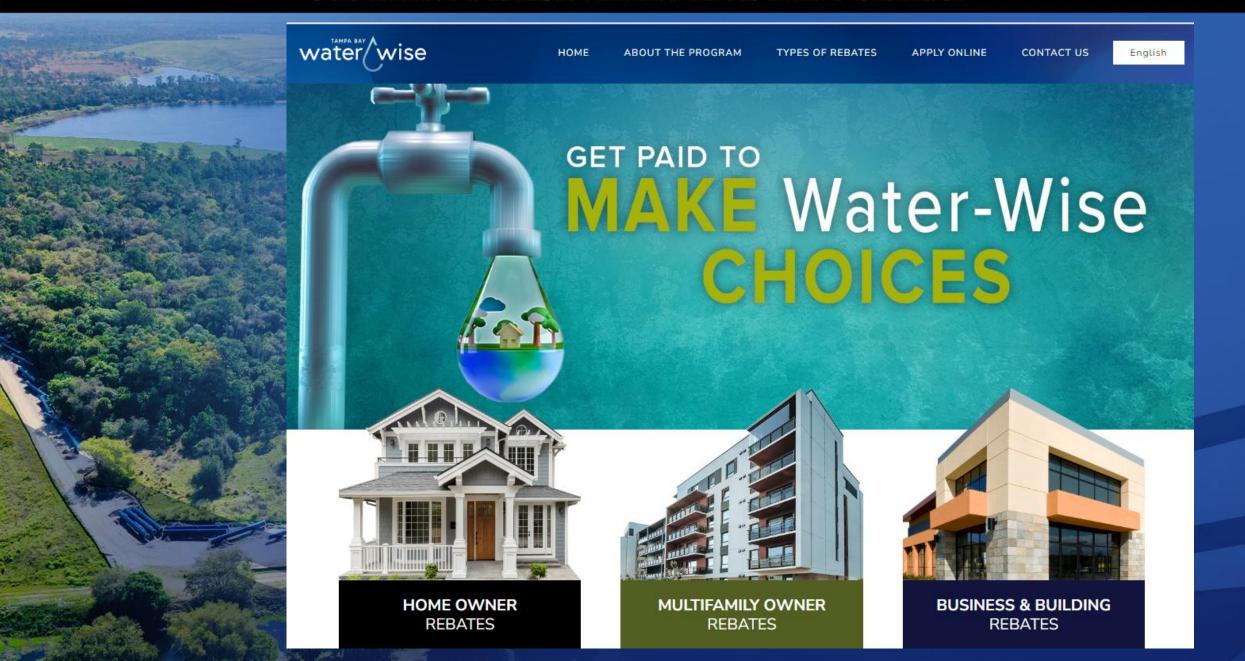
#### **Benefits**

- · Save money on utility bills and operating expenses
- Improve process and system efficiency
- · Reduce your project costs through reimbursement
- · Protect Florida's water resources

Visit WaterMatters.org/WISE to learn more, or contact Josh Madden at (352) 796-7211, ext. 4197 or Josh.Madden@WaterMatters.org.









## H<sub>2</sub>OSAV Multifamily Water Savings Report

Prepared by the University of Florida | IFAS H2OSAV: Water Savings, Analytics & Verification Program

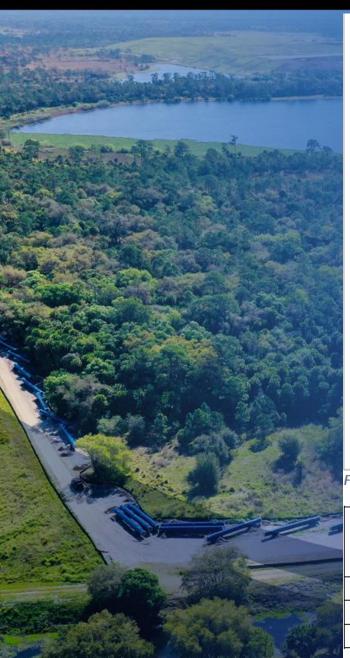
## Background

To date the Tampa Bay Water Wise program has issued four rebate incentives for large-scale water efficiency retrofits in multifamily housing complexes. The goal of this report is to provide estimated water savings associated with these retrofits based on monthly water use records.

## Station 42

Student housing of N 42<sup>nd</sup> Street/Station 42





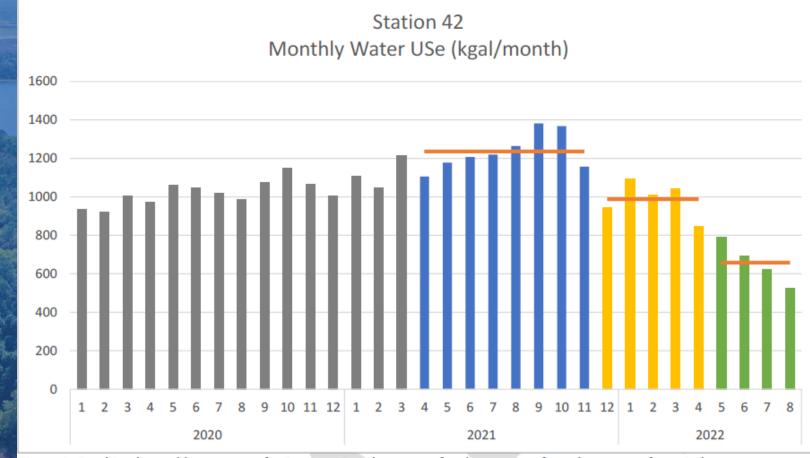
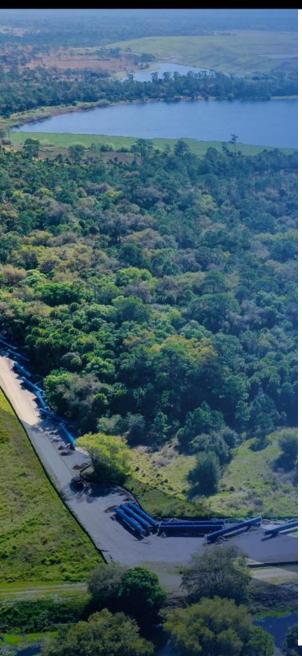


Figure 1: Combined monthly water use for Station 42 and averages for the pre-retrofit and post-retrofit periods.

Period	Dates	Average	Sequential	Total
		Water Use	Change in	Change in
			Water Use	Water Use
Pre-retrofit	4/2021 – 11/2021	1,235 kgal/mo		
Post-retrofit w/ flow restrictor	12/2021 – 4/2022	988 kgal/mo	247 kgal/mo	
Post -retrofit w/ retrofits	5/2022 - 8/2022	658 kgal/mo	330 kgal/mo	577 kgal/mo

\_\_\_\_Jpdate by Amber E. Smith

### Southwest Florida Water Management District



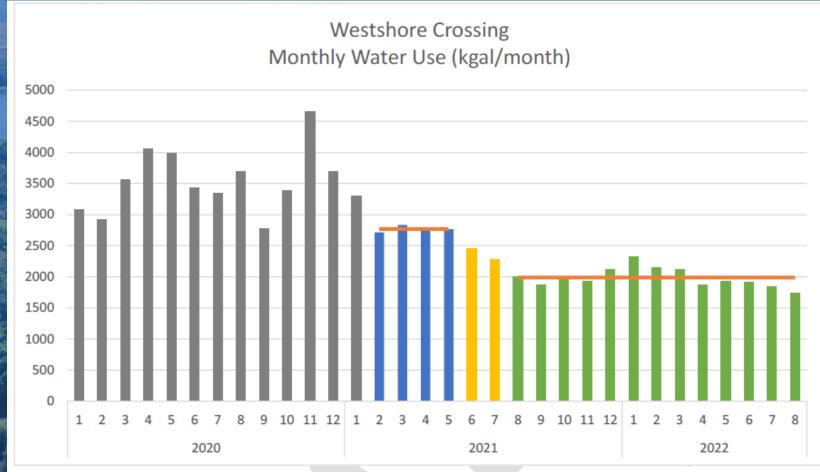
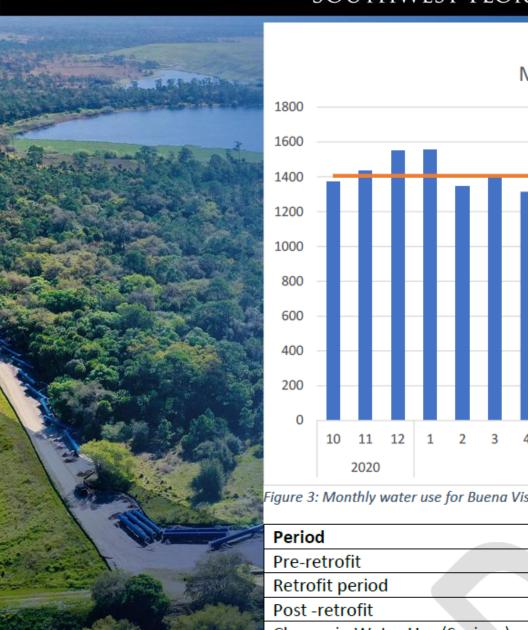


Figure 2: Monthly water use for Westshore Crossing and averages for the pre-retrofit and post-retrofit periods.

Period	Dates	Water Use
Pre-retrofit	2/2021 – 5/2021	2,765.5 kgal/month
Retrofit period	6/2021 – 7/2021	
Post -retrofit	8/2021 – 8/2022	1,985.7 kgal/month
Change in Water Use (Savings)		779.7 kgal/month



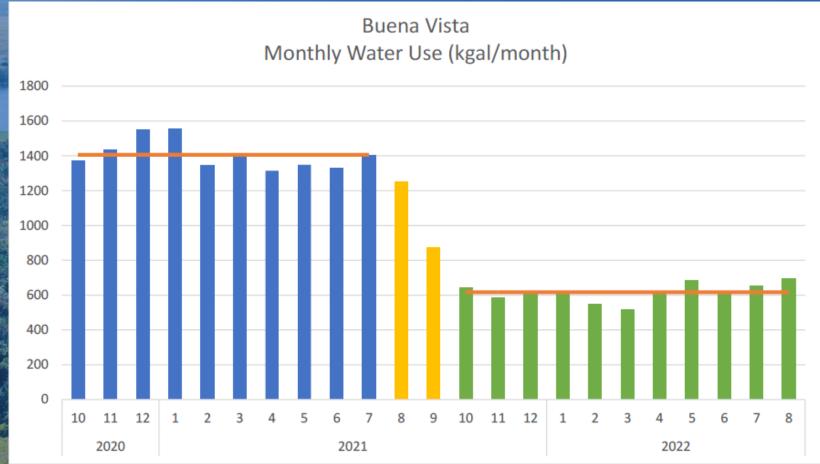


Figure 3: Monthly water use for Buena Vista and averages for the pre-retrofit and post-retrofit periods.

Period	Dates	Water Use
Pre-retrofit	10/2020 – 7/2021	1,405 kgal/month
Retrofit period	8/2021 – 9/2021	
Post -retrofit	10/2021 – 8/2022	615.6 kgal/month
Change in Water Use (Savings)		789.4 kgal/month



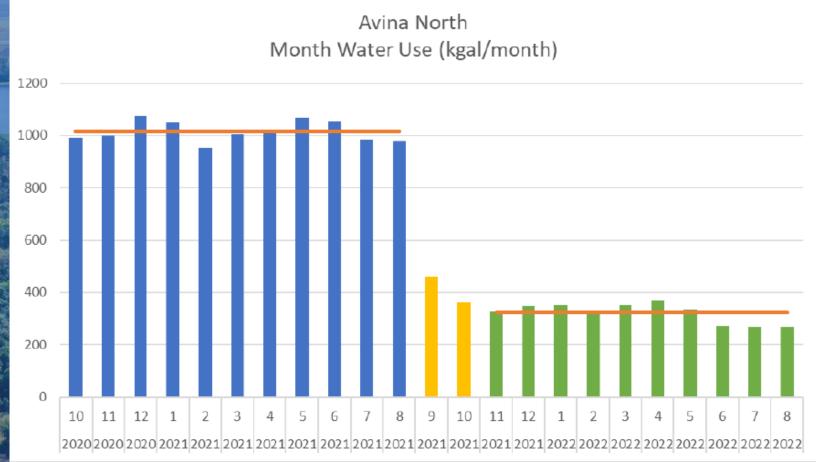
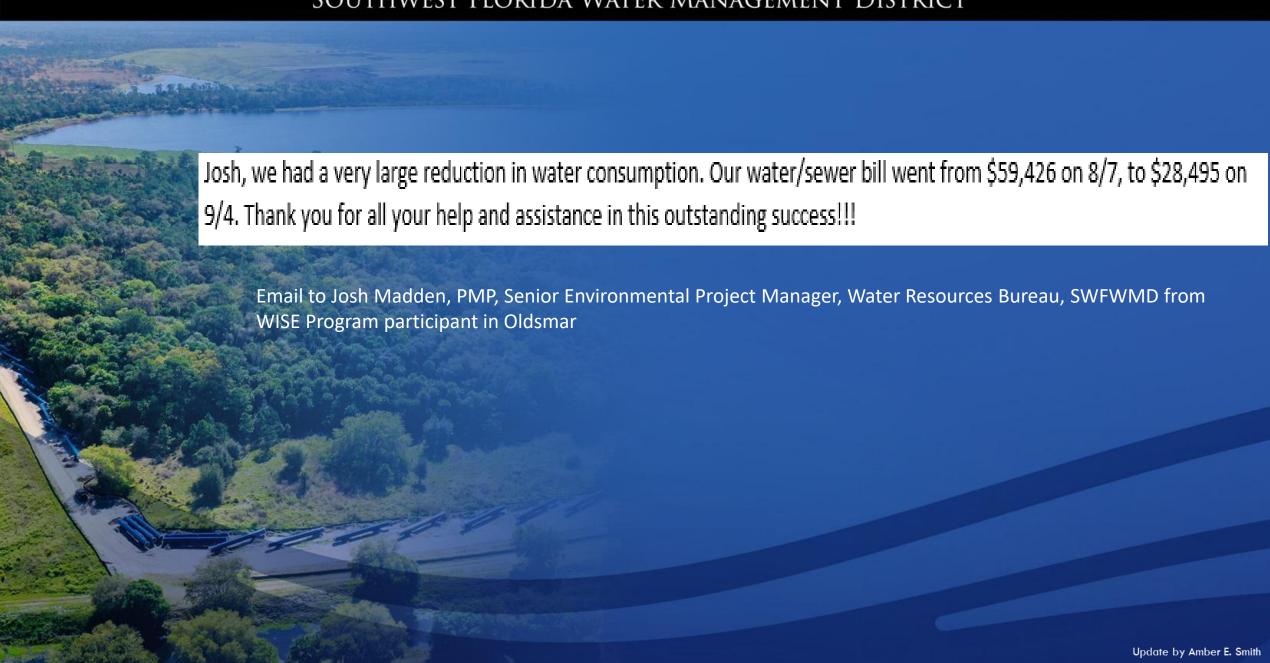


Figure 4: Monthly water use for Avina North and averages for the pre-retrofit and post-retrofit periods.

Period	Dates	Water Use
Pre-retrofit	10/2020 - 8/2021	1,015 kgal/month
Retrofit period	9/2021 – 10/2021	
Post -retrofit	11/2021 - 8/2022	323 kgal/month
Change in Water Use (Savings)		692 kgal/month



Josh, we had a very large reduction in water consumption. Our water/sewer bill went from \$59,426 on 8/7, to \$28,495 on 9/4. Thank you for all your help and assistance in this outstanding success!!!

Email to Josh Madden, PMP, Senior Environmental Project Manager, Water Resources Bureau, SWFWMD from WISE Program participant in Oldsmar

	Total use (gallons)	Use per unit per month (gallons)	Financial	Convert total use to gallons per day
Pre project (august bill)	3,390,000	8,475	\$59,426	99,705
Post project (sept bill)	1,261,000	3,152	\$28,495	43,482
Savings	2,129,000	5,323	\$30,931	56,223

### Southwest Florida Water Management District



B 1 11			0/ p'ff '		
Property #	IV	onthly Reduction	% Difference in	Rebate Type	Rebate Amount
		in Water &	Bills		
	1	Wastewater Bill			
1	\$	7,760.00	25%	286 \$75 toilets	\$21,450
2	\$	7,866.50	50%	205 \$75 toilets	\$15,375
3	\$	5,995.40	44%	120 0.8 toilets,	\$17,980
				showerheads,	
				aerators	
Approximate		\$6,000 - \$8,000	25% - 50%	120 – 290	\$15,000 -
Range				toilets +/-	\$21,000
				shwr/aer.	



△ 🚀 La Vista's Water Revolution: 351 Toilets, 1 Vision, and \$31,780 in Tampa Bay Water Wise Rebates



#### The Rebate Win

Thanks to Tampa Bay Water Wise a regional water conservation program offered by Tampa Bay Water, La Vista secured a \$31,780 rebate, offsetting a significant portion of the retrofit cost. It was a clear validation of the project's environmental impact and regional importance.

#### Daily Usage Assumptions and Annual Projected Savings

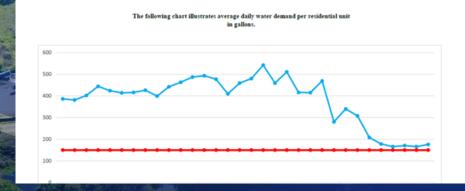
Fixture Type Daily Savings per Unit Units Installed Total Daily Savings Annual Projected Savings (365 days)

Toilets	27 gallons	351	9,477 gallons	3,459,105 gallons
Showerheads	10 gallons	235	2,350 gallons	857,750 gallons
Bath Aerators	5 gallons	352	1,760 gallons	642,400 gallons
Kitchen Aerator	s 5 gallons	127	635 gallons	231,775 gallons

#### **♦ Total Projected Annual Water Savings**

#### 5,191,030 gallons per year

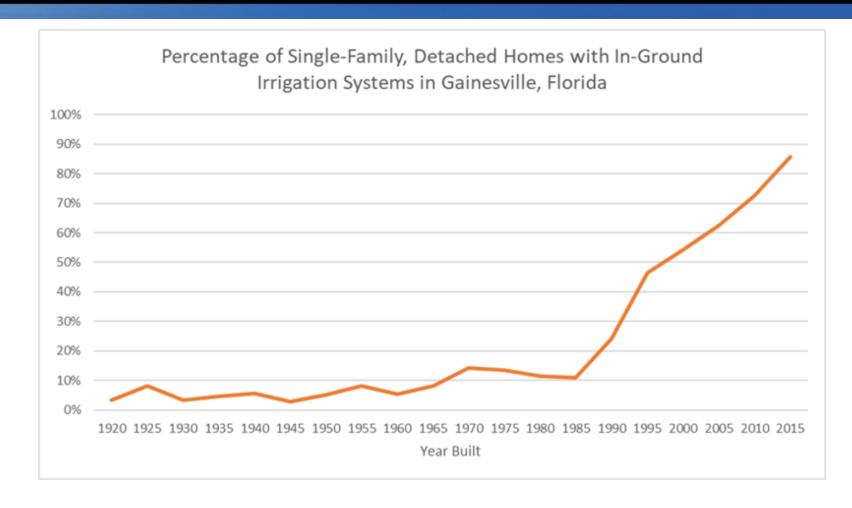
Environmental Impact Equivalent to saving ~ 8 Olympic swimming pools of water annually







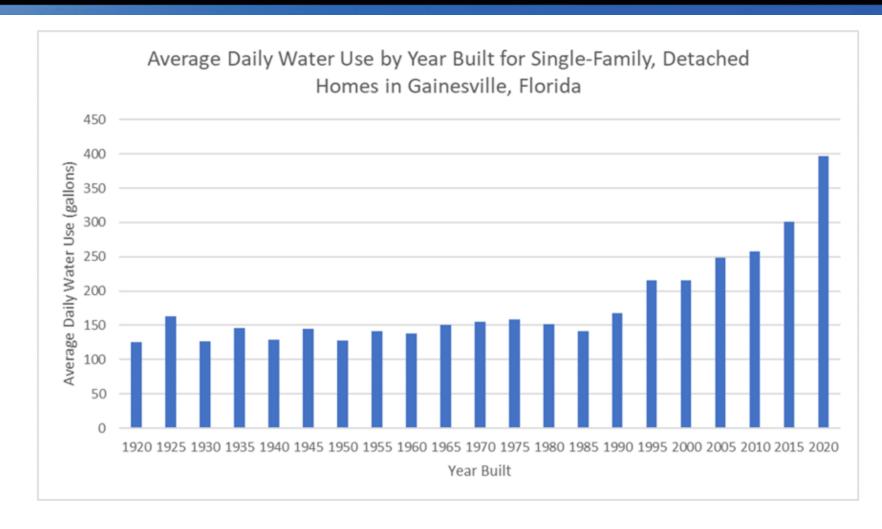








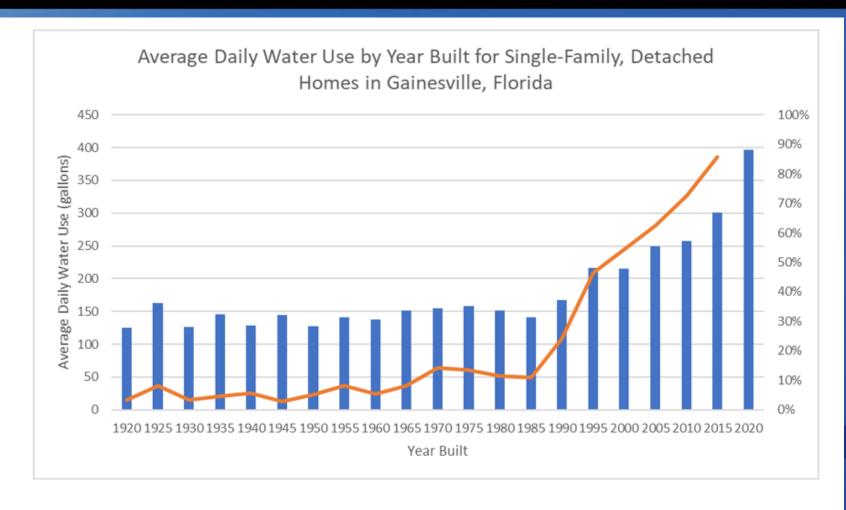


















### Two Decades of Smart Irrigation Controllers in U.S.

#### **Landscape Irrigation**

Published by the American Society of Agricultural and Biological Engineers, St. Joseph, Michigan www.asabe.org

Citation: Transactions of the ASABE. 63(5): 1593-1601. (doi: 10.13031/trans.13930) @2020

Authors: Michael D. Dukes

Keywords: ET controller, Landscape irrigation, Smart controller, SMS, Soil moisture sensor, Soil water sensor.

Highlights

Savings numbers in new studies across multiple soil types and climates are similar to those summarized in 2011 and are summarized here as 51% in research plot studies and 30% in single-family homes.

Studies of the human factors have begun showing how important the users are to success of the technology.

Education in implementation remains important to achieve potential water conservation.

Abstract. Smart irrigation controllers, such as evapotranspiration (ET) and soil moisture sensor (SMS) controllers, have become commonly available from virtually all irrigation controller manufacturers. This review summarizes the literature since the Fifth Decennial National Irrigation Symposium (NIS) concerning these controllers in research studies and pilot implementations. Studies have expanded to multiple climates throughout the U.S. on a variety of soils and plant types. When these devices are implemented properly on sites that have potential irrigation savings (i.e., excess irrigation), they are able to reduce irrigation while maintaining plant quality. The level of reduction depends on many factors, including the amount of excess irrigation, climate, plant type, and human interaction with the technology. When studies report positive savings, the levels documented here range from 40% to 61% (51% avg.) in plot studies and from 28% to 32% (30% avg.) in residential studies. Of 17 identified studies in the past decade, five reported negative savings, and in most cases those results were due to ET controllers installed on sites with little excess irrigation or controller programming that was not optimized for savings. New trends in the industry include Wi-Fi signal-based ET controllers with smartphone app capability, an upcoming standard for SMS controllers, as well as smart controllers becoming mandatory in areas of the U.S. As identified in the Fifth Decennial NIS, it remains important to implement controllers on sites with the potential for irrigation reduction as well as proper implementation with the best current information. Finally, there is a need to understand human interaction with these devices because improper programming can make the difference between a water-saving device and ineffective technology with a dissatisfied customer.



Bought Rachio Smart Irrigation Controller on Black Friday Sale

+

Certified Irrigation Evaluation and Installation

Corrected Rainfall Sensor, Capped Some Sprinkler Heads, Fixed Spray Heads









Program criteria

Codes and rebates

Resources

Events and contacts

Q

#### Florida Water Star<sup>™</sup>

Florida Water Star is a certification program for homes and commercial buildings that use less water in landscapes, irrigation systems and indoors.

A Florida Water Star-certified home saves money, water and benefits Florida's environment.

Please email Robin or Deirdre to learn more.



Update by Amber E. Smith























## Maximum of 60% Sprinkler Irrigation







## Pressure Regulation Valves Irrigation

# Check

# Micro-









# Florida Water Star<sup>SM</sup> Savings After One Year

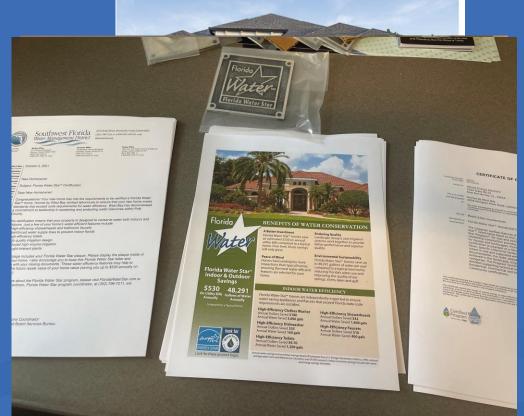
	Annual Water Savings	Annual Monetary Savings
Indoor	6,560 Gallons	\$276.70
Outdoor	41,741 Gallons	\$253.00
Total Savings	48,301 Gallons	\$529.70

- Based on 2 people per household
- Indoor includes energy and water utility savings
- Outdoor includes only water utility savings



## FWS Certification is Obtained

- FWS Private Inspectors
- **FWS Marketing Materials**
- **FWS Realtor Training**
- **FWS Plaques and Certificates**









## FWS Certification is NOT Obtained

- FWS Permit Affidavit
- FWS CO Affidavit
- FWS District Audits

2.	AUDITS OBSERVATIONS: At the time of inspection, determine if newly constructed single-family homes within a municipality with
an	FWS building code are meeting minimum FWS irrigation criteria. This checklist does not cover all FWS criteria and is not equivalent
to	an official FWS inspection with certification.

A. Plant E	Bed Irrigation -	
i.	Micro-Irrigation is installed in plant beds	( ) Yes ( ) No (Explain) ( ) N/A
ii.	The plant bed includes high-volume irrigation	( ) Yes ( ) No (Explain) ( ) N/A
B. <u>Landscarotor) by</u> :	ape areas is limited to 60% high-volume irrigation (spray or	
i.	Un- irrigated side and backyards	( ) Yes ( ) No (Explain) ( ) N/A
ii.	Large, expanded plant beds with micro-irrigation in front and backyards	( ) Yes ( ) No (Explain) ( ) N/A
iii.	There is more than 60% high-volume irrigation (photo provided)	( ) Yes ( ) No (Explain) ( ) N/A
iv.	Other (email Robin)	
	10.7.2.2.1. All irrigation systems shall be designed by a	an irrigation professional

10.7.2.2.1. All irrigation systems shall be designed by an irrigation professional consistent with the irrigation systems standards and as set forth in this Section. 10.7.2.2.2. Where Florida Water Star Certification will not be obtained, a "Letter of Certification of the Design for an Irrigation System" signed by the contracted irrigation professional certifying the design is consistent with the requirements of this Section shall be required to obtain a building before issuance of



## Florida Water Star Ordinances

- Florida Water Star (FWS)
  - Indoor appliances, plumbing fixtures, irrigation systems and landscapes Florida
  - 48,000 gallons less per year
- 13 ordinances to date since 2018
  - More than 27,000 homes
  - 1.3 billion gallons saved annually
- Bay Laurel Utilities (Ocala) and City of Zephyrhills
- Total 56,000 properties and 2.7 billion gallons saved annually at build out.

## ORDINANCE 1457-23

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ZEPHYRHILLS, FLORIDA, CREATING A NEW SECTION TO CHAPTER 156 OF THE CITY OF ZEPHYRHILLS CODE OF ORDINANCES, SECTION 156.30-156.36 ESTABLISHING FLORIDA WATER STARSM CERTIFICATION REQUIREMENTS FOR NEW CONSTRUCTION; PROVIDING FOR APPLICABILITY; PROVIDING FOR REPEALER; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN CODE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, as provided in section 2(b), Article VIII of the Constitution of the State of Florida, and section 166.021(1), Florida Statutes, the City of Zephyrhills, Florida (the "City"), a municipal corporation, enjoys all governmental, corporate, and proprietary powers necessary to conduct municipal government, perform municipal functions, and render municipal services, and may exercise any power for municipal purposes, except as expressly prohibited by law; and

WHEREAS, as provided in section 166.021(3), Florida Statutes, the governing body of each municipality in the state has the power to enact legislation concerning any subject matter upon which the state legislature may act, except when expressly prohibited by law; and

WHEREAS, the City of Zephyrhills has the desire to reduce the unnecessary use of potable

WHEREAS, the purpose and intent of this ordinance is to implement uniform procedures that promote water conservation through the mandatory installation of more efficient plumbing water within the City limits; and fixtures and appliances and installation of more efficient landscapes and irrigation systems and

WHEREAS, the City Council of the City of Zephyrhills, Florida hereby finds that this methods within the City of Zephyrhills; and ordinance advances an important government purpose by reducing the likelihood of the unregulated negative secondary effects of cannabis dispensing facilities; and

WHEREAS, the City Council of the City of Zephyrhills, Florida hereby finds that this ordinance is in the best interest of the public health, safety, and welfare; and

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Zephyrhills,

A STATE OF THE PARTY OF THE PAR

ATTENDED TO

SECTION 1. This Ordinance is enacted pursuant to Chapter 163, Florida Statutes, and under Florida, as follow: the home rule powers of the City.



October 12, 2023

DATE:

TO:

FROM:

# Community Redevelopment Department

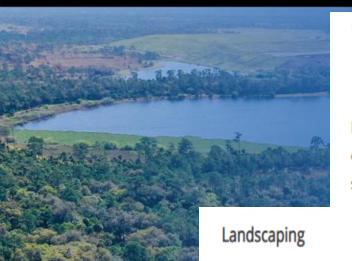
Erica Moody, CRA Director 306 E. Jackson Street 2N Tampa, Florida 33602

Office (813) 274-3284 Fax: (813) 274-7410

Honorable Chair Gwendolyn Henderson and Members of the CRA Board Erica Moody, Community Redevelopment Agency Director SUBJECT: Tampa Bay Water Wise Program and CRA Partnership

Motion: [CRA Staff to work with Tampa Bay Water - SWFWMD - matching WISE Fund] (Carlson-Hurtak) That the CRA Staff work with Tampa Bay Water, Southwest Florida Water Management District (SWFWMD), and the City Water Department to look into the feasibility of matching WISE funds for apartment buildings within the CRA districts and report on October 12, 2023 at 9:00 a.m.

Update by Amber E. Smith



## Watch the Weather, Wait to Water

During the summer months of June, July, August and September, yards need no more than ½ to ¾ inch of water every 2 to 3 days. If your lawn has received enough water from rainfall, turn off your irrigation system, and turn it back on when needed.

- Consider using site-specific, low-maintenance plants and surround them with mulch to keep soil moist and reduce water runoff.
- Water your landscape only when needed and early in the morning or in the evening when wind and evaporation are lowest.
- Install a rain sensor device or other automatic shutoff device on irrigation systems and adjust the irrigation schedule for seasonal changes. Irrigation systems generally don't need to run as often in cooler weather or during the rainy season.
- Consider using low-volume irrigation, such as a drip system.
- Avoid runoff. Make sure irrigation systems are directing water to landscape areas and not to parking lots, sidewalks or other paved areas.
- Check your irrigation system for leaks and broken heads at least every two weeks.
- For more information on Florida-Friendly Landscaping<sup>™</sup>, visit WaterMatters.org/Yards/.

#### Check your rain sensor

• If you have a rain sensor, make sure that it is working properly.

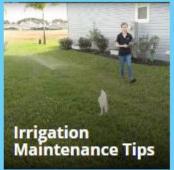














## Conservation Education Program

- Program Goal: Increase residents' knowledge and behaviors that lead to water conservation
- Funding: Projects fully funded by the District
- Project Partners: Utilities, Extension Offices and Homeowner Associations



