



# Our Water Cycle

**TAMPA  
BAY  
WATER**  
Supplying Water To The Region

**YEAR IN REVIEW  
2021**

# Contents

Letter from Tampa Bay Water’s Chairman and General Manager .....1

**Regional**.....2

**Reliable** .....4

**Resilient**.....12

**Responsible**.....14

**Recovery**.....16

**Resourceful**.....18

**Relationships** .....20



## Letter from Tampa Bay Water’s Chairman and General Manager

*Tampa Bay Water’s vision is to be the leader in supplying sustainable, quality water.*

Much like the water cycle where water is constantly cycled through the atmosphere, land and bodies of water, Tampa Bay Water has its own “water cycle.”

When Tampa Bay Water was formed in 1998, we were charged with developing new water supplies to meet regional demands and reduce the region’s reliance on groundwater. In our first 10-plus years, we built a regional surface water system that included a 120-million-gallon treatment plant and a 15.5-billion-gallon reservoir, the largest seawater desalination plant in the United States at the time and related infrastructure and pipes. Once our system was diversified and expanded, we focused the next 10 years on refining our operations and maintaining our new infrastructure. Now, as the region is growing at a record rate, it’s again time to expand our system to meet the growing demand for water.

We spent 2021 laying the groundwork for new water supplies by:

- Sustainably providing water and celebrating the success of environmental recovery in northern Tampa Bay;
- Implementing a regional demand management program to conserve water and stretch our current supplies; and,
- Developing a new modeling tool to strategically time the construction of new supplies.

And, in looking toward the future, we began updating the agency’s roadmap – our strategic business plan. This rolling five-year plan sets the strategic business direction for the utility and outlines the objectives, strategies and tactics needed to achieve the organization’s strategic goals. And our newly created agency succession plan will ensure we retain the knowledge of long-time staff as they retire.

We are honored to be the region’s reliable, resilient and responsible water provider, and we are proud to present this 2021 Year in Review. We wish you all a successful, safe and healthy 2022!

**Chairman Dave Eggers**  
Commissioner, Pinellas County

**Chuck Carden**  
General Manager, Tampa Bay Water



# Regional

Our mission is to reliably provide clean, safe drinking water to the region now and for future generations.

## 2021 Board of Directors

Tampa Bay Water's board of directors are elected officials from our six member governments working cooperatively to achieve our mission.



**Chairman Dave Eggers**  
Commissioner  
Pinellas County



**Vice Chairman Ron Oakley**  
Commissioner  
Pasco County



**Harry Cohen**  
Commissioner  
Hillsborough County



**Rob Marlowe**  
Mayor  
City of New Port Richey



**Charlie Miranda**  
Council Member  
City of Tampa



**Kathleen Peters**  
Commissioner  
Pinellas County



**Darden Rice**  
Council Member  
City of St. Petersburg



**Mariella Smith**  
Commissioner  
Hillsborough County



**Kathryn Starkey**  
Commissioner  
Pasco County



**Chuck Carden**  
General Manager  
Tampa Bay Water

## New General Manager Selected

This year Tampa Bay Water's board of directors selected Charles H. "Chuck" Carden as its general manager, making him Tampa Bay Water's fourth leader since it was created in 1998.

Carden, who served as the utility's interim general manager since December 2020, was previously the utility's chief operating officer. In his more than 28 years with Tampa Bay Water, Carden played an instrumental role in the utility's construction of more than \$1 billion in infrastructure and pipelines, including the region's first alternative water supplies. This experience is vital as Tampa Bay Water embarks on a new cycle of growth and construction.

[Read the News Release](#)

## Our Member Governments



# Reliable

When you turn on your tap, water flows. It's so reliable, it seems simple, yet it takes substantial expertise and infrastructure to produce water for the region. Planning new facilities and pipelines, maintaining current facilities, and constantly improving our processes are all critical to a reliable water supply.

## 2021 Supply and Demand At A Glance

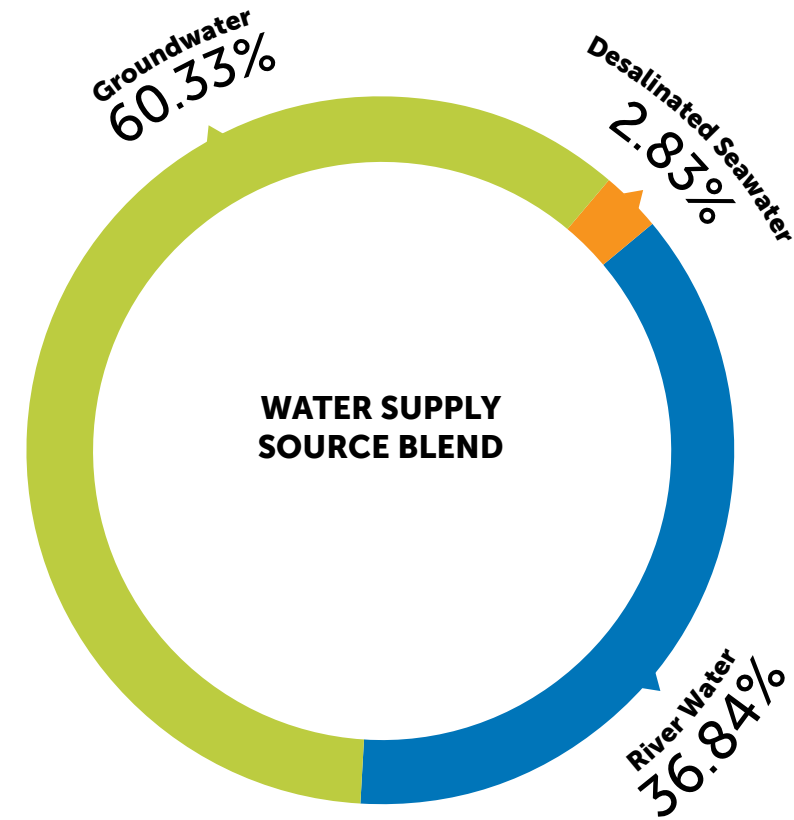
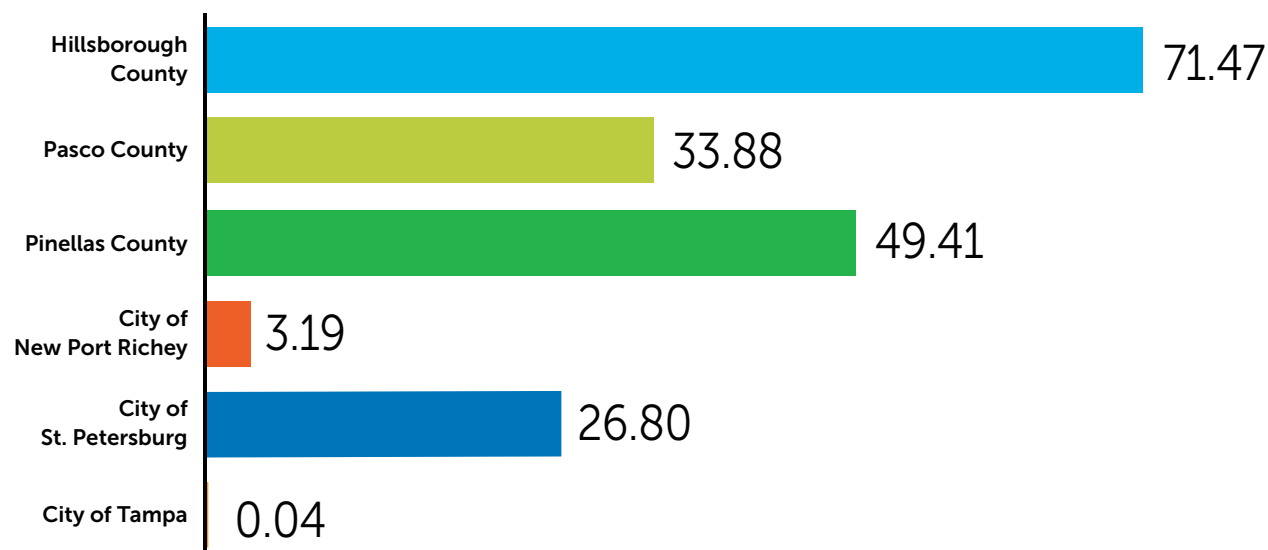
During fiscal year 2021 (Oct. 1, 2020, to Sept. 30, 2021) Tampa Bay Water delivered an annual average of 184.79 million gallons per day (mgd) of water to our member governments, about 0.4 percent or 0.79 mgd higher than the previous fiscal year.

**184.79**  
million gallons of  
water delivered  
per day

**0.4%**  
more water  
delivered from  
last year

**6.26**  
billion gallons  
used from the  
regional  
reservoir

**WATER DELIVERED TO OUR MEMBER GOVERNMENTS**  
(million gallons per day)

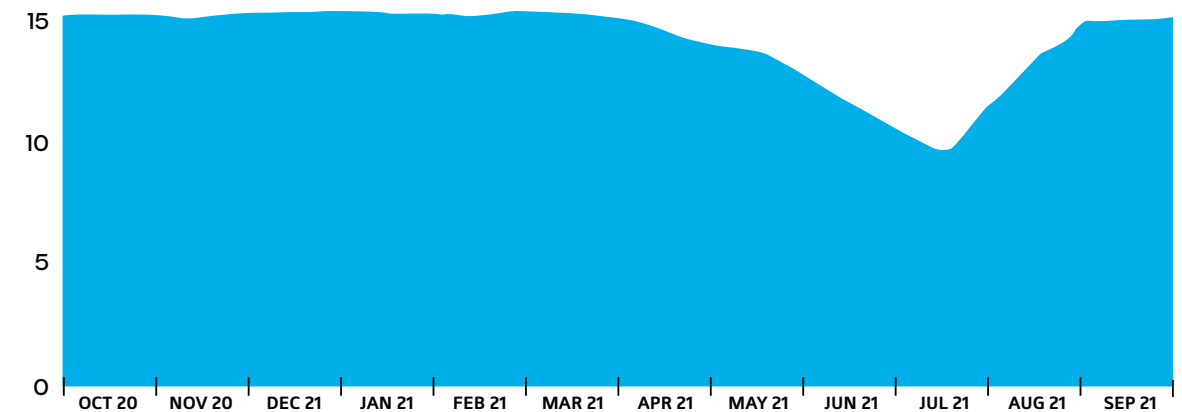


Tampa Bay Water provides a blend of groundwater, river water and desalinated seawater to deliver a reliable supply of clean, safe water to more than 2.5 million people in the region.



**2021 RESERVOIR LEVELS**

We used 6.26 billion gallons of water from the C.W Bill Young Regional Reservoir, the region's water savings account. Higher than average rainfall this year allowed us to fill the reservoir earlier than expected.





# Renewing our Infrastructure

Protecting the public's investment in our existing infrastructure through proactive maintenance is important to ensuring Tampa Bay Water can reliably supply clean, high-quality, affordable drinking water to our member governments.

This year we completed four projects for a total cost of \$3.9 million, 9.5 percent under budget. Throughout 2021, several projects were in construction.

## Completed Projects



**New warehouse at the Cypress Creek Operations Center:** Replaced the former aging warehouse with a new, 8,000-square-foot warehouse offering more storage space.



**Tampa Bypass Canal Pump Station starters replacement:** Improved safety and reliability by replacing electrical components and connecting pumps and motors to separate power.



**South-Central Hillsborough Regional Wellfield improvements:** Replaced a pipe section and added a pressure-control valve to increase pressure in portions of the wellfield that are at a higher elevation.



**South-Central Hillsborough Regional Wellfield generators and pump motors replacement:** Replaced six generators and 17 pump motors at the South-Central Hillsborough Regional Wellfield.



## Projects in Construction

- **Regional Facility Pump Station expansion** increases the pumping capacity at the High Service Pump Station.
- **Tampa Bay Seawater Desalination Facility intake connection improvements phase 1** provides an additional seawater intake location to address changes at the Big Bend Power Plant, where the desalination plant is co-located.
- **Tampa Bypass Canal gates automation** automates nine manual gates at three flood control structures at the Tampa Bypass Canal.
- **Eldridge-Wilde Wellfield improvements** replaces pumps, motors, wellhouses and metering devices and repairs access roads for the wellfield to increase reliability and efficiency. Power lines will be relocated underground, making the facility more resilient against storms.
- **Cypress Creek Water Treatment Plant and High Service Pump Station diesel piping improvements** automates filling the diesel tanks and prevents spills, protecting the environment.
- **C.W. Bill Young Regional Reservoir solar energy system** installs a 2.2-acre solar array on the reservoir property to offset Tampa Bay Water's commercial electric consumption.
- **High Service Pump Station switchgear and generator controls upgrades** adds a second commercial power feed to the station and automates the switchgear and generators during power outages.





# Refining Water Quality

We consider it a tremendous responsibility to provide our region with high-quality drinking water 24 hours a day, 365 days a year. Water is vital not only to our health and well-being but to our economy and way of life. The water we provided to our member governments met or was better than all state and federal drinking water health standards. Public health and safety are top priorities and Tampa Bay Water is committed to providing a clean, safe and reliable drinking water supply.



Tampa Bay Water works hard to ensure the quality of your drinking water. We collected more than 6,000 samples and conducted nearly 60,000 water quality tests in our state-certified laboratory to ensure we meet more than 100 local, state and federal drinking water parameters, and 17 additional, stringent parameters established by our member governments.

Our high-quality supply is also a great value. We withdraw, treat, disinfect and supply our member utilities with high-quality water for less than one-half penny a gallon. The next time you reach for a glass of water, you can feel confident in its quality as well as its cost.



6,000  
samples  
collected

60,000  
water quality  
tests  
performed

100+  
local, state &  
federal  
parameters

17  
additional  
parameters



The Water Quality Working Group, a team of member government and agency representatives, meets monthly to collaborate on potential improvements to Tampa Bay Water's stringent water quality requirements.

While many of our projects aim to maintain or increase our current water supply, some are focused on improving water quality. One of these is the [South Pasco Water Treatment Plant Water Improvements project](#), which raises the pH of the final treated water to a level similar to the pH level of the regional system, improving overall water quality. In addition, the agency worked on and will complete a Regional Water Quality Study in 2022 to look at enhancements to the already high-quality regional system water.

[Read the 2020 Water Quality Report](#)

Tampa Bay Water temporarily altered the water treatment process at our [Lithia Water Treatment Plant](#) as available supplies of liquid oxygen were diverted to hospitals as a result of the COVID-19 pandemic. Our water remained safe and continued to meet all federal and state drinking water quality requirements.





# Realizing Our Long-term Master Water Plan

As our region grows, so does the need for additional supply. We monitor and plan for this growth through our Long-term Master Water Plan, a 20-year framework for meeting the region's future water needs, which is updated every five years. The current plan was approved in 2018 and includes three potential new water supply projects currently under feasibility studies.

- The **Surface Water Expansion** study is evaluating the feasibility of increasing our annual yield of surface water by 10-12.5 mgd. It also involves evaluating an alternative location, including benefits and risks, for a potential new surface water treatment plant near the C.W. Bill Young Regional Reservoir in southern Hillsborough County.
- The **Seawater Desalination Plant Expansion** study is evaluating the feasibility of increasing our available desalinated seawater supply by 10-12.5 mgd. Currently, this facility can supply up to 25 mgd of drinking water to the region.
- The **South Hillsborough Wellfield** study is evaluating the feasibility of increasing our available groundwater by 6.1 mgd by developing a new wellfield and treatment facilities using credits from Hillsborough County's South Hillsborough Aquifer Recharge Program, or SHARP.

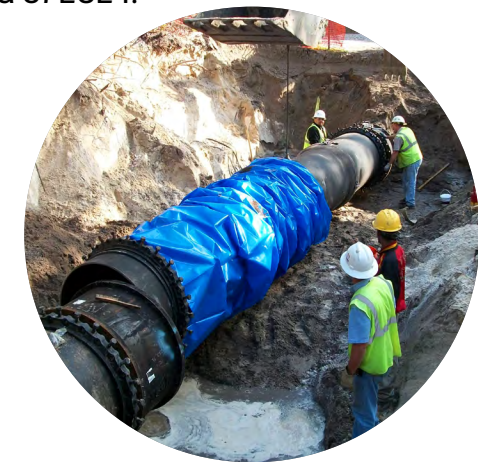
Additionally, Tampa Bay Water is collaborating with the City of Tampa on opportunities to use reclaimed water as a future source of supply through the City's PURE project.

Tampa Bay Water is working with Hillsborough County to determine fair pricing for reclaimed water credits, which are necessary to implement the proposed new South Hillsborough Wellfield.



Although our region has grown overall, southern Hillsborough County has grown by leaps and bounds. By 2045, the number of homes in the Boyette area is expected to grow by one-third, the number in Wimauma are expected to more than double, and the number of homes in the Balm area is expected to nearly triple.

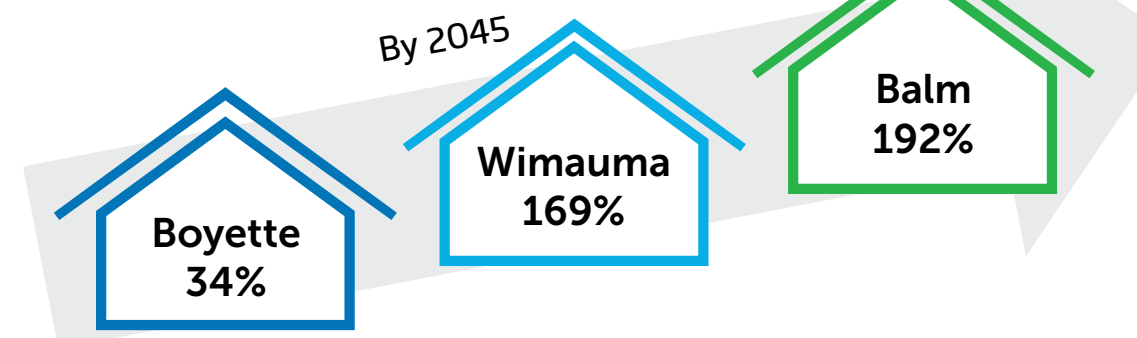
Tampa Bay Water is working on two projects to specifically meet this need: a new large-diameter **South Hillsborough Pipeline** and the **Brandon Booster Station**. The pipeline includes two segments, which are scheduled to begin construction in 2026 and be operational in 2028. The new Brandon Booster Station will provide an additional 5-7 million gallons of water per day to the County's Lithia Water Treatment Plant and is scheduled to be online by the end of 2024.



Tampa Bay Water and Hillsborough County have a comprehensive program to meet the short-term demands of south-County including a temporary pump station, watering restrictions and permit modifications.

[Read More](#)

## Growing South Hillsborough Water Needs



Residential and population figures from Plan Hillsborough.



# Resilient

With a growing population, changing climate and ever-evolving technology, Tampa Bay Water must be resilient. We accomplish that by planning our projects well into the future, studying and adapting to changing climate conditions, and preparing for seasonal weather.

Each year our system decision support team creates an annual demand forecast and provides input on short- and long-term planning by analyzing water use, multiple socio-economic factors and population growth. This data also informs our Long-term Master Water Plan, out of which projects are chosen for our Capital Improvements Program (CIP).

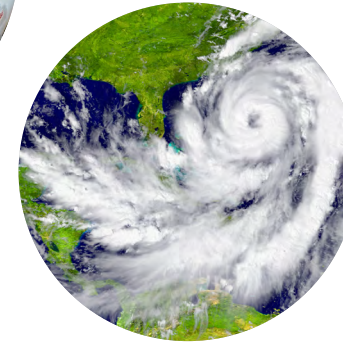
The CIP is a 10-year plan for projects to ensure our future ability to provide clean, safe water and meet the demand of our growing region. This year, our board accepted a \$1.2 billion CIP, which includes 94 projects in varying phases, 63 of which are slated for future implementation.

This year, Tampa Bay Water developed a Program Management Office to establish best practices, key metrics, documentation and necessary training for the utility's project managers to ensure effective management of the many projects in varying stages of research, design and construction.

\$1.2 billion Capital Improvement Program

94 projects total

63 projects slated for future implementation



In 2021, Tampa Bay Water held its first "Navigating Tampa Bay Water's Capital Improvements Solicitation Process" webinar for engineering firms, construction contractors and subcontractors, and other professional service consulting firms interested in proposing or bidding on our capital improvement projects.

Watch the Webinar

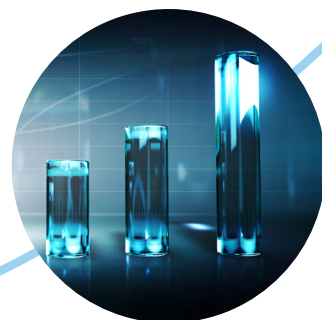
Our staff also works closely with local, state and national partners, such as the Water Utility Climate Alliance, Florida Water and Climate Alliance and the Climate Science Advisory Panel of the Tampa Bay Regional Planning Council, to study the effects of climate change and sea-level rise on public water supplies and use that data to inform our long-term planning. This year, Tampa Bay Water staff contributed to the [Leading Practices in Climate Adaption](#) report.

Living and working in Florida means dealing with hurricanes, and Tampa Bay Water annually reviews our hurricane plan, incorporating lessons learned from previous hurricane seasons, updating emergency contact lists, pre-storm checklists and generator plans, and coordinating with our member governments in addition to determining who among our staff will be primary responders during a storm. This proper planning is critical to ensuring we continue to provide clean water with no interruptions in emergency situations.

## Reinforcing Technology

As a utility with critical infrastructure, our primary goal is to ensure the reliability and safety of our water supply and protecting our infrastructure from cyberattacks is essential.

Tampa Bay Water strengthened its robust, multi-layer cybersecurity system by installing fiber optics for communications between its critical operation facilities, increasing the speed, reliability and security of the network. We also periodically complete cybersecurity assessments with outside entities and, in 2021, completed two assessments with the Department of Homeland Security and Dragos, a leader in Industrial Control Systems security, to identify potential vulnerabilities in our hardware and software system used to control operations.





# Responsible

Providing drinking water to our members and the 2.5 million people they serve is a tremendous responsibility. From our fiduciary responsibility to the safety and security of our water supply network, Tampa Bay Water understands its role in ensuring affordable, high-quality drinking water to homes and businesses in our community.

This year Tampa Bay Water staff, in partnership with Cornell University and the University of North Carolina/Chapel Hill, built an infrastructure planning tool that combines supply and reliability of the regional system with a full financial model, allowing decision-makers to look at future scenarios of projects and their implications on the water rates. The model includes key financial information for Tampa Bay Water's Board to make informed decisions regarding timing of projects.

Tampa Bay Water's financials are audited each year by an independent financial auditing firm. Our Comprehensive Annual Financial Report for fiscal year ended Sept. 30, 2021, will be available in late February 2022.

Tampa Bay Water installed a solar power system at the C.W. Bill Young Regional Reservoir, which will save the utility about \$60,000 annually once it is operational in February 2022.

## 2021 Fiscal Year Highlights

### High Bond Rating

From Fitch, Standard & Poor's and Moody's

**\$2.56**

per 1,000 gallons  
2021 wholesale  
uniform rate

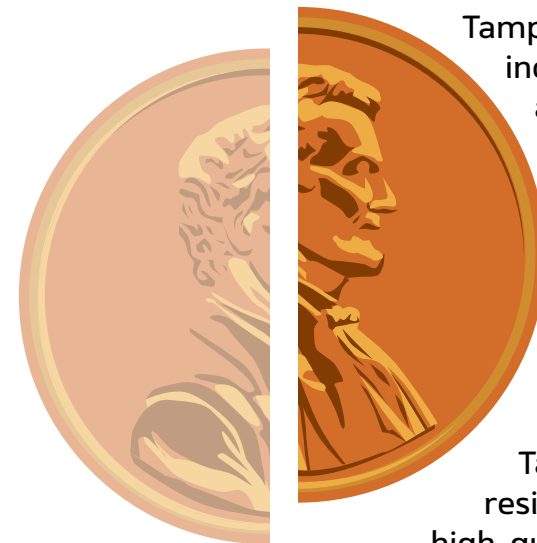


## Fiscally Responsible

As a non-profit, special district of the State of Florida, Tampa Bay Water has no taxing authority. We are funded through the sale of wholesale water to the local governments we serve. We remain fiscally and operationally prudent, building new infrastructure only when it is truly needed and using our Water Shortage Mitigation Plan to guide us through drought conditions, meeting our members' supply needs in an environmentally sustainable and fiscally sound manner.

Tampa Bay Water's **2022 budget** includes a slight increase in the wholesale water rate to help address the need for new water supplies and related infrastructure to meet the needs of our growing population. Tampa Bay Water's wholesale rate charged to its members increased 0.17% over last year and remains a value, less than half a penny per gallon, compared to other utilities such as power, cable and mobile service.

Tampa Bay Water is committed to providing residents and businesses in Tampa Bay affordable, high-quality drinking water for future generations.



## Recognition

This year, Tampa Bay Water was awarded the Popular Annual Financial Report (PAFR) for the fiscal year ended September 30, 2019. With this award, we will also receive a special Triple Crown medallion, which signifies our receiving all three Government Finance Officers Association awards (the Certificate of Achievement for Excellence in Financial Reporting Award, Distinguished Budget Presentation Award, and Popular Annual Financial Reporting Award) for fiscal year 2019.

The award is presented by the Government Finance Officers Association (GFOA), which represents public finance officials throughout the United States and Canada, and the awards programs recognizes governments' efforts to make information available and accessible to the public.





# Recovery

## Restoring the Environment

One of the proudest moments for our utility occurred this year when we joined the Southwest Florida Water Management District (District) in declaring our environmental recovery efforts in northern Tampa Bay a success!

Central to the purpose in creating Tampa Bay Water in 1998 was reducing our reliance on groundwater and supporting environmental recovery. In the 23 years since, Tampa Bay Water built a diverse, interconnected system to meet the region's drinking water needs, reduced groundwater withdrawals by nearly 50 percent and enabled the environment to recover. In fact, the ecological health of more than 1,300 lakes, wetlands and other surface waterbodies in the northern Tampa Bay area have recovered or significantly improved, and most aquifer water levels are at their highest in 40-60 years.

Environmental recovery was an important factor in renewing the Consolidated Water Use Permit. This year, we applied for a second renewal at the same 90 mgd annual average limit as the previous permit. Maintaining this reliable, permitted quantity of high-quality water helps us meet the region's demands at an affordable rate.

reduced groundwater withdrawals by **50%**

improved **1,300** lakes, wetlands and other waterbodies

highest aquifer levels in more than **40** years



BEFORE

STARKEY WELLFIELD



AFTER



BEFORE

CYPRESS CREEK WELLFIELD

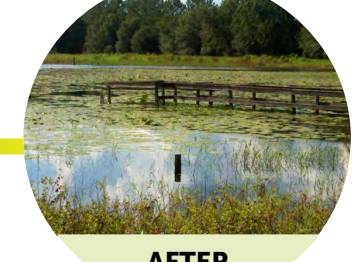


AFTER



BEFORE

STANFORD LAKE



AFTER



BEFORE

LAKE RALEIGH, COSME-ODESSA WELLFIELD



AFTER



BEFORE

STARVATION LAKE



AFTER

Watch the Video:  
"Tampa Bay Water,  
an Environmental Success Story"



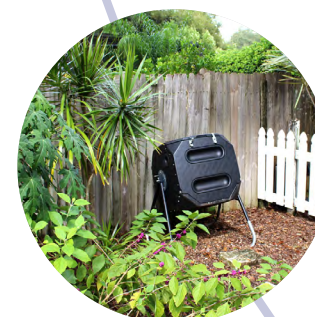
# Resourceful

## Tampa Bay Water Wise

In 2021, Tampa Bay Water continued implementation of the Tampa Bay Water Wise program. This demand management program is designed to save 11 mgd by 2030 and offset building new water supplies.

The Tampa Bay Water Wise program offers 12 types of rebates for residential and non-residential customers who purchase or implement new water savings devices or measures. The program paid 749 rebates in Fiscal Year 2021, resulting in an estimated 24,282 gallons of water saved per day.

We've also partnered with the District's WISE (Water Incentives Supporting Efficiency) program to create a new customizable rebate specifically for commercial and multi-family building projects. And, Tampa Bay Water Wise is partnering with Keep Pinellas Beautiful on an eco-tourism program to promote conservation through the rebate program to hotels, entertainment venues and tourist destinations.



## Tampa Bay Community Water Wise Awards

The Tampa Bay Community Water Wise Awards program recognizes individuals and businesses committed to conserving our water resources and protecting the environment by using the best in attractive, Florida-Friendly Landscaping™ principles as well as irrigation systems or techniques that minimize water waste. The program is a partnership between Tampa Bay Water, University of Florida IFAS Extension, and Florida-Friendly Landscaping™ Program.

### Florida-Friendly Landscaping Program

Helping residents build beautiful, drought-resistant landscapes is yet another way Tampa Bay Water helps conserve water. This year, the agency's board approved more than \$500,000 to support the Florida-Friendly Landscaping program for Hillsborough, Pasco and Pinellas counties.

Tampa Bay Water, its member governments and the Southwest Florida Water Management District made improvements this year including revising the [Tampa Bay Water Wise website](#).

TAMPA BAY  
water wise



# Relationships

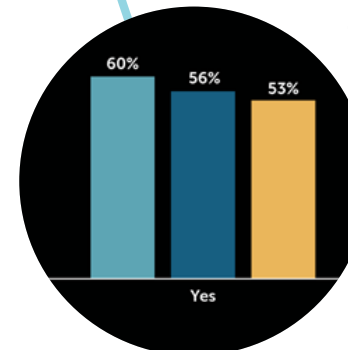
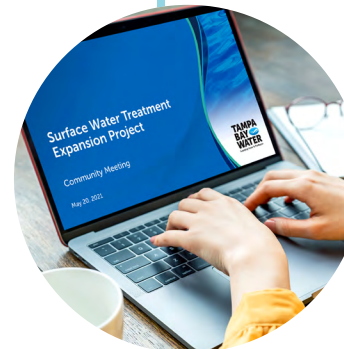
Conserving and protecting our source water is critical to the Tampa Bay region, and we cannot do it alone. That's why Tampa Bay Water funds community programs and builds community partnerships aimed at educating families and students on where their water comes from and how to conserve and protect it.

Each year, Tampa Bay Water awards mini-grants to local non-profit groups, schools, teachers, universities and community organizations to fund projects that protect drinking water sources in the Tampa Bay region.

For the 2021 funding cycle, [Tampa Bay Water awarded nearly \\$30,000 in mini-grants](#) to the Florida Botanical Gardens Foundation, Keep Tampa Bay Beautiful, Keep Pinellas Beautiful, and Pasco County Schools at the Boyd Hill Nature Preserve.

## Glazer Children's Museum

Tampa Bay Water continued its partnership this year with the **Glazer Children's Museum**, which supports water-focused educational opportunities for children. This year, Tampa Bay Water sponsored \$10,000 for the *Wild Kratts®: Creature Power!* exhibit, which focused on cultivating STEM (science, technology, engineering and math) skills in children ages 3-9 and invited families to explore animal habitats throughout the world.



In conjunction with the Glazer Children's Museum exhibit, the Source Water Protection for Families project featured daily programming that taught about Florida's diverse ecosystems and the importance of water in maintaining a sustainable environment. The exhibit included a wall for families to sign their pledge to protect drinking water sources. Tampa Bay Water also created a video where utility staff progressively read the book, "Why Water's Worth It," as part of the museum's GCM@home digital program to keep children engaged while at home during the pandemic.

[Watch the Video](#)

## Pasco County School District Watershed Ambassadors Program

Tampa Bay Water contributed \$20,000 this year to the Pasco County School District for its Watershed Ambassadors Program. Pasco County and Pinellas County work cooperatively to offer in-field instruction for environmental education students. Students in the 7th grade Watershed Ambassadors Program use the Cross Bar Ranch site to support water resource education. Funding from Tampa Bay Water supports programmatic equipment and supplies, transportation costs and environmental program resource teacher salary costs.

Strong relationships and open communication with the community are vital to our success. In 2021, as we studied the feasibility of potential new water projects, we held online surveys, virtual community meetings and in-person briefings to gain public feedback to incorporate into our project plans.

We also completed our [public opinion survey](#), which we conduct every three years, to collect public sentiment on water supply issues, water costs and sources, among other topics.