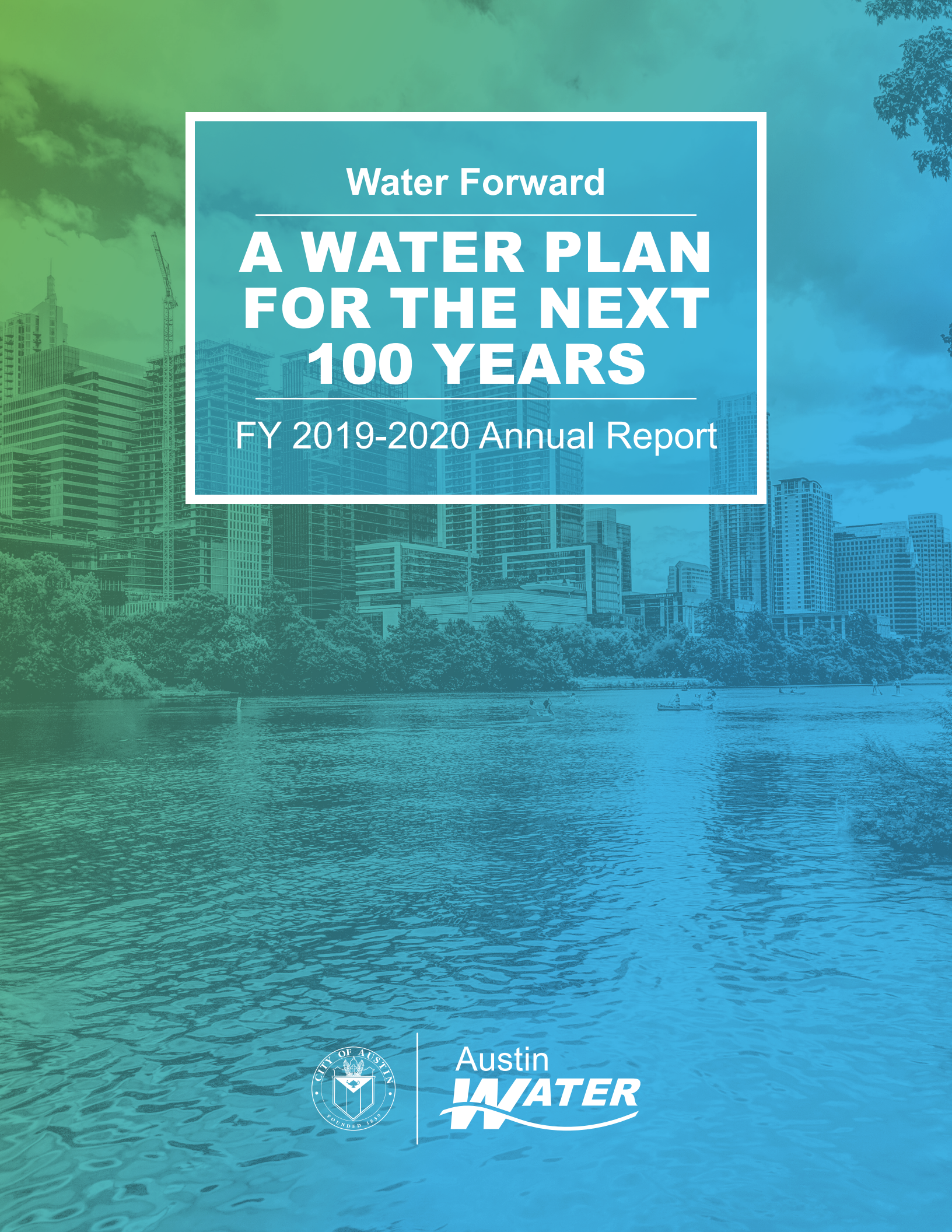


Water Forward

A WATER PLAN FOR THE NEXT 100 YEARS

FY 2019-2020 Annual Report

CITY OF AUSTIN
FOUNDED 1839

Austin WATER

INTRODUCTION

This report documents Austin Water's progress made during Fiscal Year 2019-2020 (FY20) to implement the Water Forward plan. Despite challenges posed by the COVID-19 pandemic, staff made considerable progress on near term Water Forward strategies as described in the following pages.

Water Forward is the City of Austin's 100-year integrated water resource plan developed to create a resilient and sustainable water future in the face of challenges posed by population growth, climate change and droughts worse than those we have experienced in the past. The Austin City Council adopted the Water Forward plan in November 2018.

Austin Water (AW) led the development of the plan using a One Water approach that balances multiple objectives including water reliability, social, environmental and economic benefits. The plan's guiding principles (listed to the right) were crafted in collaboration with the Council-appointed Water Forward Task Force to reflect our community's values and continue to inform current implementation efforts. AW is also working to understand and consider equity and affordability impacts in implementing the plan.

The Water Forward plan includes strategies to reduce potable water demand, increase the use of alternative and reclaimed water, protect our core Colorado River and Highland Lakes supplies, and build potable supply resiliency during future droughts with strategies like Aquifer Storage and Recovery (ASR).

AW is leading the implementation of the plan and continues to work with the Water Forward Task Force and other City departments. Current implementation efforts include onsite reuse and reclaimed water code changes, development of conservation programs, working with our regional partners to protect our core supplies, and procuring a consultant to assist in the identification of potential ASR pilot locations and future ASR program management. The utility is also continuing to engage the community to develop the relationships and resources necessary to support the plan implementation process.

[1]*This annual report covers the period from October 1, 2019 to September 31, 2020, which aligns with the City of Austin fiscal year. Many AW performance metrics, including gallons per capita per day (GPCD), are reported on a fiscal year basis. Some metrics that AW reports to other agencies including Texas Commission on Environmental Quality (TCEQ) and Texas Water Development Board (TWDB) are tracked on a calendar year basis from January 1st to December 31st. Most of the data in this document was able to be reported on a fiscal year basis. In some instances only calendar year data was available and that has been noted where necessary.*

WATER FORWARD GUIDING PRINCIPLES

Austin's Water Forward is a program to develop a long-term integrated water resources plan for the next 100 years. The following represents the plan's guiding principles:

- Recognize that Colorado River water is Austin's core supply, continue a strong partnership between the City and LCRA to assure its reliability
- Continue Austin's focus on water conservation and water use efficiency
- Strengthen long-term sustainability, reliability, and diversity of Austin's water supply through maximizing local water resources
- Avoid severe water shortages during times of drought
- Focus on projects that are technically, socially, and economically feasible
- Continue to protect Austin's natural environment, including source and receiving water quality
- Ensure Austin's water supply continues to meet/exceed all federal, state and local public health regulations
- Align with Imagine Austin's "Sustainably Manage Our Water Resources Priority Program"
- Maintain coordination and communication with regional partners
- Engage the public and stakeholders throughout the plan development process

FY2020 ACHIEVEMENTS

Selected as a recipient of the **Utility of the Future Award**

Montopolis Tank and Pump Station **Ribbon Cutting**

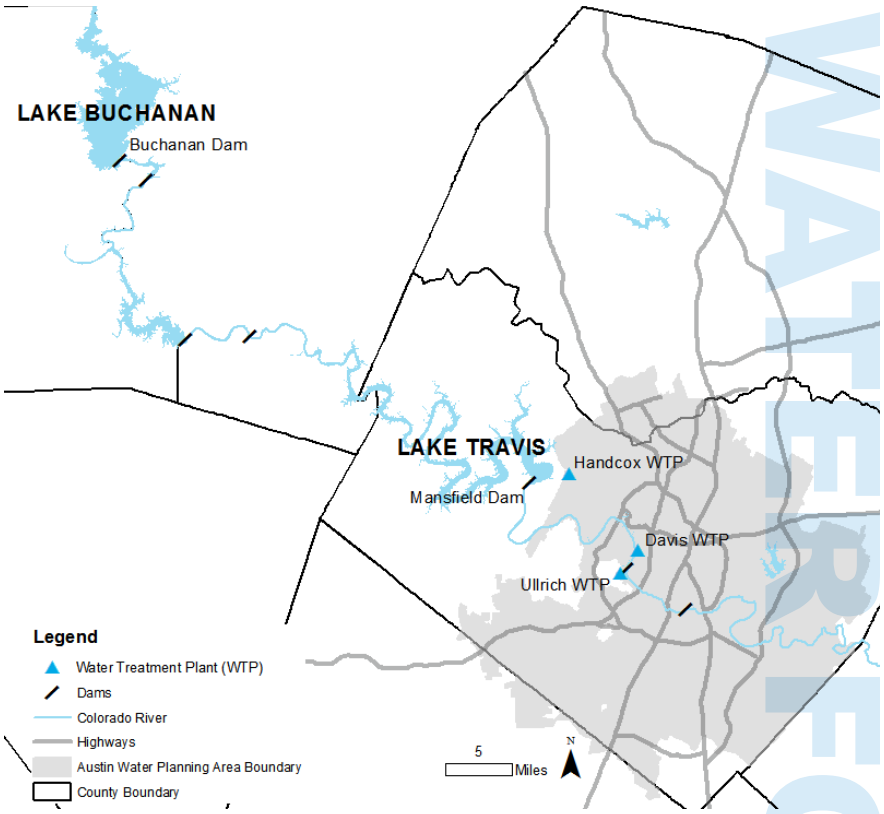
Highest Scoring Water Conservation Program for a Major Texas Municipality

ANNUAL REPORT

WATER SUPPLIES, CUSTOMERS AND WATER USE

Water Supplies

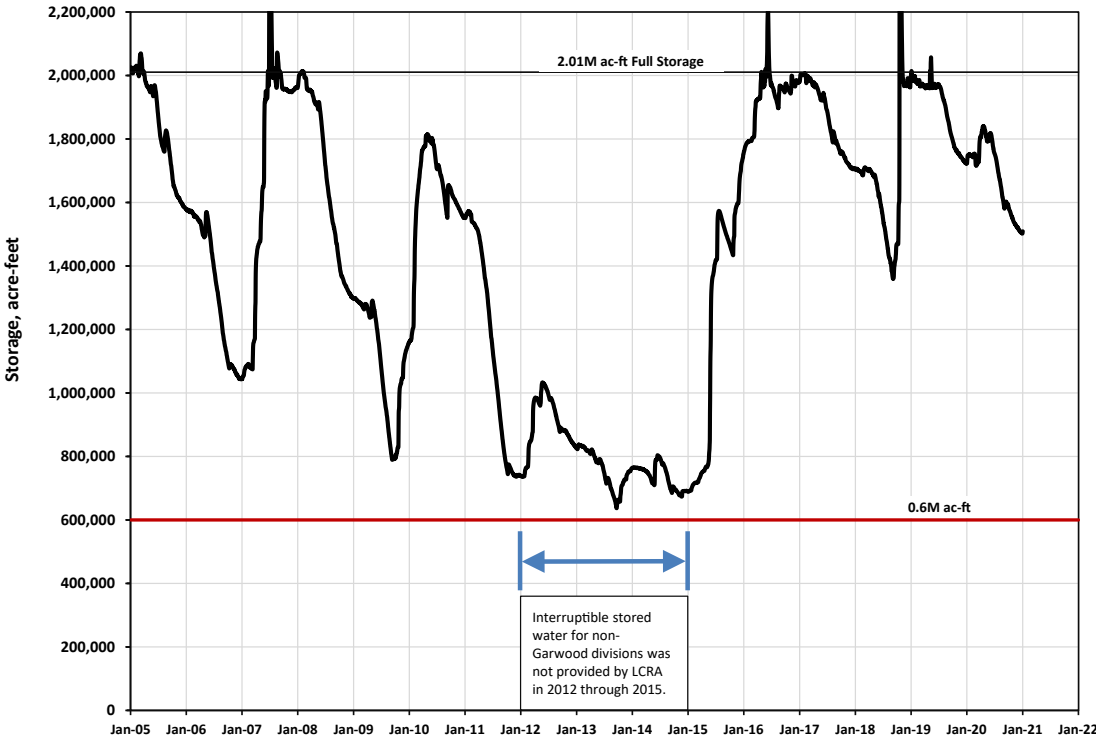
All of Austin's drinking water is treated surface water from the Colorado River. The river is divided into two sections, the upper and lower Colorado River. The upper Colorado River begins in West Texas on the Llano Estacado and flows southeast. The lower Colorado River basin begins downstream of Lakes O.H. Ivie and Brownwood and extends down to Matagorda Bay and the Gulf of Mexico. Six dams on the lower Colorado River form the six Highland Lakes: Buchanan, Inks, LBJ, Marble Falls, Travis and Austin. All of the lakes besides Lake Austin are owned and operated by the Lower Colorado River Authority (LCRA). Lake Austin is owned by the City of Austin and operated by the LCRA. Lakes Buchanan and Travis are the region's water supply reservoirs. Lake Travis also acts as the region's flood control reservoir. Water from the Colorado River and the Highland Lakes is available to the City through a combination of state granted run-of-river water rights and a water supply contract with LCRA for firm water, which is water that is expected to be available without shortage through a repeat of the drought of record.



During calendar year 2020, Lakes Buchanan and Travis received approximately 339,000 acre feet (AF) of inflows, which is about 70% below the long-term average calendar year inflow volume of approximately 1.2 million AF per year. This year 61% of the inflow occurred over a span of three months, March-May with approximately 210,000 AF. From summer through the end of calendar year 2020, the combined storage of these two lakes dropped from 1.8 million AF to approximately 1.5 million AF. If warmer and drier than normal conditions persist through the winter and into spring, combined storage levels may drop below 1.4 million AF as early as Spring 2021, potentially triggering Stage 1 drought restrictions, in accordance with Austin's Drought Contingency Plan.

By monitoring inflows and storage AW can plan to implement strategies to ensure water supply throughout future drought. It is important to note that 2020 now ranks as the 6th lowest inflow year by calendar. AW will continue to monitor flooding, inflow and other climate change effects.

Combined Storage of Lakes Buchanan and Travis
January 1, 2005 through January 1, 2021



Customers and Water Use

Total pumpage out of Davis, Ullrich and Handcox Water Treatment Plants for Fiscal Year 2020 was approximately 51.1 billion gallons (157,000 AF). This amount is approximately 48% of AW's total 325,000 AF of firm supply through our long-term water supply agreement with the Lower Colorado River Authority.

In FY20, the water use in Austin was equal to 127 gallons per capita per day. This is an increase from the FY19 amount, but still falls within the normal variability of Austin's trend of steadily declining water use per capita that began after 2006. Austin's total overall water use continues to be lower than in 2006 even as population has increased. AW officials have worked with customers to achieve significant water savings through a comprehensive suite of water conservation programs and measures including once-a-week watering for automatic irrigation systems, a conservation-oriented tiered water rate structure, reclaimed water use, conservation incentive programs across all customer sectors, public education and outreach, water waste enforcement, and water efficiency ordinances for plumbing fixtures and equipment. These measures and programs were developed with input from customers, citizen task forces, advisory groups, and the Austin City Council. AW will continue to work to reduce water use in the future.

In order to ensure that water efficiency and conservation are key strategies to help preserve and protect our community's water supplies, AW has established 5-year and 10-year GPCD goals in line with the City's Water Conservation Plan and Water Forward effort. AW tracks progress towards meeting these GPCD goals on a five year rolling average to smooth out annual fluctuations, primarily driven by weather, and highlight longer term trends. The five-year rolling average GPCD has generally been trending downward since the 2000's. The most likely drivers for the GPCD increase from FY19 to FY20 are increased outdoor water use due to hotter and drier weather conditions, increased non-revenue water, and updated wholesale customer population figures. A pending water treatment plant production meter verification study will soon help shed additional light on this non-revenue water increase.

PROTECTING OUR CORE COLORADO RIVER SUPPLIES

During FY20, AW staff continued to work with our regional partners to protect our core Colorado River supplies. Considerable effort went into participating in the Lower Colorado Regional Water Planning Group's process to develop the Region K water plan. This plan was submitted to the Texas Water Development Board in October 2020. AW was closely involved in the Region K process. AW staff participated as the Municipalities interest group representative in the Planning Group and was involved in committees such as the Water Modeling, Water Management Strategies, and Legislative and Policy Committees. Thanks to all the hard work done in 2020, the Region K group was able to approve a final Region K Plan to submit to the Texas Water Development Board in 2020.

AW also continued to work with the Lower Colorado River Authority (LCRA) in FY20 through the COA-LCRA Water Partnership. Through the Water Partnership, staff discussed and shared information about key issues related to the Colorado River and the Highland Lakes, including flooding, Lady Bird Lake harmful algal blooms, zebra mussels, water rights, conservation, and supply planning. Austin's participation in the COA-LCRA Water Partnership is an important part of efforts to continue protection of our core Colorado River supplies.

Additional efforts related to protecting core Colorado River supplies in FY20 included continued participation in the Imagine Austin Sustainably Manage our Water Resources (SMOWR) priority program and participation in the Water Utility Climate Alliance. In the SMOWR priority program, AW and the Watershed Protection Department work together to share ideas, identify joint opportunities, and work to manage the City's water. An important SMOWR project in FY20 was coordination between the two departments on prevention of harmful algal blooms. In addition to SMOWR, AW continued to participate in the Water Utility Climate Alliance (WUCA). Through WUCA, AW has opportunities to learn more about climate change, share climate change planning approaches, and improve on how to communicate this information with stakeholders.

COMMUNITY OUTREACH AND ENGAGEMENT

Major in person Water Forward stakeholder engagement was placed on hold during FY 20 due to COVID-19 implications. However, outreach was done for the Advanced Metering Infrastructure (AMI) initiative and for onsite alternative water reuse.

AW staff have attended numerous virtual community gatherings and have researched various strategies to engage communities most effected by implementation of Water Forward safely. Detailed signage about our work, and consulting various community groups remains imperative to communicating with the public even during the COVID-19 pandemic.

AW continues to engage in various community, industry and public events to make presentations and share information about the Water Forward plan and implementation efforts underway.

CONSERVATION

Existing and Updated Conservation Programs

During FY20, AW's Water Conservation Division implemented a significant number of new and revised incentive programs including those recommended in the 2018 Water Forward plan. These include adding new measures and equipment for irrigation system efficiency upgrades, landscape transformation rebate programs, alternative water use, and adding three new incentive programs including rebates for residential laundry graywater reuse, efficient pool cartridge filters, and a pilot program for home water use monitoring and control devices. AW now offers 21 incentive programs, more than at any other time in the utility's history. These include eleven residential and ten commercial/multifamily programs. In addition, application review processes have been streamlined and rebate amounts have doubled based on new cost/benefit benchmarking information contained in the 2018 Water Forward plan. In FY20, AW received top scores for a large municipal utility conservation program by the Texas Living Waters Project (Lone Star Chapter of the Sierra Club and the National Wildlife Federation).

AW also offers free conservation assistance to income limited customers under the Helping Hands Outreach (H20) programs. This includes AW's funding partnership with Housing & Planning Department GO Repair! Program that began in late FY19 to provide grants of up to $20,000 per year to qualifying homeowners to make plumbing repairs, improve accessibility, and make other repairs to address substandard housing conditions that pose health and safety risks. AW also offers free water saving materials such as high efficiency aerators, showerheads, soil moisture meters, toilet leak detection dye tablets, and micro-fiber cloths for water efficient car washing to residential and multi-family AW customers. AW also provides free irrigation system audits to qualifying high use homeowners. Since 2015, AW has also provided customers with free access to water use mobile app and internet reports to help homeowners achieve greater water savings. Using the reports, customers can receive customized leak alerts, conservation tips, and information about rebate programs.

On December 10, 2020, AW also completed the first phase of the adoption of Water Forward recommended water conservation ordinances with Austin City Council approval of onsite alternative water reuse regulatory guidance and new cooling tower water efficiency standards and equipment requirements, including administrative penalties for failure to meet these requirements and related registration and annual inspection requirements. Owners of towers that do not meet these efficiency and reporting requirements would also be ineligible for an evaporative loss credit on their wastewater bills.

AW will now turn its attention toward the development and implementation of proposed residential landscape transformation and irrigation system limitation ordinances scheduled for council action in FY 2023. In addition, AW is working with Development Services Department in the review of the 2021 Uniform Plumbing Code and Uniform Mechanical Code including local amendments relating to water efficiency and conservation. Council action on these codes is expected in June 2021. AW staff will also continue to review and update water savings estimates for existing and proposed demand management strategies and adjust implementation timelines to be used in the revised water demand projections for the 2023 Water Forward Plan update. Given the uncertainties in long-term planning, ranges of estimated savings, costs, conservation metrics and demand projections will also be provided. For short-term goals, a rolling five-year average will be used to "weather normalize" the tracking of progress toward meeting conservation goals such as total and peak day gallons per capita per day.

For more information on existing AW conservation programs, please visit Ch. 6 of the Water Forward report or www.austintexas.gov/department/saving-water-home.

Advanced Metering Infrastructure (AMI)

The Austin City Council approved contracts on March 26, 2020, for implementation of the Advanced Metering Infrastructure project. Over the next five years, the project will replace more than 230,000 analog water meters with electronically read water meters connected to a wireless network.

AW gathered customer feedback through an online survey and focus groups, to help develop the customer communications plan for the project. Based on customer feedback, My ATX Water: Austin's Smart Water Meter System was selected as the new name for the project.

In August 2020, AW announced a systems testing pilot that includes nearly 5,000 water meters that were chosen to test the system capabilities and tackle challenges across various terrain, aging infrastructure, and a variety of dwelling types and meter sizes. The systems testing pilot will allow AW to ensure that the technology, connectivity and data transfer systems are set up and working properly before investing in full implementation of the project. The systems testing pilot includes all, or a portion of, River Place/ Glenlake and Long Canyon neighborhoods and Windsor Park/Mueller neighborhoods. Installation of meters in the pilot areas began in September 2020.

The project team made significant progress on development of the customer portal for the project, including setting up customized notifications that can alert customers of a potential leak at their home or business. Early leak detection is a primary way the system is expected to achieve water savings projected in the Water Forward plan. Customers who previously used DropCountr were invited to join the My ATX Water Customer Portal to give feedback during the pilot phase.

Dr. Miriam Solis and University of Texas students were awarded the Texas Chapter of the American Planning Association's 2020 Advancing Diversity & Social Change Planning Award for the Making Equity Flow report. The report is a partnership between AW and UT to evaluate equity impact of the AMI project among other topics. The AW Executive Team has established an Equity Action Team to create recommendations for equity considerations on the AMI project.

Utility-Side Water Loss Control

AW's water loss control program includes active leak detection and condition assessment, maintaining excellent response times to leaks, and pipeline renewal. During FY20 operational and COVID related issues prevented AW from meeting established performance measures related to leak detection and condition assessment. AW anticipates exceeding these performance measure goals in FY21. In terms of leak response, in FY20 AW responded to over 91% of priority one leaks within 3 hours. AW's efforts to minimize water loss through pipeline renewal included replacing almost 6 miles of deteriorated mains, replacing more than 450 polybutylene water service lines, and updating the main replacement prioritization matrix to better incorporate water loss as a factor.

AW measures water loss from the distribution system using a performance indicator called the infrastructure leakage index (ILI). The Texas Water Development Board recommends maintaining an ILI between 3.0 and 5.0 (lower scores are better). In calendar year 2019 AW's ILI was 3.71, which was higher than the utility's target ILI of 2.7 for 2020. The calendar year 2020 water loss report is being developed for its submittal to the Texas Water Development Board by May 1, 2021. Over the last number of years AW's ILI has been higher than expected given our efforts on a number of water loss reduction strategies. A major factor in the ILI metric is the measurement of water being pumped from our treatment plants into the distribution system. In an effort to improve our confidence in this metric, AW has procured a consultant to validate the accuracy of water treatment plant meter readings.

AW will continue to pilot new technologies and study system water loss using new data analytics approaches in FY21 to further optimize the effectiveness of our leak detection efforts.

Commercial, Industrial, and Institutional (CII) Ordinances

The 2018 Water Forward plan recommended the review and strengthening, where possible, of conservation ordinances relating to the commercial, industrial and institutional (CII) water use sectors. In addition to alternative water use for new commercial facilities, the plan specifically referenced evaporative cooling towers, which consume a large amount of the total water used by CII facilities. In response, AW proposed several related ordinances that were approved by the Austin City Council on December 10, 2020 and took effect December 21, 2020. These included water efficiency standards for cooling tower drift eliminators and the requirement to add biocide to makeup water to prevent algae growth, thereby increasing water efficiency as well as protecting public health by preventing airborne bacteria such as Legionella.

These new requirements for cooling towers are in addition to those in place since 2008 including the achievement of at least five cycles of concentration, having a conductivity controller, makeup and blowdown submeters, an overflow alarm, and drift eliminators. In 2017, requirements to collect and use AC condensate, reuse cooling tower blowdown water or use alternative water for at least 10% of the tower's makeup water were added as well as the requirement for cooling towers of 100 tons or greater at new facilities to connect the tower's conductivity controller to the building's utility monitoring and control dashboard.

The new ordinances also impose administrative penalties of up to $500 for failure to submit required cooling tower registration and annual inspection reports required for all towers since 2017. Assessing administrative penalties for this regulated activity is consistent with other existing regulatory programs including commercial irrigation systems and commercial car washes. The reports are to ensure that towers are meeting all applicable water efficiency standards and equipment requirements that have been in place since 2008. Those who do not submit required registration or annual inspection reports are also ineligible to receive an evaporative loss wastewater billing credit.

There are about 430 known cooling towers in the AW service area, based on current AW data bases. Information provided in the registration and inspection reports received thus far indicates that older towers installed prior to the 2008 efficiency and equipment requirements taking effect are operating more efficiently than assumed. However, AW received only 191 registration and/or inspection forms in 2020, or about a 44% compliance rate. With the new enforcement tools, it is expected that more information will be obtained as more towers come into compliance, providing a more complete picture of water savings from the cooling tower water efficiency programs. Staff expects compliance rate for cooling towers to increase and to receive more information to facilitate reevaluation of potential savings from cooling towers and CII ordinances.

Water Use Benchmarking and Budgeting

AW staff undertook a significant effort to develop a pre-development water benchmarking calculator that could be used to estimate a new development's water use. The calculator uses site plan information to estimate potential indoor and outdoor water use and delineates potable and non-potable water needs for a project. The calculator also estimates potential alternative sources of water that could be captured by the development, such as rainwater, stormwater, graywater, blackwater and A/C condensate. The water benchmarking calculator is currently being integrated into a web application with AcrGIS online in order to streamline the future collection, review and use of the pre-development benchmarking data.

AW anticipates future Council consideration of an ordinance that will require new commercial and multi-family developments to submit a pre-development water benchmarking application along with a site plan. The proposed ordinance would also require developments greater than 250,000 square feet meet with AW staff to discuss water benchmarking results, water efficiency measures, and alternative water incentives to help identify ways water can be used more efficiently.

REUSE AND ALTERNATIVE WATERS

Alternative Water Ordinances

On December 10, 2020, the Austin City Council approved an ordinance establishing City Code Chapter 15-13 relating to the treatment, monitoring and reporting regulations for onsite water reuse systems. These regulations provide clear and consistent design and permitting requirements for onsite water reuse systems, which should result in streamlined permitting and approval of onsite reuse projects. The regulations will be administered by a newly-formed work group within AW's Utility Development Services Division which has been relocated to the City's new Permitting and Development Center building.

- AW staff continue to work with other city departments in the advancement of the Austin Land Development Code Revision. This effort was put on temporary hold pending litigation. The draft code included provisions to advance Water Forward strategies in new development projects, including: a mandatory water benchmarking submittal for new commercial and multi-family development and expanded reclaimed water use and connection requirements,
- Mandatory requirements for commercial and multi-family developments over 250,000 square feet to use reclaimed or onsite alternative water to meet non-potable demands, are anticipated to be effective three years after adoption of the Onsite Water Reuse Systems regulatory framework, and
- Proposed revisions to the reclaimed water mandatory connection ordinance. Key proposed changes are extending the mandatory connection distance from 250 feet to 500 feet for large developments (greater than 250,000 SF), eliminating the significant financial hardship variance for large developments, and moving the ordinance to the Austin Land Development Code where it is easier to find.

Alternative Water Incentives

During FY19, AW staff performed a literature review, including research and contacting other utilities, to explore approaches to providing rebates for alternative water. This information informed the development of new and restructured alternative water rebates that were implemented in FY20 and FY21. This work was ahead of the previously planned Water Forward adaptive management plan timeline, which anticipated implementation by FY2022.

In 2020, AW's Conservation Division implemented new and revised alternative water incentive programs including a new residential Laundry to Landscape graywater reuse rebate program. In FY21, a $1 million pilot incentive program was developed to encourage voluntary adoption of large onsite water reuse projects. Under the pilot program, if approved, projects that can reuse at least 1,000,000 gallons per year of water would be eligible for $250,000 and projects that can reuse at least 3,000,000 gallons per year of water would be eligible for $500,000. AW will collect cost data from these projects to help inform the proposed future onsite water reuse mandate drafted in the Austin Land Development Code Revision.

In addition, the AW Conservation Division revised the existing Bucks for Business rebate program to extend this rebate of up to $100,000 for alternative water use for new commercial and multi-family development. In 2021, staff will be using an AISD pilot project in looking at including non-mandatory reclaimed water use as a part of the Bucks for Business or other new commercial alternative water rebate program, collecting cost information for the installation of indoor purple pipe systems, as well as assessing the new and additional potable water savings/offsets from new and revised programs.

For more information on existing alternative water rebates,
please visit the AW Conservation Rebates, Tools, and Programs page.

Sewer Mining and Private Black Water Systems

During calendar year 2019 AW collaborated with one of its large volume customers on their feasibility analysis for a sewer mining project to provide reuse water for the customer's utility systems. The project could provide up to 280 million gallons per year (MGY) of potable water offset annually, and up to 1 million gallons per day (MGD) potable water offset during peak demand months in the summer. It is anticipated that the customer will decide if they will pursue the project once the project feasibility can be determined. AW staff plans to work with the customer's representatives to develop necessary technical legal arrangements to facilitate the project.

Distributed Wastewater Reuse

AW has several projects to increase the use of reclaimed water from satellite wastewater treatment facilities and other decentralized sources. Currently, Austin Water owns and operates three "package" wastewater treatment plants (WWTPs) that are smaller in scale than centralized WWTPs and serve communities adjacent to their sites. In FY20, the Balcones WWTP, Lost Creek WWTP, and River Place WWTP provided approximately 448 AF of reclaimed water in total, used to satisfy irrigation demand for nearby golf courses.

AW has begun planning work to incorporate distributed wastewater reuse into new satellite wastewater treatment facilities and expansions of existing facilities. In calendar year 2020, staff have begun promoting decentralized reuse for developer-proposed satellite wastewater treatment facilities in greenfield areas to be able to provide reclaimed water for future customers. Staff have also begun re-evaluating long-range infrastructure planning processes to better identify and integrate opportunities for decentralized reuse for anticipated growth areas within the City.

Direct Non-Potable Reuse (Centralized Reclaimed Water System)

A primary activity of the reclaimed water program is constructing a series of projects known as "Completing the Core." These projects constitute a pipe loop through the core of the City that improves system capacity, customer service, and system reliability by allowing the conveyance of reclaimed water from north to south or vice versa when needed. Completing the core is intended to automate pumping, increase the number of customers, increase the volume of water served, and increase reclaimed system revenue. Completion of the Montopolis Tank and Pump Station, the Burleson Phase I Main, and Burleson Phase II Main add to the core loop and frees capacity in more than 7 miles of main for new customers to the south and east of the airport. The Oltorf Phase 1 Main and Oltorf Phase 2 Main started design and are nearing the 30% design milestone. Design engineers for the Barton SoCo Main and Travis Heights Main are being selected.

To improve service, the reclaimed water program is also proactively addressing issues discovered through the addition of the Google Building as a toilet flushing customer. Some of the identified operational issues have included water color, annual cross-connection testing, struvite formation, water hammer, and flushometer valve selection. Based on our experience with toilet flushing customers, AW developed and distributed design recommendations to improve the functioning of these types of plumbing systems in future buildings.

During FY20 the number of reclaimed water customers increased from 145 to 154, and the number of bulk fill station customers increased from 120 to 135. 7.8 MG per year dispensed at the bulk fill station equates to approximately 14 fills per day. The centralized reclaimed water volume delivered in FY20 was 1,423 MG (4,368 AF), which is the highest system demand in more than 10 years.

DROUGHT SUPPLIES

Aquifer Storage and Recovery

In FY20, progress was made towards implementing an ASR project for Austin, as included in the Water Forward plan. The two main implementation actions accomplished in FY20 were the Austin City Council approval of professional services for Phase 1 of the ASR Pilot and Program Management project, and the continuation of the ASR technical advisory group.

On August 27, 2020, the Austin City Council approved negotiation and execution of a contract with HDR for Phase 1 services for an ASR Pilot and Program Management project. FY20 efforts to support this implementation milestone included research, scope refinement, and evaluation of statement of qualification submittals. AW is currently working to execute the final contract, and work on Phase 1 of the ASR pilot and program management project is anticipated to begin in early 2021.

The ASR technical advisory group met in June 2020 and was an important source of information for the ASR work completed in FY20. The technical advisory group is made up of water resource professionals with ASR experience and includes representatives from state agencies, academia and water utilities. At the June meeting, topics related to ASR piloting, site selection, and financing approaches were discussed, among other things. AW is in the process of organizing another ASR technical advisory group meeting for early 2021 and plans to continue to meet with this group throughout development of the ASR project.

BEST PRACTICES

AW's Lead Monitoring and Minimization Activities

AW's distribution system makeup and water treatment processes lead to a very low risk of lead exposure to our customers. In order to keep this risk as low as possible AW is well ahead of schedule to complete requirements included in the revised Lead and Copper Rule finalized by the EPA on 12/21/2020. For example, AW is preparing an inventory of service line materials in our system. During 2020 AW field verified the service line material of over 50% (5,300/10,100) of our services constructed of a previously unknown material. In addition AW updated information regarding lead on our website and provided free lead testing at customer request.

LOOKING FORWARD

Commercial, Industrial and Institutional (CII) Ordinances

In FY20, AW's Conservation Division proposed new water efficiency standards and equipment for cooling towers, administrative penalties for cooling tower efficiency standards, equipment, registration and inspection requirements. After a public input process, these were approved by the Austin City Council in December 2020. Conforming amendments will be proposed during the 2021 plumbing and mechanical code revision process.

Landscape Transformation and Irrigation System Ordinances

Amendments to the commercial Model Landscape Ordinance were included in the Austin Land Development Code Revision. Ordinances for residential landscape transformation and irrigation system limitations are planned to be implemented in FY23. AW staff will continue to gather information and stakeholder input to inform the development of these strategies for residential development.

Landscape Transformation and Irrigation Efficiency Incentives

In 2020, AW's Water Conservation Division revised several existing incentive programs including adding new measures and equipment for residential and commercial irrigation system efficiency upgrades and residential landscape transformation rebate programs. In addition, application processing was streamlined and most rebate amounts were doubled based on new cost/benefit benchmarking information contained in the 2018 Water Forward plan. Total annual savings in CY 2020 from the residential WaterWise Landscape rebate program was approximately 7 million gallons or about 21.5 AF of water. Total water savings in CY 2020 from the residential and commercial irrigation system efficiency upgrade rebate programs was approximately 56,275 gallons or about 0.14 AF of water. Additional time is needed to determine the new, additional water savings and savings projections specifically resulting from the changes to these rebate programs, especially given the impacts to program participation due to COVID-19. In 2021, staff will continue to assess the new and additional savings as a result of the specific revisions to these programs.

Alternative Water Ordinances

AW staff worked in FY20 to develop an onsite water regulatory program and to develop a suite of incentives to address multiple alternative water types and multiple scales of development, from single family homes to large developments greater than 250,000 SF. Conforming amendments will also be proposed as a part of the 2021 Uniform Plumbing Code and Uniform Mechanical Code revision process.

Alternative Water Use Incentives

In FY20, AW's Water Conservation Division implemented new and revised alternative water incentive programs including a new residential Laundry to Landscape graywater reuse rebate program. In FY21, a $1 million incentive program will be implemented for onsite alternative water reuse for large new commercial development and revising the existing Bucks for Business rebate program to extend this rebate of up to $100,000 for alternative water use for new commercial and multi-family development. In FY21, staff will also be using an AISD pilot project in looking at including non-mandatory reclaimed water use as a part of the Bucks for Business or other new commercial alternative water rebate program, collecting cost information for the installation of indoor purple pipe systems, as well as assessing the new and additional potable water savings/offsets from new and revised programs.

Indirect Potable Reuse and Capture Lady Bird Lake Inflows

AW staff will continue to gather data to inform the implementation of a future Indirect Potable Reuse project, which shares significant infrastructure components with the Capture Lady Bird Lake inflows strategy, both of which are planned to be implemented by 2040. Main sizes to convey the water from the South Austin Regional WWTP to Lady Bird Lake were updated as part of the Centralized Reclaimed Water Strategic Plan drafted during FY20.

Brackish Groundwater Desalination and Off Channel Reservoir

These strategies are planned to be implemented by 2070.

Centralized Reclaimed Water System

AW staff drafted an update to the Strategic Plan for the Centralized Reclaimed Water System in FY20 and will circulate it for information and approvals in FY21.

Advanced Metering Infrastructure

Following completion of the pilot project in early 2021, full deployment of meter installation will begin and will continue over the next 5 years. The project team is working to launch the My ATX Water Customer Portal to all customers in 2021.

METRICS

Future projections and targets in the tables below are as reported in the adopted 2018 Water Forward plan. Savings and yield targets will be updated starting with the 2023 Water Forward plan update to reflect strategy implementation progress and improvements to strategy savings and yield estimates.

Population, Pumpage and Gallons Per Capita Per Day (GPCD)

	FY19 Actual	**FY20 Actual**	**2020 Projection** Water Forward 2018 Plan	**2040 Projection** Water Forward 2018 Plan
Served Population (Retail and Wholesale)	1,078,171	1,099,990	1,101,600	1,577,800
Potable Pumpage[2] (Acre Feet per Year)	145,000	157,000	144,000	160,000
Potable GPCD[3]	120	127	117	91
Potable and Non-Potable Water Provided[4] (Acre Feet per Year)	149,700	161,800	145,000	182,000
Potable and Non-Potable GPCD[5]	124	131	117	103

[2] Potable pumpage refers to total potable water pumped from Handcox, Ullrich, and Davis Water Treatment Plants. Potable GPCD is the potable pumpage divided by total served population and 365 days in the year.

[3] Potable GPCD is the metric commonly tracked by the water utility industry and is what is reported to Texas Water Development Board.

[4] For the purposes of this report, Potable and Non-potable Water Provided includes both potable pumpage and non-potable water demand met by the utility's centralized reclaimed water system and distributed wastewater reuse facilities.

[5] Potable and Non-potable GPCD is the total potable and non-potable water provided divided total served population and 365 days in the year.

[6] The CY20 water loss audit is currently in development and will be completed in May 2021. For more information on the water loss control strategy please see page 6.

[7, 8] In the 2018 Water Forward plan, future targets for the Distributed Wastewater Reuse and Centralized Reclaimed Water strategies were reported as only the additional future demand over the baseline. This additional demand has been accounted for in the totals included in the total future demands reported in the table above. Targets in the 2018 Water Forward plan for Distributed Wastewater Reuse were 0 AF in 2020, 10 AF in 2025, and 3,150 AF in 2040. Targets in the 2018 Water Forward plan for the Centralized Reclaimed were 500 AF in 2020, 1,100 AF in 2025, and 12,000 AF in 2040.

Water Forward Strategy Savings and Yield

Strategy	FY19 Actual Savings or Yield (acre-feet)	FY20 Actual Savings or Yield (acre-feet)	2020 Target (acre-feet/year)	2025 Target (acre-feet/year)	2040 Target (acre-feet/year)
Advanced Metering Infrastructure (AMI)	-	-	600	600	3,880
Utility-Side Water Loss Control (savings)[6]	-	-	3,110	4,090	9,330
Commercial, Industrial, and Institutional (CII) Ordinances	-	-	1,060	1,060	1,060
Water Use Benchmarking and Budgeting	-	-	-	-	5,950
Landscape Transformation Ordinance	-	-	-	-	3,040
Landscape Transformation Incentive	-	TBD	-	80	320
Irrigation Efficiency Incentive	-	TBD	40	80	210
Alternative Water Ordinance	-	-	-	210	1,620
Alternative Water Incentive	-	TBD	-	500	3,860
Sewer Mining	-	-	-	10	1,000
Distributed Wastewater Reuse[7]	443	448	410	420	3,560
Centralized Reclaimed Water System[8]	4,140	4,368	3,980	4,590	15,480
Aquifer Storage and Recovery	-	-	-	-	60,000
Brackish Groundwater Desalination	-	-	-	-	-
Indirect Potable Reuse (IPR) through Lady Bird Lake	-	-	-	-	11,000
Capture Local Inflows to Lady Bird Lake	-	-	-	-	3,000
Off Channel Reservoir	-	-	-	-	-

Water Forward

A WATER PLAN FOR THE NEXT 100 YEARS

FY 2019-2020 Annual Report

Austin WATER

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