



Water Supply Fee Semiannual Report

January-June 2020



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Water Supply Fee Semiannual Report January - June 2020

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About the cover:

Top Left: The 20 million gallon per day pump station located at Agua Vista Station.

Top Right: The Agua Vista Station, which was completed in April 2020, provides water conditioning of the Vista Ridge water to ensure compatibility with other SAWS water supplies.

Bottom: Two tall 10 million gallon ground storage tanks that can be seen from miles away serve as bookends to the water treatment equipment needed to condition the Vista Ridge water for seamless integration throughout the SAWS water distribution system. The state-of-the-art Agua Vista Station conditions over 45 million gallons per day of water.

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Introduction

San Antonio Water System (SAWS) is pleased to present the January – June 2020 Water Supply Fee Semiannual Report to San Antonio City Council. This report is a requirement of Chapter 34 of the Municipal Code, Section 34-1349 and put in place by a 2005 initiative to ensure SAWS was achieving the development of the water supply plan. The requirement has never been altered and as such is submitted to City Council twice each year, covering the periods of January through June, and July through December.

SAWS was created by an act of the City Council in May 1992, through Ordinance 75686. SAWS serves approximately 1.9 million people. The service area covers 933 square miles primarily in Bexar County and portions of Atascosa, Comal, Kendall, and Medina counties.

This report documents the water resources activities pertaining to the implementation of San Antonio Water System's long-term planning efforts, with focus on activities during the period of January 1 through June 30, 2020. The report will:

- Review the progress on the Water Management Plan,
- Provide a status report on the utility's water production,
- Recap the water supplies developed and costs during the reporting period,
- Provide an update on the acquisition of additional water supplies,
- Summarize revenues generated from the water supply fee, capital spending on water supply projects, and,
- Summarize the maintenance and operational expenses for completed projects.

SAWS had a total potable demand of 110,853 acre-feet (AF) during the first half of 2020. Included in this total is 88,743 AF of Edwards Aquifer production to distribution. During this reporting period, Edwards Aquifer supply accounted for approximately 76 percent of the total potable demand. One AF of water is equal to 325,851 gallons.

The current groundwater and surface water supply portfolio consists of:

- Edwards Aquifer
- Canyon Lake
- Carrizo Aquifer
- Lake Dunlap
- Lower Wilcox Aquifer
- Medina Lake & River Rights
- Recycled Water
- Simsboro Aquifer
- Trinity Aquifer

As part of its diversified water supply portfolio, SAWS maintains the largest direct recycled water system and the largest groundwater-based Aquifer Storage & Recovery (ASR) facility in the nation.

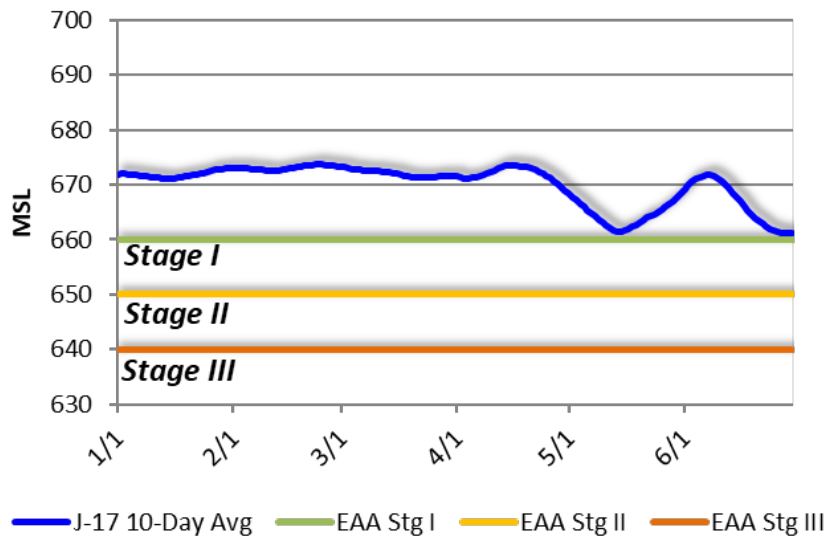
Virtual conservation education events helped double participation in the Rewards program in the first half of 2020 compared to 2019. Learning to save water has never been easier!

SAWS started 2020 with no regulatory cutback to its Edwards Aquifer supply, as the Edwards Aquifer Authority (EAA) did not need to declare critical period through the end of June. San Antonio recorded 14.03 inches of rain for the first half of the year, 2.07 inches below historical average of 16.10 inches. SAWS ended June 30 with zero days of drought restrictions, which allows customers to use spray irrigation before 11a.m. or after 7 p.m. on any day.



San Antonio J-17 Index well levels for the reporting period are shown in the graph below. Edwards Aquifer 10-day average levels remained above 660' mean sea level (msl) for through the second quarter of 2020.

Edwards



Water Supply Summary

This section summarizes the status for each water resource project for the first half of 2020.

Supply	Acre-Feet Distributed (Jan.-June. 2020)	Activity
Edwards Aquifer	88,743	<ul style="list-style-type: none"> Permitted inventory for 2020 is 271,146 AF No regulatory cutbacks through June 30, 2020
Medina Lake and River System	0	<ul style="list-style-type: none"> Medina Lake began 2020 at 78 percent of capacity and with below average rainfall for the first half of the year in the watershed, had 64 percent of capacity as of June 30, 2020
Direct Recycled Water	6,274 <ul style="list-style-type: none"> 3,600 (consumptive) 1,930 (river flow) 744 Mitchell Lake 	<ul style="list-style-type: none"> System Supply: 25,000 AF Contracted consumptive commitments: 12,024 AF (excludes volumes for streamflow augmentation) Volume available for consumptive use: 12,976 AF
Trinity Aquifer	3,867	<ul style="list-style-type: none"> Decreased precipitation in the region has led to lower than average Trinity Aquifer recharge in early 2020 which has led to lower production volumes

Supply	Acre-Feet Distributed (Jan.-June 2020)	Activity
Canyon Regional Water Authority (CRWA)	2,388	<ul style="list-style-type: none"> Received 38% of the contractual volume of 6,300 AF the first half of 2020
Canyon Lake	4,268	<ul style="list-style-type: none"> Half of the annual expected volume of 8,500 AF has been received
H ₂ Oaks Aquifer Storage and Recovery	ASR storage to distribution system: 2,614 Edwards Water Stored: 6,815	<ul style="list-style-type: none"> Total volume of stored Edwards water on June 30, 2020: 183,081 AF <ul style="list-style-type: none"> Total volume of Edwards water stored/credited on behalf of the EAHCP: 122,857 AF
H ₂ Oaks Carrizo Aquifer (Bexar County)	1,882	<ul style="list-style-type: none"> Local Carrizo Aquifer production through June 30
H ₂ Oaks Brackish Groundwater Desalination Program	3,009	<ul style="list-style-type: none"> Producing at 7.2 mgd Drilling complete for well BGD 14 Pipeline construction to connect BGD 14 and Test well 1 to the H₂Oaks Water Treatment Plant is scheduled for second half of 2020 These activities will achieve full production at 10 mgd
Regional Carrizo Project	5,699	<ul style="list-style-type: none"> Includes SAWS Buckhorn wellfield production in Gonzales County plus water purchased from Schertz-Seguin Local Government Corporation Produced 49 percent of permit (5,774 AF) in the first half of the year

Planned Projects 2017-2025	Status
<p>Central Water Integration Pipeline & Vista Ridge Construction</p>	<ul style="list-style-type: none"> • CWIP – Overall construction progress for the CWIP, the consortium of 8 projects required to integrate Vista Ridge water into the existing SAWS distribution system, progressed to 96% complete as of June 30. • CWIP – The Agua Vista Station, the new \$70 million water conditioning facility required to treat Vista Ridge water to ensure compatibility with SAWS’ other water sources, was fully operational by the commercial operation date of April 15, 2020 and distributing water to SAWS customers • The Vista Ridge project construction is 100% complete and is online as the largest non-Edwards aquifer water supply in SAWS history. The project started delivering water to San Antonio April 15th through the 142-mile pipeline from Burleson County.
<p>Conservation Programming</p>	<p>Program highlights from the first half of 2020 include:</p> <ul style="list-style-type: none"> • Continuing WaterSmart Software Pilot, which is open to all residential customers. Sending over 46,000 personalized reports per month helping customers identify and participate in conservation opportunities. About one-third of customers enrolled in the program are customers designated as low-income customers receiving an affordability discount • 600 requests for help through Plumbers to People and Conservation Makeover in the first half of 2020, with ongoing efforts to enroll more customers through collaboration with the Uplift Team • 861 Irrigation Consultations completed at homes in the first half of 2020, averaging over 1,100 gallons per month in savings at each home. 55% of these were no-contact consultations due to the Covid-19 Pandemic. • 99 households and 30 businesses used Irrigation Efficiency rebates in the first half of 2020 • 606 WaterSaver Landscape and 78 WaterSaver PatioScope Coupons redeemed in the first half of 2020 to replace grass with drought-tolerant plants and patioscapes • Nearly 5,000 customers are signed up for the WaterSaver Rewards program, with over 80 Rewards point opportunities occurring virtually since the Covid-19 Pandemic began. • Over 2,400 required accounts are in compliance with the Irrigation Check-Up regulation mid-way through 2020 • Over 4,700 flow sensor rebates have been approved and 73 smart irrigation controller coupons have been issued in the first half of 2020, helping customers better understand and control their water consumption • Conservation initiatives have successfully targeted the need for management of outdoor water demands • Programming to reduce planned average year consumption from 124 gallons per capita per day (GPCD) in 2017 to 111 GPCD in 2025.

Planned Projects 2026-2040 (2017 WMP assumptions)	Status
Conservation Programming	<ul style="list-style-type: none"> • Programming to reduce average year consumption from 110 GPCD in 2026 to 96 GPCD in 2040 • Strategies to achieve reduction will include continued investment in conservation education, incentives, and reasonable regulation • There will be continued development of programs that help residential and commercial customers manage their water usage. This will accelerate adoption of water efficient technology, encourage use of technology and other techniques to monitor leaks and education to encourage adoption of behavioral changes that save water

Planned Projects 2041-2070 (2017 WMP assumptions)	Status
Conservation Programming	<ul style="list-style-type: none"> • Programming to reduce average year consumption from 96 GPCD in 2041 to 88 GPCD in 2070 • Strategies to achieve reduction will include continued investment in conservation education, incentives, and reasonable regulation • There will be continued development of programs that help residential and commercial customers manage their water usage. This will accelerate adoption of water efficient technology, encourage use of technology and other techniques to monitor leaks and education to encourage adoption of behavioral changes that save water
Brackish Groundwater Desalination Program	<ul style="list-style-type: none"> • Future phases will deliver up to an additional 22,400 AFY of water, for a project total of up to 33,600 AFY • All additional phases will be constructed outside Bexar County • Construction is anticipated to begin in the late 2040s depending on demand • Future expansion may deliver an additional 50,000 AFY scheduled for the 2060s
Expanded Carrizo (Bexar County) Project	<ul style="list-style-type: none"> • Future phases are anticipated to provide an additional 7,000 AF annually for each phase for a total of 21,000 AFY • Construction is anticipated to begin in the late 2040s • Project can be designed and constructed quickly, relative to other projects

Featured Projects

Vista Ridge – Regional Water Supply

Project Status: Water production from the newly completed well field and water delivery from the transmission pipeline began April 15, 2020.

Water Supply: Groundwater, Carrizo and Simsboro Aquifers; leases in Burleson and Milam Counties, wells in Burleson County.

Background:

Following SAWS Board approval on September 29, 2014, and San Antonio City Council's approval on October 30, 2014, SAWS Chairman Berto Guerra, SAWS President/CEO Robert R. Puente, and city officials signed a contract with the Vista Ridge Project Company to bring a new water supply of 50,000 AFY (16.3 billion gallons annually) to San Antonio. The agreement calls for the Vista Ridge project company to build and operate wells and a pipeline system to pump groundwater from Burleson County to San Antonio for a period of 30 years. In exchange, SAWS will pay a fixed (never to increase) unit price for water produced and made available plus all operating and maintenance and electrical costs. At the end of the contract term, the wellfield and pipeline system ownership will transfer to SAWS.

A second agreement with the owner of the groundwater leases gives SAWS the right to continue producing water for an additional 30-year term beginning upon the transfer of system ownership to SAWS. In combination, both agreements will provide over 60 years of contracted water supply.

The project is divided into three phases: Development, Construction, and Operations. The contract signing initiated the Development Phase involving permitting, easement acquisition, and other activities required to secure funds necessary to finance construction of the system. After financing was secured, the project envisions slightly under four years for the Vista Ridge project company to complete the Construction Phase. The project now in operation will continue for 30 years. SAWS is responsible for the construction of its Central Water Integration Pipeline project (CWIP) to integrate the Vista Ridge water fully into the SAWS distribution system.

Commercial operation of the project began April 15, 2020.

Activities this Period:

The Vista Ridge project company, under the leadership of Garney Construction, completed construction of the 142-mile long pipeline, pump station facilities, and water wells in April 2020. Vista Ridge water delivery began on April 15, 2020. As of June 30th, 20 million gallons (MG) was being delivered to San Antonio's Agua Vista Station daily with plans to increase production to 48 MG daily by mid-summer.



VR Simsboro Well Pump, one of nine – yields approximately 3,000 gallons per minute.



Intermediate Pump Station 2 near Seguin. One of two booster pump stations that keep water moving to San Antonio. Houses a four million gallon tank and four large pumps.



The High Service Pump Station in Bureson County located next to the well field. Houses a four million gallon tank, cooling tower, disinfection equipment, and four large pumps that send treated water to San Antonio.



Motor Control Center for the four large pumps at the High Service Pump Station that move water to San Antonio.



Intermediate Pump Station 1 near Elgin. One of two booster pump stations that keep water moving to San Antonio. Houses a four million gallon tank and four large pumps. Each pump is capable of delivering 17 million gallons per day.



Intermediate Pump Station 1 – 4 Million Gallon ground storage tank.



High service pump station chemical disinfection feed pumps.

Central Water Integration Pipeline (CWIP)

Project Status: Water delivery from the newly commissioned SAWS Agua Vista Station began on April 15, 2020.

Water Supply: Groundwater, Carrizo and Simsboro Aquifers; leases in Burleson and Milam Counties, wells in Burleson County.

Background:

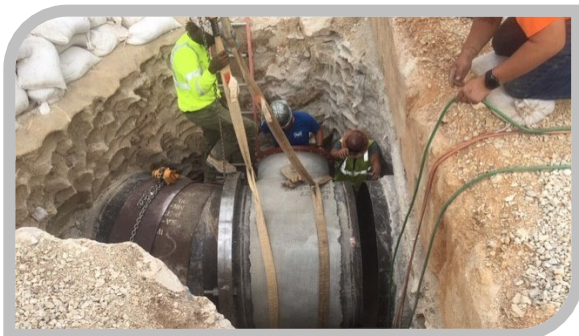
To receive and effectively distribute the total volume of Vista Ridge water to the SAWS distribution system, the Central Water Integration Pipeline (CWIP) Project was developed. The project includes: design and construction of water storage and conditioning facilities at the water delivery point, a new pump station to serve the SAWS service area, new sections of transmission pipeline to connect to existing pipeline and facilities, upgrades to major pump stations, new pressure reducing valves, and automation through the SAWS supervisory control and data acquisition (SCADA) system of over 50 facilities that will receive Vista Ridge water.



SAWS Agua Vista Station – water conditioning facility at point of delivery; Phase 1 completed on January 16, 2020 and Phase 2 completed on April 15, 2020.



SAWS Bitters Pump Station Improvements – new 5 million gallon ground storage tank and 30 million gallons per day pump station put in service in April 2020.



Welding the final fitting for Pipeline Segment 5-1, which conveys Vista Ridge water from the Agua Vista Station to the SAWS distribution system.



SAWS Maltsberger Pump Station Improvements – existing 5 million gallon ground storage tank rehabilitated and new electrical building completed to improve system reliability.

Activities This Period:

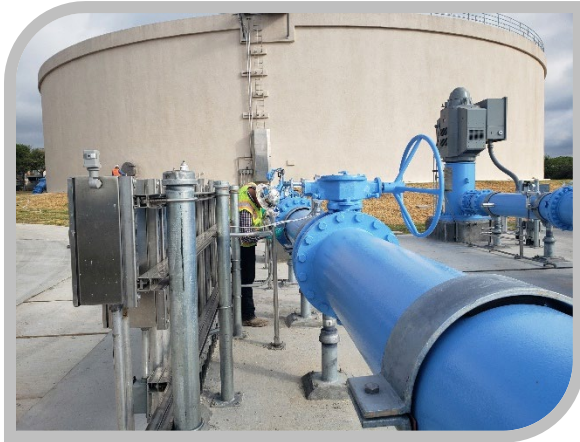
Major milestones were achieved on the CWIP Project to allow water delivery to SAWS customers. Substantial completion milestones for the Agua Vista Station Ground Storage Tank and Pipeline Segment 5-2 were achieved before December 31, 2019. The 10 million gallon tank was put in service in January 2020 during project company performance testing, and the pipeline, which conveys water from Agua Vista to the SAWS service area, was put in service on April 15, 2020. The status of the other CWIP projects is summarized below.



- Agua Vista Station: water treatment plant with the facilities needed to produce water compatible with other System sources and the existing distribution system piping along with a high service pump station that will serve the SAWS service area; fully operational by April 15, 2020 with the final 30-day operational test with Vista Ridge water successfully completed on June 30, 2020; 97 percent complete.



- Tunnel to Loop 1604 (Pipeline Segment 5-1): approximately 10,300 linear feet of 54-inch pipe, with 8,700 feet of that being tunneled; tunneling was completed by February 12, 2020; pipeline installation, testing, and disinfection was completed by June 30, 2020; 92 percent complete with the pipeline anticipated to be fully operational in early July 2020.



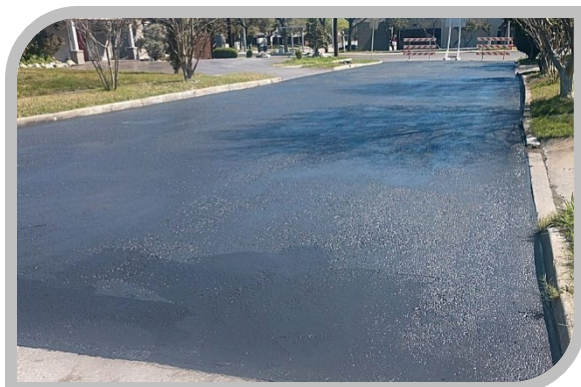
- Bitters Pump Station Improvements and Pipeline Segment 5-3: a new booster pump station, a new 5 million gallon prestressed concrete tank, a new flow control valve, and approximately 1,900 feet of 48-inch pipe connecting to an existing water transmission main in Hill Country Village; fully operational by April 15, 2020; 99 percent complete.



- Maltsberger Pump Station Improvements: a new electrical building and replacement of aging electrical equipment and wiring, flow control valve assemblies to accept the Vista Ridge water at the Maltsberger and Basin Pump Stations, and two pressure reducing valve assemblies in the water distribution system; 97 percent complete.



- Maltsberger Ground Storage Tank Rehabilitation: the tank was put back in service in April 2020; 100 percent complete.



- Pipeline Segment 5-4: approximately 5,500 linear feet of 24-inch and 30-inch pipe connecting to Basin Pump Station; final completion was achieved on March 14, 2020.

Nonrevenue Water (NRW)

Background:

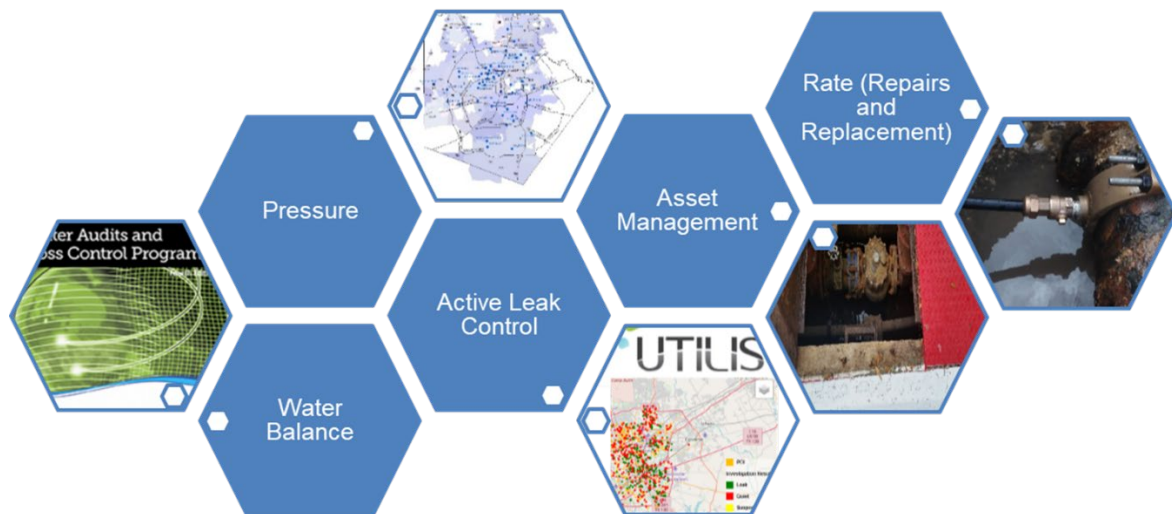
The key to Nonrevenue Water (NRW) is understanding and eliminating instances of it, using practical, cost effective implementation opportunities. SAWS is committed to performing best business practices in efforts to address NRW. SAWS performs state required water balance audits annually and works with loss control professionals to implement the best strategies for SAWS.

NRW is multifaceted and incorporates more than just addressing leaks. NRW is comprised of authorized use, apparent losses and real losses, definitions of which can be found in the glossary.

While SAWS is one of the nation’s largest and most complex utilities, it outperforms other water systems when comparing performance benchmarks. Regarding NRW, SAWS has outperformed other utilities by maintaining a low Infrastructure Leakage Index (ILI) which is a performance metric of real water loss in a distribution system.

Activities This Period:

The efforts during this reporting period have been adapted due to COVID-19 outbreak. Most significantly onsite field work has shifted to what can be done virtually. In order for SAWS continued and sustained success, the organization has to be working with sound data and coordinated cost effective implementation strategies across the business.



- **2019 Annual Reporting** to the Texas Water Development Board (TWDB) was submitted (May 1, 2020) during the reporting period. These actions were timely and utilized the *Non-Revenue Water Calculation Handbook* developed to document and standardize reporting processes. Highlighted metrics from the report:
 - Infrastructure Leakage Index (ILI) – **2.56** {a unit-less ratio of actual loss numerator with theoretical system loss denominator}
 - Gallons Per Capita Day (GPCD) – **115**; 19 GPCD out of the total 115 GPCD is attributed to NRW {some sensitivity to weather, total production and population estimates}
- We continue to work with the Water Loss Control Team across functional areas of SAWS. The meetings have not occurred in person rather the Water Resources Project Coordinator shares tracking status and works with groups to jump start items from the framework Plan. New water measuring technologies are being planned and implemented that will assist in providing a better and more timely data to assist in combating NRW.
 - Automated Meter Infrastructure (AMI) technologies are being planned at a large scale to improve the alignment of consumption with production data. This would allow for improved analytic techniques.
 - Water Pigeon, Inc. is helping track authorized operational uses of water. This is a demonstration of using optical character reading (OCR) technology and cellular networks to capture consumption data.

SAWS competitively solicited for specialized water loss services approved January 14, 2020 by the Board Resolution No. 20-013. This action will continue SAWS utilization of Water Systems Optimization (WSO) for program support on a task by task basis, which has proven to be a very cost effective approach towards incorporating specialized expertise.

Note – American Water Works Association (AWWA) officially released documentation advocating water industry stakeholders discontinue using percentage indicators and embrace those existing and newly recommended performance indicators. These are more nuanced performance indicators such as normalized water loss by connection by day and financial costs.

The Water Loss Control Team has compiled a draft framework for actionable and implementable activities to drive water loss control reduction and produce superior water balance audits. Highlights to the five year roadmap.

- Improved Work Order Documentation
- Improved confidence tests on production and customer meter accuracies for better audit assessments
- Leverage new technology, innovations and materials

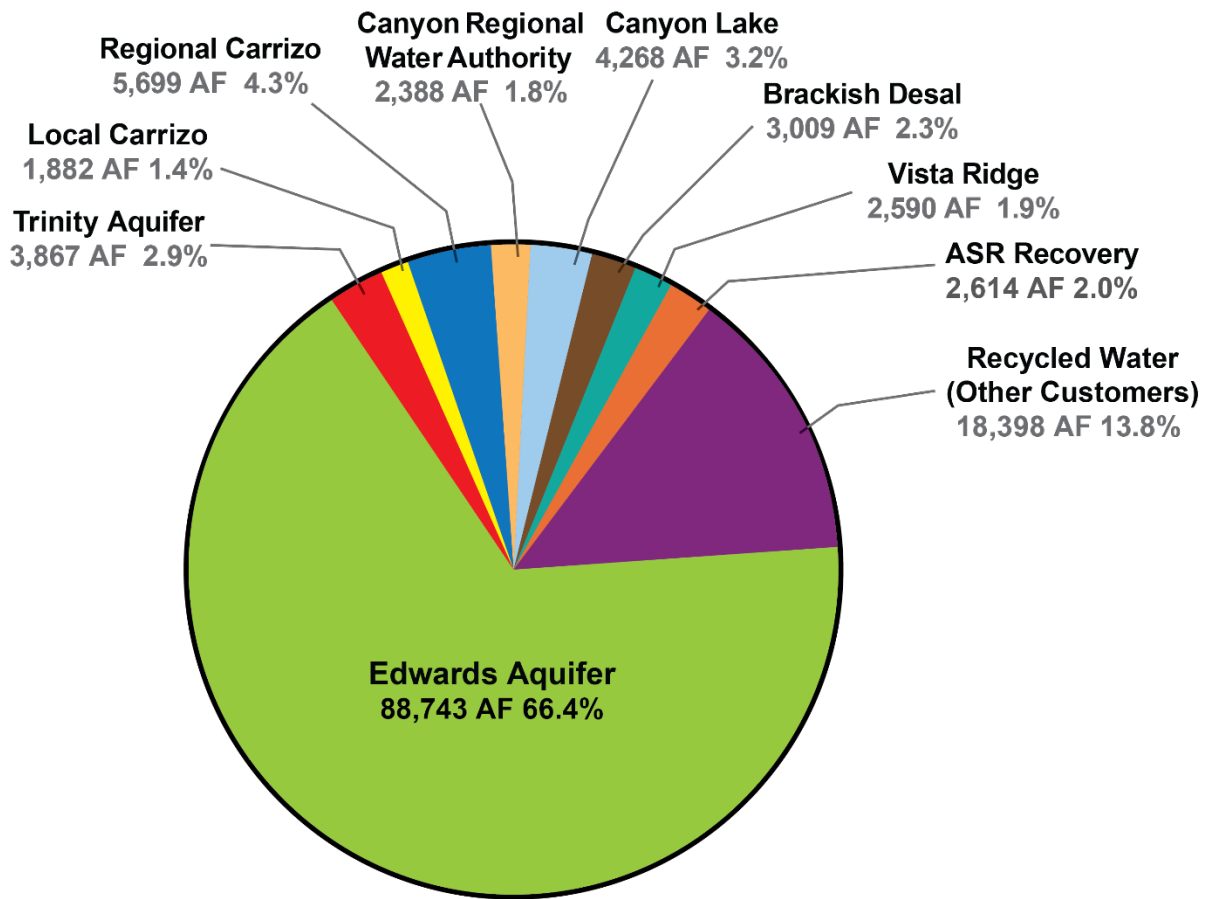
The framework Plan for implementation is provided as guidance towards foundational sound water balance. Implementation steps towards water loss control will still require formal briefing and understanding. Potential budget implications will need further exploration, development, and necessary funding would need to be prioritized.

Nonrevenue water is a complex challenge for all utilities. One process will not identify all the water loss components of a complex system such as SAWS. Improvements will require time and investment. SAWS and WSO staff will be comprehensively reflecting on five years of data that will help guide future activities related to cost effectively managing loss control.

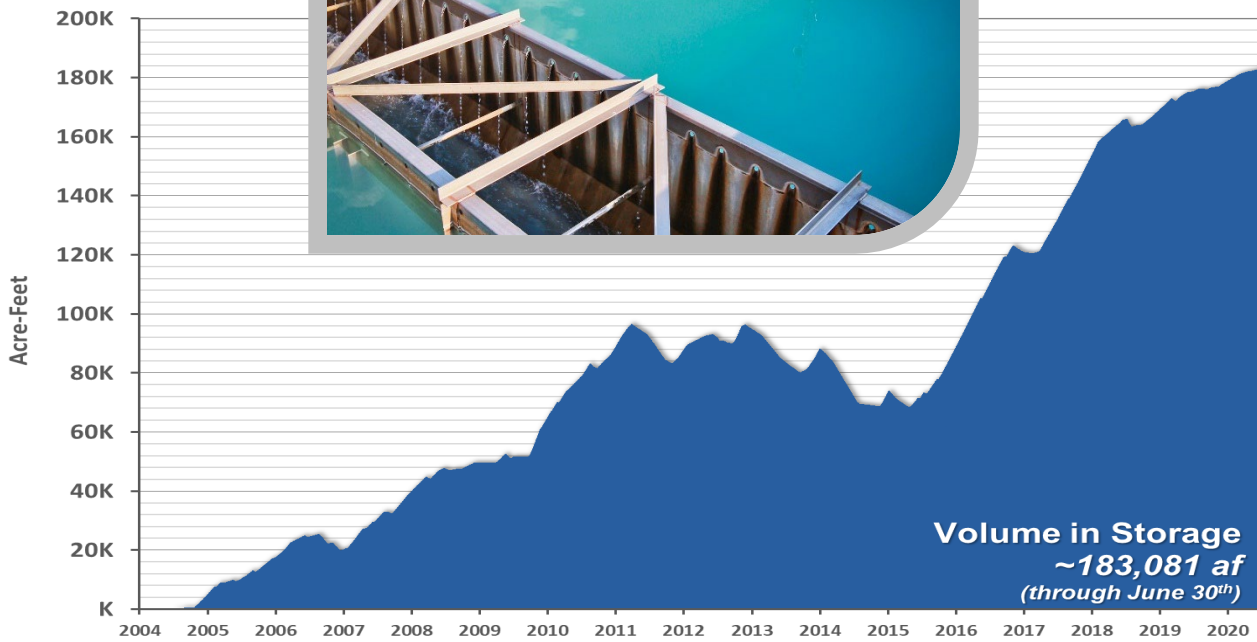
Distribution to Customers

2020 Distribution of Potable and Non Potable Water to Customers

In the first half of 2020, SAWS distributed a total potable water volume of 115,061 AF. This does not include the 6,815 AF of Edwards Aquifer water that was stored in H₂Oaks Aquifer Storage & Recovery facility. In addition, 18,398 AF of recycled water was supplied to our customers; 12,124 AF to CPS Energy and 6,274 AF to the remaining customers. The total water demand was supplied by the following sources:



While SAWS recovered 2,614 AF from the Aquifer Storage and Recovery (ASR) facility, SAWS stored 6,815 AF of Edwards Aquifer water in ASR during this reporting period, which brought the total net volume of water stored to 183,081 AF on June 30, 2020.



Source: San Antonio Water System

Financial Report

Water Supply Fee

On Oct. 19, 2000, the San Antonio City Council via Ordinance #92753 approved a funding mechanism for the construction and development of additional water resources to meet projected water demands for the SAWS service area for the next 50 years.

The Water Supply Fee assists in funding expenditures for the development of new water resources to include all operating, maintenance, research and development, and capital costs (including debt service when capital expenditures are debt funded). As mentioned earlier, SAWS has the largest direct recycled water system in the nation, which moderates the size of the Water Supply Fee by reducing the need for additional water supplies.

The Water Supply Fee per 100 gallons in 2020 for each customer class is summarized on the following page.



Recycled water pipes at a construction site.

RATE CLASS	Usage Block Thresholds Gallons	Assessed Fee RATE PER 100 GALLONS
<i>Residential</i>	2,992	\$0.1585
	4,489	\$0.2772
	5,985	\$0.3563
	7,481	\$0.4357
	10,473	\$0.5150
	14,962	\$0.5942
	20,199	\$0.7129
	Over 20,199	\$1.0296
<i>General</i>	Base*	\$0.2989
	125% of Base	\$0.3438
	175% of Base	\$0.4482
	Over 175% of Base	\$0.5232
<i>Wholesale</i>	Base**	\$0.3892
	Over Base	\$1.1681
<i>Irrigation</i>	8,229	\$0.3911
	17,954	\$0.5474
	162,316	\$0.7039
	Over 162,316	\$0.8996

* The Base Use for General Class is defined as 100 percent of the Annual Average Consumption.

** The Base Use for the Wholesale Class is defined as 100 percent of the Annual Average Consumption or as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

Water Supply Fee Financial Reports

The following tables provide an accounting of the collection and uses of the Water Supply Fee since its inception in 2001.

San Antonio Water System Sources and Uses of Funds Water Supply 2001 – 2020 <i>(\$ in Millions)</i>	
Water Supply Fee	\$1,808.35
Operating Transfer from Water Delivery	176.37
Non-operating income & Other	100.31
Recycle Water Revenues	83.74
Water Supply Impact Fees	257.32
Bond Proceeds	871.81
Water Supply O&M	(990.05)
Debt Service ¹	(540.74)
Capital Funding	<u>(1,130.41)</u>
Funds Provided	<u>436.70</u>
Restrictions on Cash	105.55
Designations on Cash	<u>130.91</u>
Unrestricted/Undesignated Funds	<u>\$ 200.24</u>

¹ Includes Principal, Interest and Defeasance Payments.

San Antonio Water System
Operating & Maintenance Expenditures
2001 – 2020
(\$ in Millions)

Operating and Maintenance Costs	
Western Canyon Project - GBRA	\$ 114.23
Oliver Ranch - Lease Payments & Production Costs	31.20
Trinity Stein/Rogers Ranches	54.18
BSR - Lease Payments & Production Costs	6.77
Regional Carrizo - Water Sales Agreements & Other ¹	83.95
Canyon Regional	30.46
Brackish Desalination	13.29
Medina Lake	12.89
Edwards - Lease Expense & Other	78.72
Aquifer Storage & Recovery Project	50.81
Aquifer Protection & Compliance	47.27
Vista Ridge	28.88
Recycled Water Operations	45.13
Conservation Program - net loss/(income)	(8.17)
Stormwater program - net loss	2.08
LCRA - Study Period and Other, Net of Cash Recovery ²	13.77
Lower Guadalupe Water Supply Project	6.26
Simsboro Aquifer	4.41
Recharge Initiative	0.80
Other Water Resources Cost	20.39
Facilities Maintenance	39.22
Communication & Outreach	16.15
Legal - Water Law	9.08
Billing & Collections	66.94
Finance & Information Systems	59.65
Corporate Facilities	14.59
Human Resources, Safety, Other Benefits ³	53.08
Other Support Services ⁴	35.05
Transfer to COSA	58.97
Total Operating & Maintenance	\$ 990.05

¹ Includes a 12.4 million write-off of pipeline design costs made obsolete with the agreement with Schertz-Seguin Local Government Corporation to transport water from Gonzales County to SAWS.

² Total program cost net of cash recovered from LCRA settlement.

³ Includes workers compensation and dependent and retiree health insurance.

⁴ Includes executive management, Board of Trustees, Internal Audit, Legal (corporate) and other miscellaneous.

San Antonio Water System
Water Supply Capital
Spending 2001 – 2020
(\$ in Millions)

	FUNDING		
	Cash Funding	Debt	Total
Water Supplies:			
Non-Edwards Water Supplies			
Western Canyon Project - GBRA	\$ 3.31	\$ 10.87	\$ 14.18
Trinity Aquifer Projects (Oliver Ranch/BSR)	12.49	-	12.49
Local Carrizo	1.31	13.51	14.82
Brackish Desalination	53.34	149.33	202.67
Regional Carrizo	56.00	63.81	119.81
Aquifer Storage & Recovery Project (ASR)	4.02	245.59	249.61
Expanded Carrizo	0.44	0.26	0.70
Recycled Water System	1.38	84.94	86.32
Total Non-Edwards	132.29	568.31	700.60
Edwards Aquifer Water Rights	87.73	153.18	240.91
Total Water Supply Capital Spending	220.02	721.49	941.51
Other Capital Spending:			
Integration	216.89	136.72	353.61
Land, Buildings & Equipment	29.95	5.34	35.29
	246.84	142.06	388.90
Total Capital Spending	\$ 466.86	\$ 863.55	\$ 1,330.41

San Antonio Water System Cash Restrictions/Designations Water Supply 2001 – 2020 (\$ in Millions)	
Restrictions on Cash:	
Operating Reserve	\$ 34.76
Reserve Fund	11.07
Construction Funds:	
Debt Funds ¹	8.12
Impact Fees ²	<u>51.60</u>
	105.55
Designations on Cash:	
PGA Monitoring/WQEE/Conservation	12.90
Interest Mitigation Fund ³	7.81
2019 & Prior CIP program (cash funds)	<u>110.20</u>
	130.91
Unrestricted/Undesignated Funds	<u>200.24</u>
Total Water Supply Funds Available	<u>\$ 436.70</u>

¹ Represents bond proceeds currently on hand. These proceeds have all been committed to be used on existing projects.

² Represents unspent impact fees. These have all been committed to fund CIP projects in the 2019 & prior CIP program or they will be used to help fund future CIP programs.

³ Represents funds accumulated as a result of favorable variances in debt service. Funds may be used for CIP or to otherwise reduce debt service costs.

Acronyms and Abbreviations

AF	Acre-Foot (325,851 gallons)
AFY	Acre-Feet per Year
ASR	Aquifer Storage & Recovery Facility / underground storage facility
CRWA	Canyon Regional Water Authority
CWIP	Central Water Integration Pipeline
EAA	Edwards Aquifer Authority
GPCD	Gallons per Capita per Day
MGD	Million Gallons per Day
MSL	Mean Sea Level
NRW	Nonrevenue Water
SAWS	San Antonio Water System
SCADA	Supervisory Control and Data Acquisition
TWDB	Texas Water Development Board
WMP	Water Management Plan
WSO	Water Systems Optimization

Glossary

Apparent Losses occur when the water is successfully delivered to a water user but for various reasons are not measured or recorded accurately, thereby introducing a degree of error in the amount of actual customer consumption. The most common example is a mechanical meter aging or wearing out and not registering all of the flow, resulting in the utility not recovering the revenue due for the service. Other examples are theft and computer processing errors when transferring large amounts of data.

Authorized Use is a consumptive use approved by the utility, thereby providing a benefit to the community. Some examples would be water quality line flushing, firefighting, sampling, etc.

Infrastructure Leak Index (ILI) – A performance indicator quantifying how well a distribution system is managed (maintenance, repaired, rehabilitated) for the control of real (leakage) losses at the current operating pressure. (Source: Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs, American Water Works Association, 2016.

Real Losses are physical losses from the distribution system when pipes fail and leakage occurs. Not all leaks are created equal and they are categorized into hidden (some can be leak detected) and visible (reported) occurrences.

