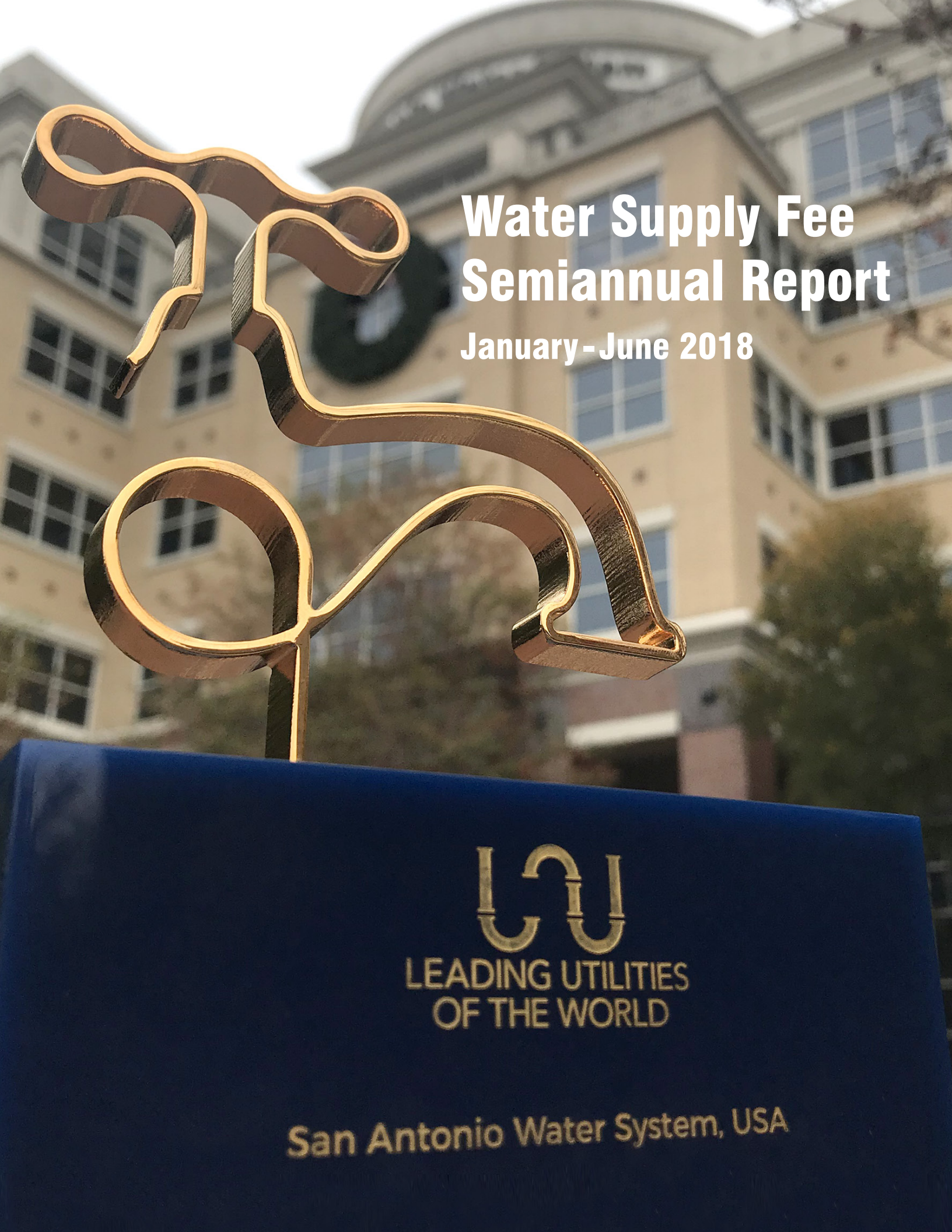
Water Supply Fee Semiannual Report

January–June 2018



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About the cover:

San Antonio Water System is currently the only utility in Texas and one of a handful in the nation to join the ranks of the Leading Utilities of the World, an exclusive global network of water and wastewater utilities.

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Introduction

San Antonio Water System (SAWS) is pleased to present the January – June 2018 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 is submitted to City Council twice each year, covering the periods of January through June, and July through December. This Water Supply Fee Semiannual Report is a different document than SAWS Water Management Plan.

SAWS was created by an act of the City Council in May 1992, through Ordinance 75686. Combined, SAWS serves approximately 1.82 million people. The service area covers 927 square miles primarily in Bexar County and in portions of Atascosa, Medina and Comal 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, 2018 and mid-year distribution volumes. 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, and,
- Summarize revenues generated from the water supply fee, capital spending on water supply projects, and,
- Summarize the maintenance and operational expenses for completed projects.

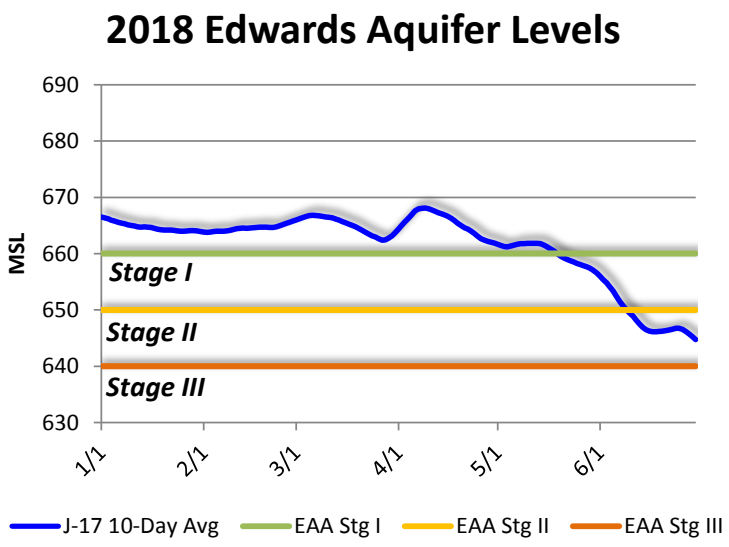
SAWS had a total potable demand of 119,671 acre-feet (AF) during the first half of 2018. Included in this total is 97,822 acre-feet of Edwards Aquifer production to distribution. During the first half of 2018, Edwards Aquifer supply accounted for approximately 82 percent of the total potable demand. One acre-foot of water is equal to 325,851 gallons.

The current water supply portfolio consists of groundwater supplies from the Edwards Aquifer, the Trinity Aquifer in Bexar County, the Carrizo Aquifer in southern Bexar County, and from Gonzales County for the Regional Carrizo Program. In November 2016, SAWS started delivering desalinated drinking water using brackish groundwater from the Lower Wilcox Aquifer in southern Bexar County. Additionally, groundwater is obtained from Carrizo Aquifer wells in Guadalupe and Gonzales counties via the Wells Ranch Project by Canyon Regional Water Authority (CRWA). SAWS surface water supplies include the Guadalupe-Blanco River Authority's Western Canyon Project (Canyon Lake), Medina Lake and River system, and CRWA's Lake

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

SAWS finished the first half of 2018 with a 3.6% regulatory cutback to its Edwards Aquifer supply, as there were minimal daily Edwards Aquifer Authority (EAA) Stage 1 and Stage 2 restrictions in that period. The first half of 2018 saw below average aquifer conditions and significantly below average rainfall. SAWS enforces a year-round reasonable regulation to prevent spray irrigation use in the middle of the day. SAWS ended the first half of 2018 with Stage 2 regulations, which allows customers to use spray irrigation from 7 a.m. to 11 a.m. and again from 7 p.m. to 11 p.m. on their designated watering day.

During the first half of 2018 there were 42 days of drought restrictions. San Antonio J-17 Index well levels for the reporting period are shown in the graph below. Due to below normal precipitation events, Edwards Aquifer 10-day average levels fell below 660' msl on May 20th and fell below 650' msl on June 10th.



The newly adopted SAWS 2017 Water Management Plan calls for the implementation of three new planned water supplies (Vista Ridge Project, additional phases of the Brackish Groundwater Desalination Program, and the expansion of the Bexar County Carrizo Aquifer project). The Vista Ridge Project would add 50,000 acre-feet per year of firm water supply by the year 2020, and the other two projects would add up to an additional 41,160 acre-feet per year in the late 2040s.

- SAWS and the Vista Ridge project company, after unanimous approval by SAWS Board and San Antonio City Council, entered into an agreement on November 4, 2014 to provide San Antonio with an additional 50,000 acre-feet of water annually (or approximately 20 percent of SAWS annual demand). The agreement provides for a long-term supply of water from a non-Edwards Aquifer source that will be delivered starting in 2020, and

continuing for at least 60 years. Under the agreement, the Vista Ridge project company has secured sufficient water leases in Burleson and Milam Counties, northeast of Austin, and is well into the construction of the wellfield and pipeline to San Antonio. Vista Ridge project company completed its development phase goals and received the approval of SAWS Board of Trustees on November 1, 2016 to enter the construction phase of the project. On November 2, 2016, Vista Ridge project company secured loan agreements to finance design and construction, which began in early 2017. Water delivery is expected to start in early 2020.

- SAWS broke ground on its Brackish Groundwater Desalination (BGD) reverse osmosis plant in south Bexar County in July 2014. Construction on Phase I was completed and began operation in November 2016. Phase I includes a desalination plant capable of producing up to 12 million gallons of drinking water per day by treating moderately salty groundwater from the Lower Wilcox Aquifer. Future phases are anticipated to be on line in the late 2040s.

- SAWS' 2017 Water Management Plan calls for the implementation of an expansion of its existing Local Carrizo project. Despite progressive conservation goals, total demand is projected to increase, and the Expanded Carrizo project is expected to increase SAWS' supply by up to an additional 21,000 AFY. The Expanded Carrizo project is anticipated to be on line in the late 2040s.

These three proposed projects will be funded by the Water Supply Fee, which is a multi-year funding mechanism for the development, construction and management of additional water supply. Since its implementation in 2001, the Water Supply Fee has generated over $1.5 billion to support the expansion and diversification of SAWS water supply portfolio. The funds generated from the Water Supply Fee have been used to fund capital investments, operating and maintenance expenses, and debt service associated with new water supply projects. SAWS capital investment in water supply projects since 2001 totals over $1.1 billion.

Water Supply Summary

This section summarizes the status for each water resource project for the first half of 2018.

Supply	Acre-Feet Distributed (January – June 2018)	Activity
Edwards Aquifer	97,822	• 2018 beginning of year permit was 276,166 AF • Regulatory cutback was 3.6% for the first half of 2018
Medina Lake and River System	0	• Medina Lake began 2018 at 67% capacity. Lower than average rainfall during the first half of the year resulted in a lowering of water levels to 51% capacity at mid-year
Direct Recycled Water	5,431 • *2,738 (consumptive)* • *2,693 (river flow)*	• System Supply: 25,000 AF • Contracted consumptive commitments: 12,350 AF (excludes volumes for streamflow augmentation) • Volume available for consumptive use: 12,650 AF
Trinity Aquifer	2,813	• Water delivery has remained consistent, although lower due to the drought conditions. Below average rainfall and below average recharge during the spring resulted in a lowering of water levels and lower production rates

Supply	Acre-Feet Distributed (January – June 2018)	Activity
Canyon Regional Water Authority (CRWA)	1,521	• CRWA completed the ozone disinfection project at Lake Dunlap • SAWS has returned CRWA as the primary water supply serving the NE Service Area
Canyon Lake	4,364	• Canyon Lake continued to deliver a steady and reliable supply of water
H_2Oaks Aquifer Storage and Recovery	ASR storage to distribution system: 169 SAWS Edwards water to storage: 0 EAHCP Edwards water to storage: 12,002	• Total volume of stored Edwards water on June 30, 2018: 165,886 AF • Total volume of Edwards water stored on behalf of the EAHCP: 94,710 AF
Carrizo Aquifer (Bexar County)	3,869	• Planned production for the year.
Regional Carrizo Program	5,643	• Includes SAWS Buckhorn wellfield production in Gonzales County plus water purchased from Schertz-Seguin Local Government Corporation
Brackish Groundwater Desalination Program	3,573	• Plant was completed in fall 2016; distribution began in November 2016 • During the first half of 2018, modeling was conducted to optimize production

Planned Projects 2017-2025	Status
Vista Ridge (Construction)	• The Vista Ridge project company obtained SAWS Board approval of completion of development phase goals, and on November 2, 2016 secured the loan agreements needed for funding design and construction of the project • Vista Ridge construction started in spring of 2017 • As of June 30, 2018, approximately 65 miles of pipeline have been constructed across several counties, including Burleson, Lee, Bastrop, Caldwell, Guadalupe, Comal, and Bexar Counties, and 17 of the 18 wells have been drilled
Conservation Programming	• Programming to reduce planned average year consumption from 124 gallons per capita per day (GPCD) in 2017 to 111 GPCD in 2025. Conservation initiatives have successfully targeted program emphasis in the management of outdoor water demands. Program highlights from the first half of 2018 include: • Expanded WaterSmart Software Pilot to include over 45,000 households receiving personalized reports identifying conservation opportunities. One-third of customers enrolled in the program are customers designated as low-income customers receiving an affordability discount • Over 220 Plumbers to People referrals in 2018 year to date, with proactive efforts to enroll more customers through the WaterSmart Pilot • 1,260 Irrigation Consultations completed at homes in 2018 so far, averaging 2,000 gallons per month in savings at each home • 352 households and 84 businesses have used Irrigation Efficiency rebates so far in 2018 • Nearly 2,000 WaterSaver Landscape Coupons redeemed to upgrade landscapes in the Spring launch • Over 1,100 customers signed up for the WaterSaver Rewards program • Improved compliance with Irrigation Check Up regulation with about 2,500 reports completed, resulting in about 75% compliance so far for 2018. This is an improvement over the same time period in other years • Water waste reports from officers, staff, and citizens have generated 1,975 warnings and 97 citations, year to date. Landscape Coupons redeemed to upgrade landscapes • Improved compliance with Irrigation Check Up regulation with 2,856 reports completed, saving over 1,745 acre-feet • Doubled number of households served through Plumbers to People by using outreach and analysis to proactively identify another 450 low-income households needing leak repair

Planned Projects 2026-2040 (2017 WMP assumptions)	Status
Conservation Programming	• 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	• 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	• Future phases will deliver up to an additional 20,160 AFY of water, for a project total of up to 33,600 AFY • Construction is anticipated to begin in the late 2040s depending on demand • Hydrologic modeling has been conducted to determine the amount of additional Wilcox Aquifer production and number of wells that could be supported
Expanded Carrizo (Bexar County) Project	• Future phases are anticipated to provide an additional 7,000 AF annually for each phase • 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: Project approved, contract signed, construction well underway
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 unit price for water produced and made available plus all operating and maintenance 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 financial attractiveness of this project will continue during the second term when the price of water drops substantially from the first-term price.

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. Thereafter, the Operations Phase will begin and continue for 30 years. SAWS will be responsible for the construction of its Central Water Integration Pipeline project (CWIP) within 39 months of Financial Close.

The Vista Ridge project construction is expected to be complete in January of 2020 to begin testing, at which time it will account for approximately 20 percent of potable water delivered to customers.

Activities this Period:

The Vista Ridge project company, under the leadership of Garney Construction, continued the construction of the 142-mile long pipeline, pump station facilities, and water wells. As of June 30, 2018, approximately 65 miles of pipeline have been

constructed across several counties, including Burleson, Lee, Bastrop, Caldwell, Guadalupe, Comal, and Bexar Counties, and 17 of the 18 wells have been drilled.

Central Water Integration Pipeline (CWIP)

Project Status: Project package designs completed through 75% to 100%. One package has gone to construction.

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

Background:

In order 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 treatment facilities at the water delivery point (Terminus Facility), a new pump station, new sections of transmission pipeline to connect to existing pipeline and facilities, upgrades to three major pump stations in the existing SAWS distribution system, new pressure reducing valves, and overall automation of the system using SCADA. The Terminus Facility is located in the Stone Oak area immediately south of Las Lomas Elementary School, along Hardy Oak Blvd.

Activities This Period:

In January 2018, the project delivery method was modified from the alternative Design-Build model to the more traditional Design-Bid-Build model. The project separated into eight discrete design and construction packages, defined as follows:

1. Terminus 10 million gallon (MG) Ground Storage Tank
2. Terminus Treatment Facility
3. Maltsberger 5 MG Ground Storage Tank Rehabilitation
4. Maltsberger Electrical Rehabilitation and Pump Station Improvements
5. Bitters Pump Station Improvements and Pipeline Segment 5-3
6. Pipeline Segment 5-1
7. Pipeline Segment 5-2
8. Pipeline Segment 5-4

Construction of the Terminus Tank began in April of this year. The remaining packages are either at or nearing 100% complete design status. All packages are expected to be awarded for construction between August and October of 2018.

Tetra Tech was retained as the lead designer for all of the packages, and Black & Veatch was transitioned from Owner's Representative to Program/Construction Manager for the overall project.

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Brackish Groundwater Desalination Program

Project Status: Operation stage (Phase I)
Water Supply: Brackish groundwater, Lower Wilcox Aquifer, southern Bexar County

Background:

SAWS has developed a Brackish Groundwater Desalination (BGD) program in southern Bexar County, which is designed to help meet the city's water demand while reducing dependence on the Edwards Aquifer. The Texas Water Development Board (TWDB) has confirmed that a vast supply of brackish groundwater exists in our region and has yet to be developed. As directed by legislation that passed in 2015 (HB 30), the TWDB is conducting further studies of brackish groundwater across the State, including the San Antonio region, and has presented the first round of data. The South Central Texas Regional Water Planning Group (Region L) has identified brackish groundwater as a supply source to meet future demand.

SAWS desalination facility is capable of producing up to 12 million gallons of drinking water per day from the Wilcox Aquifer in Phase I. The plant and wells are located at SAWS H_2Oaks Center (formerly known as the Twin Oaks site), ~5,300 acres owned by SAWS that is also home to its Aquifer Storage & Recovery program (which is situated on the original ~3,200 acres) and Local Carrizo project. Future phases will deliver up to an additional 20,160 acre-feet per year of water for a project total of up to 33,600 acre-feet per year. However, the timing of additional phases of the brackish desalination program will be considered as part of SAWS' ongoing planning efforts.

The cost per acre-foot for Phase I is estimated at $1,374 not including the cost to integrate the water into SAWS distribution system. As of June 2018, SAWS has invested $199.8 million in capital improvement for the BGD Program. Once treated, the water will be compatible with Edwards Aquifer water and will blend with the rest of the water in the distribution system. While this supply of water is more expensive than Edwards Aquifer water, it is plentiful and unaffected by prolonged drought but could be affected by local drawdown.

Activities This Period:

Construction of the production well field, pipelines, reverse osmosis treatment plant, and injection wells has been completed. Reliability testing and commissioning of the treatment plant was completed at year-end 2016. Water delivery to the SAWS distribution system began on November 10, 2016. The grand opening of the plant took place on January 27, 2017. Modeling was conducted during the first half of 2018 using real production data, to better understand how to optimize the operation of the entire brackish desalination production wellfield.

Nonrevenue Water (NRW)

Background:

The key to NRW is understanding and eliminating instances of it, using practical, cost effective implementation opportunities. SAWS is committed to optimizing based on appropriate performance indicators. SAWS performs standardized audits annually and works with loss control professionals to implement the best strategies for SAWS.

NRW is complex, and incorporates more than just addressing leaks. As a means of awareness and review, NRW is comprised of authorized use, apparent losses and real losses, definitions of which can be found in the Glossary.

Activities This Period:

This reporting period has been challenging in that SAWS NRW percent by total volume as compared to previous years is slightly higher. SAWS remains fully committed to control and reduce NRW, and continues on a multi-year implementation strategy that is reviewed with annual standardized auditing. Highlights during this reporting period include:

- Deploying the fourth year of comprehensive leak detection scanning, and leveraging the third year of EAHCP funding.

- Submitted the Annual Water Loss report to Texas Water Development Board (TWDB). Water loss (real and apparent) for 2017 has been calculated as 15.6% by total volume. That is slightly higher than 2016, by approximately one-tenth of one percent. SAWS staff has been critically evaluating SAWS' many unique challenges that might have contributed to a slight increase in NRW, and how to better reduce its risk exposure. SAWS' highly diversified supply portfolio and large active inventory of over approximately 200 production meters can be both a positive for redundancy and a negative for complexity.

<table>
<tr><td rowspan="7">100%
Water Supplied
78.5BG</td><td rowspan="4">Authorized Consumption
1.5%</td><td rowspan="2">Billed Authorized Consumption</td><td>Billed Metered Consumption</td><td rowspan="2">82.9%
Revenue Water
65.1 BG</td></tr>
<tr><td>Billed Unmetered Consumption</td></tr>
<tr><td rowspan="2">Unbilled Authorized Consumption</td><td>Unbilled Metered Consumption</td><td rowspan="5">17.1%
Non-Revenue Water</td></tr>
<tr><td>Unbilled Unmetered Consumption</td></tr>
<tr><td rowspan="3">Water Losses</td><td rowspan="3">Apparent Losses
1.3%</td><td>Unauthorized Consumption</td></tr>
<tr><td>Customer Meter Inaccuracies</td></tr>
<tr><td>Data Handling Errors</td></tr>
<tr><td colspan="3">Real Losses 14.3%</td></tr>
</table>

- Conducted an internal audit of its NRW program, which found that strengthening procedures and communications will positively impact NRW and data validity.

- Improved and expanded the NRW program by convening critical SAWS departments with Water Systems Optimization (WSO), led by SAWS Water Resources department. SAWS and WSO have been analyzing the leak detection data sets annually for four years, and are nearly at the stage that these data can be looked at comprehensively to inform future leak detection and repair crew optimization. A critical long-term task will be improving service request and work order data captured through SAWS enterprise process. Moving forward SAWS will need a combination of proactive leak detection and infrastructure rehabilitation or replacement.

- Innovating infrastructure repair and replacement in the most cost effective manner, by doing its due diligence with data-driven condition assessments and hydraulic models. SAWS issued a Request for Qualifications (RFQ) that would use advanced data analytics solutions to assign likelihood of failure to its pipe network. This is currently under review but would be an additional tool that would develop a roadmap to move some repair work to a more proactive trajectory. Increasing the utility's total rehabilitation or replacement rate offers opportunities to reduce real loss and create savings.

- Striving to capture all authorized uses of water, testing and monitoring the performance of customer meters system wide (which on average operate above industry recommended standards), and further exploring innovation that contributes to loss control for the utility operations.

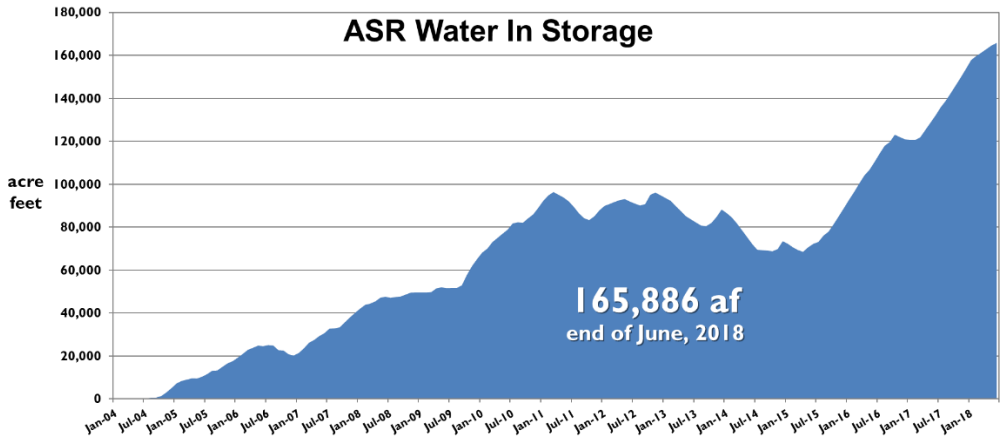
- SAWS has been nationally and internationally recognized and active in water loss control presenting and collaborating with water utilities within the U.S., and Namibia. SAWS is continuing to lead the nation in innovation in process, materials and technology, through its membership with Isle Utilities Technology Approval Group. All of this is in an effort to continue to drive NRW down to the goals set in the 2017 Water Management Plan, while recognizing that a wider range of performance indicators will be necessary moving forward.

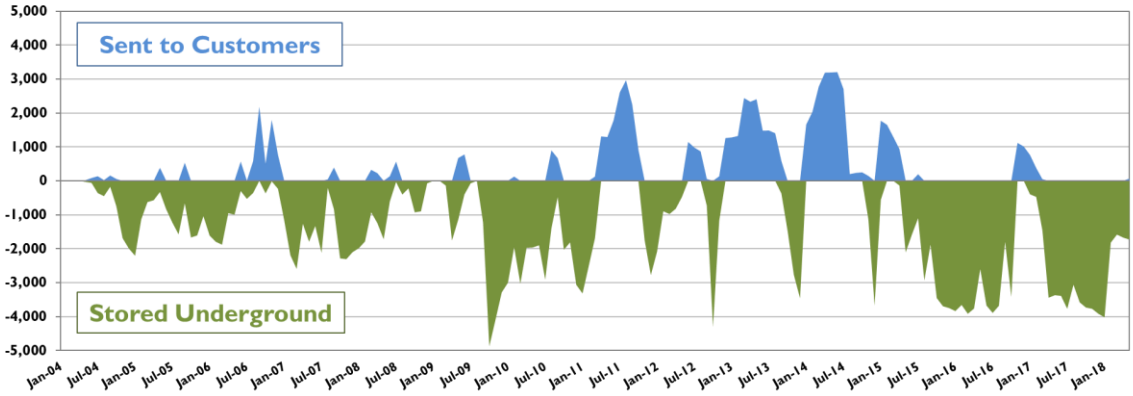
Nonrevenue water continues to be a complex challenge. Actual results will only be measurable over time and will require investment. This is a systematic program requiring continued attention to understand long-term system implications. SAWS and WSO staff will be comprehensively reflecting on three and a half years of data that will help guide future activities related to cost effectively managing loss control.

Distribution to Customers

In the first half of 2018, SAWS distributed a total potable supply to customers of 119,671 AF. This does not include 12,002 AF of Edwards Aquifer water stored in ASR during that period, which brought the total net volume of water stored in ASR to 165,886 AF on June 30, 2018.

SAWS Aquifer Storage and Recovery storage volume has remained in excess of 65,000 acre-feet over the last seven years, and was a key tool in minimizing drought impacts during the drought of 2011-2015. Historic storage volume and daily storage and recovery amounts are shown in the graphs below.





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 2018 for each customer class is summarized on the following page.

RATE CLASS	Usage Block Thresholds Gallons	Assessed Fee RATE PER 100 GALLONS
Residential	2,992	$0.0997
	4,489	$0.1744
	5,985	$0.2242
	7,481	$0.2741
	10,473	$0.3240
	14,962	$0.3738
	20,199	$0.4485
	Over 20,199	$0.6477
General	Base*	$0.1880
	125% of Base	$0.2163
	175% of Base	$0.2820
	Over 175% of Base	$0.3291
Wholesale	Base**	$0.2449
	Over Base	$0.7349
Irrigation	8,229	$0.2460
	17,954	$0.3444
	162,316	$0.4429
	Over 162,316	$0.5660

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

**The Base Use for the Wholesale Class is defined as 100% 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 – June 2018
($ in Millions)

Water Supply Fee	$1,463.02
Operating Transfer from Water Delivery	165.11
Non-operating income & Other	81.37
Recycle Water Revenues	71.88
Water Supply Impact Fees	183.60
Bond Proceeds	849.03
Water Supply O&M	(793.79)
Debt Service	(586.02)
Capital Funding	(1,139.04)
Funds Provided	295.15
Restrictions on Cash	154.13
Designations on Cash	101.22
Unrestricted/Undesignated Funds	$ 39.80

San Antonio Water System
Operating & Maintenance Expenditures
2001 – June 2018
($ in Millions)

Operating and Maintenance Costs	
Western Canyon Project - GBRA	$ 99.76
Oliver Ranch - Lease Payments & Production Costs	26.71
Trinity Stein/Rogers Ranches	29.57
BSR - Lease Payments & Production Costs	6.08
Regional Carrizo - Water Sales Agreements & Other[3]	66.68
Canyon Regional	16.67
Brackish Desalination	6.52
Medina Lake	6.99
Edwards - Lease Expense & Other	70.59
Aquifer Storage & Recovery Project	44.39
Aquifer Protection & Compliance	39.94
Vista Ridge	6.91
Recycled Water Operations	40.99
Conservation Program - net loss/(income)	(4.40)
Stormwater program - net loss	2.11
LCRA - Study Period and Other, Net of Cash Recovery[4]	16.57
Lower Guadalupe Water Supply Project	6.26
Simsboro Aquifer	4.41
Recharge Initiative	0.80
Other Water Resources Cost	17.99
Facilities Maintenance	29.57
Communication & Outreach	13.19
Legal - Water Law	8.50
Billing & Collections	55.62
Finance & Information Systems	48.28
Corporate Facilities	12.33
Human Resources, Safety, Other Benefits[1]	42.29
Other Support Services[2]	31.98
Transfer to COSA	46.49
Total Operating & Maintenance	$ 793.79

[1] Includes workers compensation and dependent and retiree health insurance.

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

[3] 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.

[4] Total program cost net of cash recovered from LCRA settlement.

San Antonio Water System
Water Supply Capital Spending
2001 – June 2018
($ 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	13.52	14.82
Brackish Desalination	63.19	136.60	199.79
Regional Carrizo	56.01	63.80	119.81
Aquifer Storage & Recovery Project (ASR)	2.06	245.61	247.67
Expanded Carrizo	0.44	0.26	0.70
Recycled Water System	1.21	84.87	86.08
Total Non-Edwards	140.01	555.53	695.54
Edwards Aquifer Water Rights	87.53	153.38	240.91
Total Water Supply Capital Spending	227.53	708.91	936.44
Other Capital Spending:			
Integration	58.81	108.89	167.70
Unallocated Project Overhead	-	-	-
Land, Buildings & Equipment	29.62	5.29	34.91
	88.43	114.18	202.60
Total Capital Spending	$ 315.96	$ 823.09	$ 1,139.04

San Antonio Water System
Cash Restrictions/Designations
Water Supply
2001 – June 2018
($ in Millions)

Restrictions on Cash:	
Operating Reserve	$ 22.42
Reserve Fund	19.32
Construction Funds:	
Bond Funds[1]	25.77
Impact Fees[2]	86.62
	154.13
Designations on Cash:	
PGA Monitoring/WQEE/Conservation	9.04
Interest Mitigation Fund[3]	24.16
2018 & Prior CIP program (cash funds)	68.02
	101.22
Unrestricted/Undesignated Funds	39.80
Total Water Supply Funds Available	$ 295.15

[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 2018 & 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
BGDP	Brackish Groundwater Desalination Program
BMA	Bexar-Medina-Atascosa Improvement District #1
BMWD	Bexar Metropolitan Water District
BSR	Bulverde Sneckner Ranch
CCN	Certificate of Convenience and Necessity
CRWA	Canyon Regional Water Authority
DFC	Desired Future Condition
DOR	Drought of Record
DSP	District Special Project (former BexarMet)
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Plan
EOY	End of Year
GBRA	Guadalupe-Blanco River Authority
GCD	Groundwater Conservation District
GPCD	Gallons per Capita per Day
HB	House Bill
HCP	Habitat Conservation Plan
MGD	Million Gallons per Day
OR	Oliver Ranch
RCP	Regional Carrizo Project
RFCSP	Request for Competitive Sealed Proposals
SAWS	San Antonio Water System
SB	Senate Bill
SSLGC	Schertz-Seguin Local Government Corporation
TWDB	Texas Water Development Board
WMP	Water Management Plan
WSC	Water Supply Corporation
WTPA	Water Transmission and Purchase Agreement

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.

Desired Future Condition – Defined by Title 31, Part 10, §356.10 (6) of Texas Administrative Code as "the desired, quantified condition of groundwater resources (such as water levels, spring flows or volumes) within a management area at one or more specified future times as defined by participating groundwater conservation districts within a groundwater management area as part of the joint planning process."

Firm Yield – The volume of water which can be produced from a defined source during a repeat of the drought of record under existing regulatory, legal, contractual, hydrological or infrastructure constraints.

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.

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San Antonio Water System

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