



Water Supply Fee Semiannual Report

July-December 2016

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Water Supply Fee Semiannual Report July – December 2016

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About the cover:

SAWS operators learn the complexities of running SAWS new brackish desalination plant (upper left)

SAWS field crews continued working towards reducing the real losses in SAWS distribution system (upper right)

SAWS leak detection crews remained busy in 2016, inspecting half of SAWS distribution system every year (lower left)

Water Resources Integration Program was completed in 2016, giving SAWS the flexibility to deliver water from SAWS H₂Oaks facility to both the eastern and western portions of its service area (lower right)

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Introduction

San Antonio Water System (SAWS) is pleased to present the 2016 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 January through June and July through December time frames. 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. The District Special Project (DSP) was authorized in October 2011 by City Ordinance 2011-10-0845 to enable the transfer of assets, liabilities, rights, duties and obligations of the former Bexar Metropolitan Water District (BexarMet) to SAWS. Combined, SAWS and DSP serve approximately 1.78 million people. The service area covers 927 square miles primarily in Bexar County and in limited areas 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 July 1 through December 31, 2016 and year-end production 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.

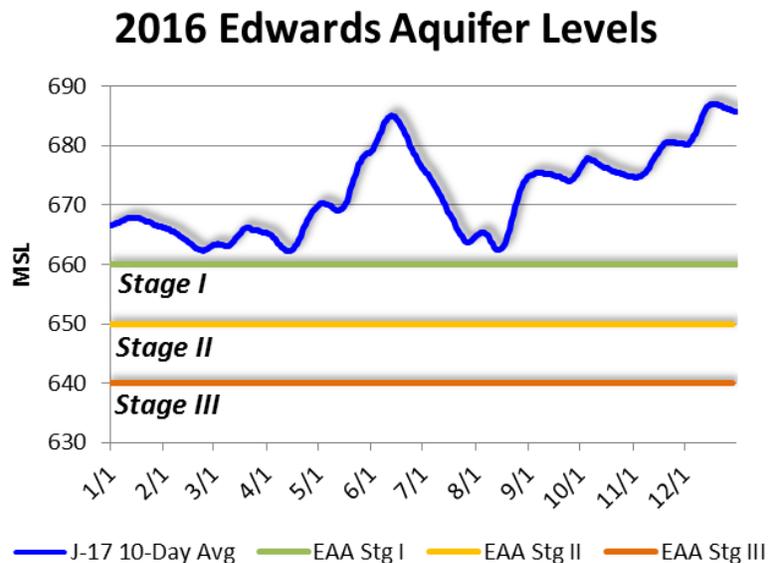
SAWS had a total potable demand of 235,866 acre-feet (AF) in 2016. Included in this total is 194,708 acre-feet of Edwards Aquifer production. During 2016, Edwards Aquifer supply accounted for nearly 83 percent of the total potable demand. One acre-foot of water is equal to 325,851 gallons.

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.

During 2016, SAWS had full access to its Edwards Aquifer permit since there were no daily Edwards Aquifer Authority (EAA) stage reductions in that period. Even with the favorable aquifer conditions and abundant rainfall, the community continues to invest in diversified water resources, water conservation programs, and adherence to applicable conservation measures. SAWS enforces a year-round reasonable regulation to prevent spray irrigation use in the middle of the day. Spray irrigation usage must end by 11 a.m. and should not be used again until after 7 p.m.

As 2016 began, San Antonio's drought restrictions had ended, after nearly five years of being in place. San Antonio J-17 Index well levels for the reporting period are shown in the graph below. Due to timely precipitation events during the year, SAWS did not have to declare water restrictions during 2016.



SAWS current long-term planning efforts call for the implementation of four new planned water supplies (Brackish Groundwater Desalination Program, Expanded Bexar County Carrizo Aquifer, acquisition of additional Edwards Aquifer Water Rights and the Vista Ridge Project). The four supplies would add up to an additional 110,937 acre-feet per year of firm water supply by the year 2026.

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 60 years. Under the agreement, the Vista Ridge Project Company has secured sufficient water rights in Burleson and Milam Counties, northeast of Austin, and will develop the wellfield and construct the 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 with the anticipation of breaking ground in early 2017 and beginning water delivery in early 2020.

- SAWS broke ground for 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.

Together, the capital costs of these four proposed projects, including the construction of the Water Resources Integration Program, would total approximately \$740 million. The new Vista Ridge project is projected to add approximately \$147 million of capital costs to support the integration of the Vista Ridge water into the distribution system.

These four 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 \$1.2 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 2016.

Supply	Acre-Feet Delivered (Total 2016)	Status						
Edwards Aquifer <i>Groundwater supply</i>	194,708	<ul style="list-style-type: none"> 2016 beginning of year permit was 286,172 AF In January 2016, SAWS partnered with the Edwards Aquifer Authority (EAA) to implement an accelerated leak repair effort. The EAA will pay SAWS \$18.6 million over 5 years to address over 4,700 AF per year of Real Losses. One-half of that conserved water is then pledged in support of the Edwards Aquifer Habitat Conservation Plan (EAHCP) administered by the EAA. This cooperation benefits SAWS by reducing non-revenue water and benefits the EAA by completing the full suite of springflow protection measures outlined in the EAHCP. Regulatory cutback was 0% for 2016. 						
Medina Lake and River System <i>Surface water supply</i>	0	<ul style="list-style-type: none"> Medina Lake began 2016 at 63.9% capacity. Large rainfall events in May and June filled the lake to 100% capacity on May 31. The lake ended 2016 at 93% capacity. 						
Direct Recycled Water <i>Recycled water</i>	11,478 <ul style="list-style-type: none"> 5,701 (consumptive) 5,777 (river flow) 	<table border="1"> <tr> <td colspan="2">System Supply: 25,000 AF</td> </tr> <tr> <td>Contracted:</td> <td>13,002 AF</td> </tr> <tr> <td>Available supply:</td> <td>11,988 AF</td> </tr> </table>	System Supply: 25,000 AF		Contracted:	13,002 AF	Available supply:	11,988 AF
System Supply: 25,000 AF								
Contracted:	13,002 AF							
Available supply:	11,988 AF							
Trinity Aquifer <i>Groundwater supply</i>	17,652	<ul style="list-style-type: none"> Water levels and delivery were high for the Trinity Aquifer throughout 2016 as a result of abundant rainfall. 						

Supply	Acre-Feet Delivered (Total 2016)	Status
Canyon Regional Water Authority <i>Surface/Groundwater supply</i>	1,462	<ul style="list-style-type: none"> CRWA is in the process of refunding Wells Ranch project bonds, which will save SAWS over \$4 million through 2032. CRWA is purchasing equipment to improve the disinfection method that will result in SAWS having the ability to utilize additional water volume in the future.
Canyon Lake <i>Surface water supply</i>	8,980	<ul style="list-style-type: none"> Canyon Lake continued to deliver a steady, reliable water supply
H ₂ Oaks Aquifer Storage and Recovery <i>Groundwater Supply</i>	ASR storage to distribution system: 2,139 SAWS Edwards water to storage: 987 EAHCP Edwards water to storage: 33,260	<ul style="list-style-type: none"> Total stored Edwards water at year-end: 121,003 AF Total EAHCP Edwards water to storage totaled 51,233 AF, 2013-2016
Carrizo Aquifer (Bexar County) <i>Groundwater Supply</i>	0	<ul style="list-style-type: none"> Zero production in 2016, due to above average rainfall, higher Edwards Aquifer levels, and ASR in storage mode
Regional Carrizo Program <i>Groundwater Supply</i>	10,014	<ul style="list-style-type: none"> Includes SAWS Buckhorn wellfield production in Gonzales County plus water purchased from Schertz-Seguin Local Government Corporation
Brackish Groundwater Desalination Program <i>Brackish Groundwater</i>	911	<ul style="list-style-type: none"> Groundbreaking for construction of plant took place on July 2, 2014 Plant was completed in fall 2016, and started delivering desalinated drinking water in November 2016



Planned Projects 2012-2020 (2012 WMP assumptions)	Status
Additional Edwards Aquifer <i>Groundwater supply</i> (Acquisition)	<ul style="list-style-type: none"> • See comments on Current Edwards leasing/purchases above
Expanded Carrizo (Bexar County) <i>Groundwater Supply</i> (Design)	<ul style="list-style-type: none"> • 7,000 acre-feet per year (AFY) • Current planning does not call for development prior to 2021 • Project can be designed and constructed quickly, relative to other projects
Vista Ridge <i>Groundwater</i> (Contract, Design)	<ul style="list-style-type: none"> • 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, which is to begin in the Spring of 2017. • Vista Ridge Project Company has submitted initial design packages and critical path schedules for SAWS review. • Vista Ridge Project Company has advanced electrical design and defined requirements necessary for SAWS to establish electrical power to the project's facilities.
Conservation Programming	<p>Conservation initiatives have successfully targeted program emphasis in the management of outdoor water demands.</p> <p>Program highlights from 2016 include:</p> <ul style="list-style-type: none"> • Over 2,800 conservation consultations completed at homes and businesses in 2016, reducing summer use between ~4,000-7,500 gallons/month/connection, conservatively saving ~260 AF of water in the summer. • 2,515 accounts compliant with the annual irrigation checkup in 2016, a 74% increase from 2015. • Over 5,700 rain barrel coupons redeemed by residential customers, the largest single-day distribution of rain barrels in the history of the country • SAWS Conservation continues to reach out to low-income households with potable water leaks. In 2016, ~550 households received plumbing repair assistance through Plumbers to People.

Planned Projects 2021-2039 (2012 WMP assumptions)	Status
Conservation Programming <i>Water Conservation</i>	<ul style="list-style-type: none"> • Programming to maintain dry year consumption at 135 gallons per capita per day (GPCD) beyond 2020 • GPCD goals may be altered due to revised planning assumptions as anticipated for the <i>2017 Water Management Plan</i> • Implement education, incentives and regulations to document a minimum of 1,600 acre-feet of permanent water savings each year
Brackish Groundwater Desalination Program Phases II and III <i>Brackish Groundwater Supply</i>	<ul style="list-style-type: none"> • Future phases will deliver up to an additional 20,160 AFY of water, for a project total of up to 33,600 AFY • Timing of future phases will be considered in the ongoing Water Management Plan process • Hydrologic modeling has been conducted to determine the amount of additional Lower Wilcox Aquifer production and number of wells that could be supported
Expanded Carrizo (Bexar County) Project Phases II & III <i>Groundwater Supply</i>	<ul style="list-style-type: none"> • Phases II and III are anticipated to provide an additional 7,000 AF annually for each phase. • Timing and yield will be considered in the ongoing Water Management Plan process • Project can be designed and constructed quickly, relative to other projects



Featured Projects

Vista Ridge – Regional Water Supply

Project Status: Project approved, contract signed

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, Mayor Ivy Taylor, SAWS Chairman Berto Guerra, and SAWS President/CEO Robert R. Puente signed a contract with the Vista Ridge Project Company on November 4, 2014 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.

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 is secured, the contract allows for up to 4½ years for the Construction Phase to be completed. Thereafter, the Operations Phase will begin and continue for 30 years.

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 to a fraction of the first-term price.

The Vista Ridge project is expected to be complete in 2020, 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 new leadership of Garney Construction as of June 10, 2016, continued development of the project including acquisition of easements for the pipeline and fee simple title to the pump station and delivery point sites, preliminary engineering, and environmental assessment and permitting.

On November 1, 2016, after considering the Vista Ridge Project Company's completion of development phase requirements, SAWS Board approved the Vista Ridge Project Company to

proceed to Financial Close and enter into the construction phase of the project. The following day on November 2, 2016, the Vista Ridge Project Company attained Financial Close by securing the financing agreements with creditor banks for the major expenditures needed to design and construct the project.

The Vista Ridge Project Company’s schedule anticipates groundbreaking for pipeline construction by the spring of 2017, construction completion in early 2020, and commercial operation with full-time delivery of water beginning in the spring of 2020.

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 will generate up to 13,440 AFY from the Lower Wilcox Aquifer in Phase I. The plant and wells are located at SAWS H₂Oaks Center (formerly known as the Twin Oaks site), ~3,000 acres owned by SAWS that is also home to its Aquifer Storage & Recovery program and Local Carrizo project. Future phases will deliver an additional approximately 20,160 acre-feet per year of water for a project total of 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 \$1,177 not including the cost to integrate the water into SAWS distribution system. As of December 2016, SAWS has invested \$170.1 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 tap water in our system. While this supply of water is more expensive than Edwards Aquifer water, it is plentiful and unaffected by drought conditions.



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. Water delivery to the SAWS distribution system began on November 10, 2016. The grand opening of the plant took place on January 27, 2017.

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.

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.

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.

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.

Activities This Period:

SAWS continues on a multi-year implementation strategy that is reviewed with annual standardized auditing. Highlights during this reporting period include:

- SAWS and EAA have entered into a contract that benefits regional conservation. SAWS commissioned Water Systems Optimization to be its Loss Control Consultant, and it was determined that annual proactive leak detection should be increased to half of SAWS service area per year. This change would more than double the amount

of leak work repair orders, and a funding source was needed to deal with this additional work. SAWS negotiated a contract with EAA in support of the EAHCP that would provide \$18.6 million in funding over the next five years, for contractors' assistance with these additional repairs. This work will save an estimated 4,745 acre-feet annually, and provide invaluable data and insight into the reoccurrence of leakage. These activities will help to inform future planning and cost effectively manage real water loss.

- SAWS completed two provisional technical memorandum sharing performance and status updates to the EAA on progress related to the cooperative effort during 2016. As of the October report, \$2.4 million dollars were spent and all repairs provided approximately 2,450 acre-feet of water savings based on work orders through September. The end of the year data is still being compiled but indications show that the first years funding was leveraged and the SAWS potable water infrastructure received additional *real loss* savings. This is a systematic program and will require continued attention to understand and better target system repairs as we continue the next four years.
- SAWS began a task to look at pressure data from field instruments and check if the hydraulic model SAWS uses for the potable water system accurately represents pressures in the system. This is an important understanding for water utilities, as pressures are exerting force on the potable water infrastructure. Understanding this relationship along with maintenance history will allow better more cost efficient plans for how the utility manages the utility's most important unseen assets – the pipes that convey SAWS water product to our customers.
- SAWS continues to make significant investments in annual testing and replacement of customer meters. Initiatives are also looking at how new, so called “smart meters” could benefit management of our water resources.
- SAWS continues to work with Water Systems Optimization (WSO), a leader in NRW and loss control planning, on annually budgeted tasks as it relates to Loss Control Programming.

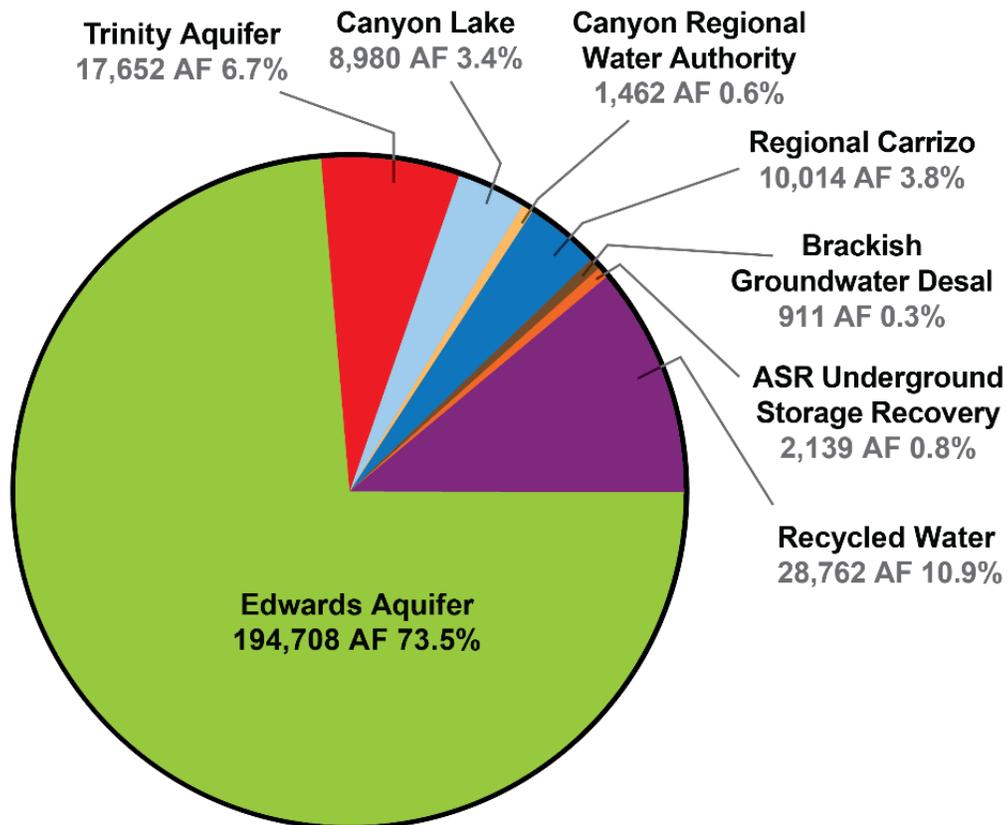
It is easy to see that NRW is a complex challenge. Actual results will only be measurable over time and will require investment.

Delivery to Customers

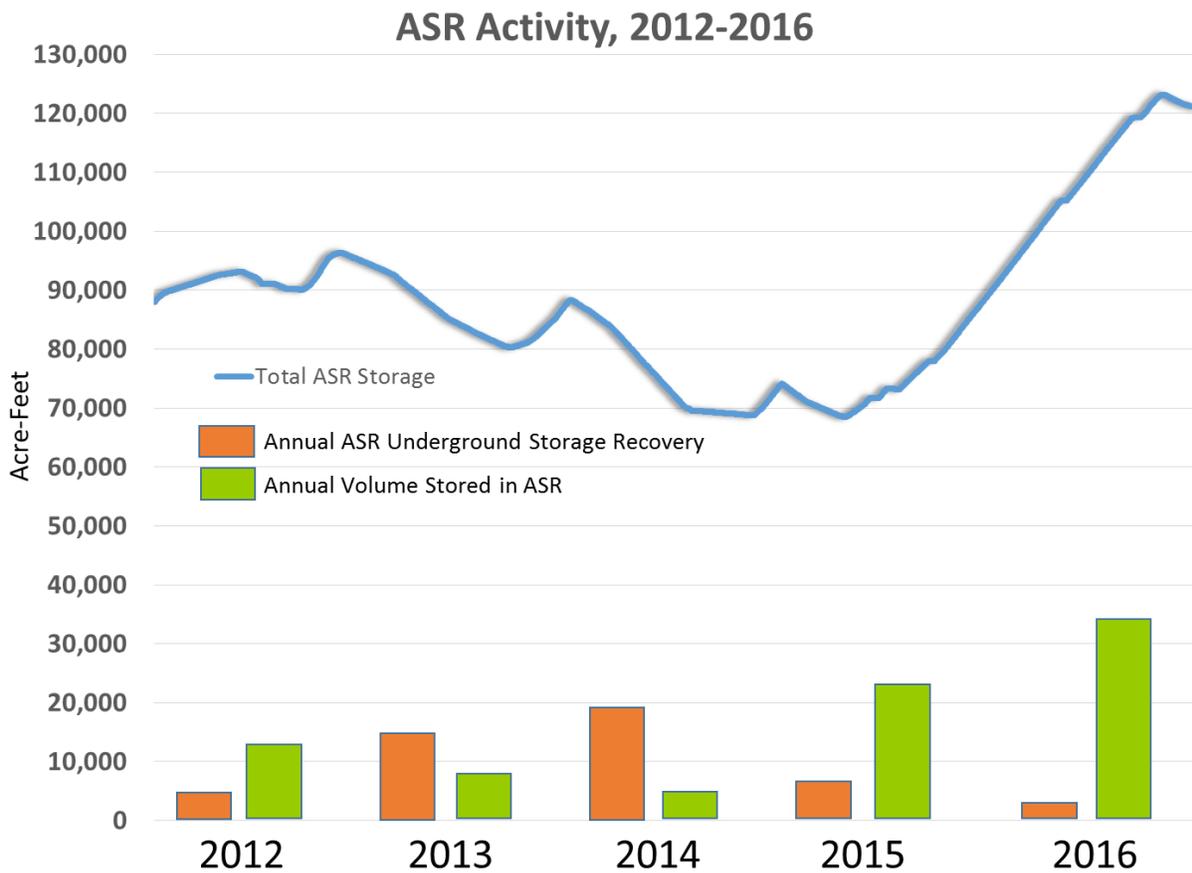
In 2016, SAWS delivered a total potable supply to customers of 235,866 AF. This does not include 34,246 AF of Edwards Aquifer water stored in ASR during that period, which brought the total net volume of water stored in ASR to 121,003 AF on December 31, 2016. In addition, SAWS delivered 11,478 AF of recycled water via its purple pipe system, and an additional 17,284 AF to CPS Energy, for a total of 28,762 AF of recycled water.

SAWS total demand was supplied by water sources shown in the chart below.

SAWS Potable & Recycled Water Delivery
in 2016



SAWS Aquifer Storage and Recovery storage volume has remained in excess of 70,000 acre-feet over the last four years, and was a key tool in minimizing drought impacts during the drought of 2011-2015. Historic storage volume and annual storage and recovery amounts are shown in the graph below.



Financial Report

Integration of Bexar Metropolitan Water District Assets, Operations and Personnel

In November 2011, 74 percent of voters in the Bexar Metropolitan Water District (BexarMet) voted to dissolve the utility and transfer the responsibility for its assets and operations to SAWS. The election was authorized by the Texas Legislature through Senate Bill (SB) 341, adopted in May 2011. Effective January 28, 2012, the assets, liabilities, rights, duties and obligations of BexarMet were transferred to an entity known as San Antonio Water System District Special Project (SAWS DSP). Management and control of SAWS DSP is vested with SAWS Board in accordance with the District Special Project Ordinance. SAWS DSP will be reported as a discrete component unit of the City of San Antonio until full integration with SAWS has been completed. Full integration with SAWS occurred when the rates paid by SAWS DSP customers for water service were the same as those paid by SAWS customers and no SAWS DSP debt remained outstanding. This milestone occurred on January 1, 2017.

SAWS has been tasked with rebuilding a water utility that was facing severe financial and budgetary constraints, infrastructure needs, non-firm water sustainability, relatively high water rates, relatively low employee compensation, lack of appropriate employee resources due to layoffs, and a generally poor relationship with the public. Through concerted efforts during 2012 and 2013, SAWS resolved that prior utility's numerous and substantial challenges.

In February 2016, SAWS refunded all outstanding DSP debt and dissolved the DSP entity. The last step to full integration occurred effective January 1, 2017, when SAWS and former DSP customers began paying the same rates.

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 City of San Antonio and Bexar County 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 systems 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 2016 for each customer class is summarized below.

RATE CLASS	Usage Block Thresholds Gallons	Assessed Fee RATE PER 100 GALLONS
<i>Residential</i>	2,992	\$0.0892
	4,489	\$0.1561
	5,985	\$0.2007
	7,481	\$0.2454
	10,473	\$0.2900
	14,962	\$0.3346
	20,199	\$0.4015
	Over 20,199	\$0.5798
<i>General</i>	Base*	\$0.1683
	125% of Base	\$0.1936
	175% of Base	\$0.2525
	Over 175% of Base	\$0.2946
<i>Wholesale</i>	Base**	\$0.2193
	Over Base	\$0.6579
<i>Irrigation</i>	8,229	\$0.2202
	17,954	\$0.3083
	162,316	\$0.3964
	Over 162,316	\$0.5066

*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.

These rate adjustments also provided the financial assurance that SAWS would have sufficient revenues to purchase 50,000 AFY of Vista Ridge water by 2020. The assurance was a necessary step toward achieving Financial Close under the Vista Ridge contract. On November 19, 2015, City Council approved a 9.3 percent increase in the Water Supply Fee effective for water used



beginning January 1, 2016. This increase was necessary to provide funding for the operation of the brackish desalination plant, as well as to improve SAWS credit metrics. At the same time, maximum Water Supply Fee rate adjustments were approved for 2017 through 2020. These adjustments will provide sufficient funding related to expanding the Water Resources Integration Program pipeline all the way to Anderson Pump Station, and other capital improvements necessary to integrate Vista Ridge water by 2020.

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 – 2016 <i>(\$ in Millions)</i>	
Water Supply Fee	\$1,245.75
Operating Transfer from Water Delivery	156.66
Non-operating income & Other	69.40
Recycle Water Revenues	63.62
Water Supply Impact Fees	139.06
Bond Proceeds	839.03
Water Supply O&M	(670.88)
Debt Service	(496.74)
Capital Funding	<u>(1,107.90)</u>
Funds Provided	<u>238.01</u>
Restrictions on Cash	123.55
Designations on Cash	<u>44.78</u>
Unrestricted/Undesignated Funds	<u>\$ 69.68</u>



San Antonio Water System
Operating & Maintenance Expenditures
2001 – 2016
(\$ in Millions)

Operating and Maintenance Costs	
Western Canyon Project - GBRA	\$ 88.30
Oliver Ranch - Lease Payments & Production Costs	23.52
Trinity Stein/Rogers Ranches	17.08
BSR - Lease Payments & Production Costs	5.48
Regional Carrizo - Water Sales Agreements & Other ³	51.38
Canyon Regional	6.71
Brackish Desalination	1.75
Medina Lake	2.70
Edwards - Lease Expense & Other	62.61
Aquifer Storage & Recovery Project	40.46
Aquifer Protection & Compliance	34.90
Vista Ridge ⁵	1.50
Recycled Water Operations	38.10
Conservation Program - net loss/(income)	(0.28)
Stormwater program - net loss	3.03
LCRA - Study Period and Other, Net of Cash Recovery ⁴	17.97
Lower Guadalupe Water Supply Project	6.26
Simsboro Aquifer	4.41
Recharge Initiative	0.80
Other Water Resources Cost	15.97
Facilities Maintenance	23.54
Communication & Outreach	11.48
Legal - Water Law	7.81
Billing & Collections	47.63
Finance & Information Systems	41.80
Corporate Facilities	11.01
Human Resources, Safety, Other Benefits ¹	35.04
Other Support Services ²	29.96
Transfer to COSA	<u>39.96</u>
Total Operating & Maintenance	<u>\$ 670.88</u>

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.

⁵ Development Stage costs paid by SAWS.

San Antonio Water System
Water Supply Capital Spending
2001 – 2016
(\$ in Millions)

	FUNDING		
	Pay-as-you-go	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	60.18	136.27	196.45
Regional Carrizo	56.04	63.80	119.84
Aquifer Storage & Recovery Project (ASR)	2.19	245.72	247.91
Expanded Carrizo	0.44	0.26	0.70
Recycled Water System	1.20	84.93	86.13
Total Non-Edwards	137.15	555.37	692.52
Edwards Aquifer Water Rights	87.52	153.18	240.70
Total Water Supply Capital Spending	224.67	708.55	933.22
Other Capital Spending:			
Integration	38.98	101.64	140.62
Unallocated Project Overhead	0.89	-	0.89
Land, Buildings & Equipment	27.87	5.30	33.17
	67.74	106.94	174.68
Total Capital Spending	\$ 292.41	\$ 815.49	\$ 1,107.90



San Antonio Water System
Cash Restrictions/Designations
Water Supply
2001 – 2016
(\$ in Millions)

Restrictions on Cash:	
Operating Reserve	\$ 19.69
Reserve Fund	20.01
Construction Funds:	
Bond Funds ¹	32.05
Impact Fees ²	<u>51.80</u>
	123.55
Designations on Cash:	
Future Reserve Fund deposits	-
PGA Monitoring/WQEE/Conservation	4.78
Interest Mitigation Fund ³	18.36
2016 & Prior CIP program (cash funds)	<u>21.64</u>
	44.78
Unrestricted/Undesignated Funds	<u>69.68</u>
Total Water Supply Funds Available	<u>\$ 238.01</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 2015 & 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.

Glossary

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 Sneekner 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

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.

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."

