

Water Conservation Plan Annual Report

Retail Water Supplier

CONTACT INFORMATION

Name of Utility: SAN ANTONIO WATER SYSTEM

Public Water Supply Identification Number (PWS ID): TX0150018

Certification of Convenience and Necessity (CCN) Number: 10640

Surface Water Right ID Number: 2144-D, 3867-A, 4768-B, 5549-C, 12096

Wastewater ID Number: 20285

Check all that apply:

- Retail Water Supplier
- Wholesale Water Supplier
- Wastewater Treatment Utility

Address: 2800 US Highway 281 N City: San Antonio Zip Code: 78212

Email: Martha.Wright@saws.org Telephone Number: 2107047283

Regional Water Planning Group: L

Groundwater Conservation District:

Contact: First Name: Martha Last Name: Wright
Title: Resource Analyst

Is this person the designated Conservation Coordinator? Yes No

Coordinator: First Name: Karen Last Name: Guz
Title: Conservation Director

Address: 2800 US Highway 281 N City: San Antonio Zip Code: 78212

Email: Karen.Guz@saws.org Telephone Number: 210-704-7283

Regional Water Planning Group: L

Groundwater Conservation District:

Reporting Period (Calendar year):

Period Begin (mm/yyyy): 01/2021 Period End (mm/yyyy): 12/2021

Check all that apply:

- Received financial assistance of \$500,000 or more from TWDB
- Have 3,300 or more retail connections
- Have a surface water right with TCEQ

SYSTEM DATA

1. For this reporting period, select the category(s) used to classify customer water usage:

Retail Customer Water Usage Categories	
<input checked="" type="checkbox"/>	Residential - Single Family
<input checked="" type="checkbox"/>	Residential - Multi-family
<input checked="" type="checkbox"/>	Industrial
<input checked="" type="checkbox"/>	Commercial
<input type="checkbox"/>	Institutional
<input type="checkbox"/>	Agricultural

Retail Customers Categories*

- Residential Single Family
- Residential Multi-Family
- Industrial
- Commercial
- Institutional
- Agricultural

*Recommended Customer Categories for classifying customer water use. For definitions, refer to [Guidance and Methodology on Water Conservation and Water Use](#).

2. For this reporting period, enter the number of connections for and the gallons of metered retail water used by each category. If the Customer Category does not apply, enter zero or leave blank. These numbers should be the same as those reported on the Water Use Survey.

Retail Customer Category	Number of Connections	Gallons Metered
Residential - Single Family	545,900	34,967,246,520
Residential - Multi-family	231,777	11,461,606,668
Industrial	273	2,482,878,313
Commercial	37,976	14,854,893,137
Institutional	0	0
Agricultural	0	0
Total Retail Water Metered¹	815,926	63,766,624,638

¹Residential + Industrial + Commercial + Institutional + Agricultural = Total Retail Water Metered

Water Use Accounting

	Total Gallons During the Reporting Period
1. Corrected Input Volume: The volume of treated water input to the distribution system from own production facilities. Same as line 13b of the Water Loss Audit for reporting periods >= 2015. Same as line 14 of the Water Loss Audit for reporting periods <= 2014.	60,239,018,750
2. Corrected Treated Purchased Water Volume: The amount of treated purchased wholesale water transferred into the utility's distribution system from other water suppliers system. Same as line 14b of the Water Loss Audit for reporting periods >= 2015. Same as line 15 of the Water Loss Audit for reporting periods <= 2014.	28,967,578,384
3. Corrected Treated Wholesale Water Sales Volume: The amount of treated wholesale water transferred out of the utility's distribution system, although it may be in the system for a brief time for conveyance reasons. Same as line 15b of the Water Loss Audit for reporting periods >= 2015. Same as line 16 of the Water Loss Audit for reporting periods <= 2014.	8,179,758,941
4. Total System Input Volume: This is the sum of the corrected input volume plus corrected treated purchased water volume minus corrected treated wholesale water sales volume. Same as line 16 of the Water Loss Audit for reporting periods >= 2015. Same as line 17 of the Water Loss Audit for reporting periods <= 2014. Produced + Imported - Exported = Total System Input Volume	81,026,838,193
5. Billed Metered: All retail water sold and metered. Same as line 17 of the Water Loss Audit for reporting periods >= 2015. Same as line 18 of the Water Loss Audit for reporting periods <= 2014.	63,766,624,638
6. Other Authorized Consumption: Water that is authorized for other uses such as back flushing, line flushing, storage tank cleaning, fire department use, municipal government offices or municipal golf courses/parks. This water may be metered or unmetered. Same as lines 18, 19, and 20 of the Water Loss Audit for reporting periods >= 2015. Same as lines 19, 20, and 21 of the Water Loss Audit for reporting periods <= 2014.	2,250,789,001
7. Total Authorized Consumption: All water that has been authorized for use. Same as Line 21 of the Water Loss Audit for reporting periods >= 2015. Same as line 22 of the Water Loss Audit for reporting periods <= 2014. Total Billed and Metered Retail Water + Other Authorized Consumption = Total Authorized Consumption	66,017,413,639

8. Total Apparent Losses: Water that has been consumed but not properly measured or billed (losses due to customer meter inaccuracy, systematic data handling discrepancy and/or unauthorized consumption such as theft). Same as line 27 of the Water Loss Audit for reporting periods >= 2015. Same as line 28 of the Water Loss Audit for reporting periods <= 2014.	962,940,444
9. Total Real Loss: Physical losses from the distribution system prior to reaching the customer destination (losses due to reported breaks and leaks, physical losses from the system or mains and/or storage overflow). Same as line 30 of the Water Loss Audit for reporting periods >= 2015. Same as line 31 of the Water Loss Audit for reporting periods <= 2014.	14,046,484,110
10. Total Water Loss: Apparent + Real = Total Water Loss	15,009,424,554

Programs and Activities

1. What year did your entity adopt or revise their most recent Water Conservation Plan? 2019

2. Does The Plan incorporate [Best Management Practices](#)? Yes No

3. Using the table below select the types of Best Management Practices or water conservation and reuse strategies actively administered during this reporting period and estimate the savings incurred in implementing water conservation and reuse activities and programs. Leave fields blank if unknown. **Please separate reuse volumes from gallons saved.**

Methods and techniques for determining gallons saved are unique to each utility as they conduct internal cost analyses and long-term financial planning. Texas Best Management Practice can be found at TWDB's Water Conservation Best Management Practices [webpage](#). The [Alliance for Efficiency Water Conservation Tracking Tool](#) may offer guidance on determining and calculating savings for individual BMPs.

Best Management Practice	Check if Implemented	Estimated Gallons Saved	Estimated Gallons Reused
Conservation Analysis and Planning			
Conservation Coordinator	<input checked="" type="checkbox"/>	0	0
Cost Effective Analysis	<input checked="" type="checkbox"/>	0	0
Water Survey for Single Family and Multi-family Customers	<input checked="" type="checkbox"/>	0	0
Customer Characterization	<input checked="" type="checkbox"/>	0	0
Financial			
Wholesale Agency Assistance Programs	<input type="checkbox"/>		
Water Conservation Pricing	<input checked="" type="checkbox"/>	0	0
System Operations			
Metering New Connections and Retrofitting Existing Connections	<input checked="" type="checkbox"/>	0	0

Utility Water Audit and Water Loss	<input checked="" type="checkbox"/>	0	0
Landscaping			
Landscape Irrigation Conservation and Incentives	<input checked="" type="checkbox"/>	0	0
Athletic Fields Conservation	<input checked="" type="checkbox"/>	0	0
Golf Course Conservation	<input checked="" type="checkbox"/>	0	0
Park Conservation	<input checked="" type="checkbox"/>	0	0
Residential Landscape Irrigation Evaluation	<input checked="" type="checkbox"/>	31,259,592	0
Outdoor Watering Schedule	<input checked="" type="checkbox"/>	0	0
Education and Public Awareness			
School Education	<input checked="" type="checkbox"/>	0	0
Public Information	<input checked="" type="checkbox"/>	0	0
Public Outreach and Education	<input checked="" type="checkbox"/>	0	0
Partnerships with Nonprofit Organizations	<input checked="" type="checkbox"/>	0	0
Rebate, Retrofit, and Incentive Programs			
Conservation Programs for ICI Accounts	<input checked="" type="checkbox"/>	2,161,296	0
Residential Clothes Washer Incentive Program	<input checked="" type="checkbox"/>	0	0
Water Wise Landscape Design and Conversion Programs	<input checked="" type="checkbox"/>	7,232,040	0
Showerhead, Aerator, and Toilet Flapper Retrofit	<input checked="" type="checkbox"/>	0	0
Residential Toilet Replacement Programs	<input checked="" type="checkbox"/>	0	0
Custom Conservation Rebates	<input checked="" type="checkbox"/>	2,297,468	0
Plumbing Assistance for Economically Disadvantaged Customers	<input checked="" type="checkbox"/>	12,625,140	0
Conservation Technology & Reuse			
New Construction Graywater	<input checked="" type="checkbox"/>	0	0
Rainwater Harvesting and Condensate Reuse	<input checked="" type="checkbox"/>	0	0
Water Reuse BMP Categories			
Reuse for On-site Irrigation	<input checked="" type="checkbox"/>	0	1,087,947,278
Reuse for Plant Washdown	<input checked="" type="checkbox"/>	0	0
Reuse for Chlorination/Dechlorination	<input type="checkbox"/>		
Reuse for Industry	<input checked="" type="checkbox"/>	0	926,769,904
Reuse for Agriculture	<input checked="" type="checkbox"/>	0	0
Regulatory and Enforcement			
Prohibition on Wasting Water	<input checked="" type="checkbox"/>	25,200	0
Conservation Ordinance Planning and Development	<input checked="" type="checkbox"/>	818,698,800	0
Enforcement of Irrigation Standards	<input checked="" type="checkbox"/>	0	0
Retail			
Other	<input checked="" type="checkbox"/>	270,895,947	0
Totals		1,145,195,483	2,014,717,182

The attached document contains more detail about programs and savings, including a rationale of why some BMPs show a savings estimate of zero. Programs that contribute to savings category of Other include monthly WaterSmart reports, pool filter rebate program, flow sensor rebate program, and smart irrigation controller program.

Attached file(s):

File Name	File Description
SAWS_BestMgmtPractices_4.18.22.pdf	SAWS Best Management Practices - 2021

4. For this reporting period, estimate the savings from water conservation activities and programs.

Gallons Saved/Conserved	Gallons Recycled/Reused	Total Volume of Water Saved ¹	Dollar Value of Water Saved ²
1,145,195,483	2,014,717,182	3,159,912,665	24,331,328

¹Estimated Gallons Saved + Estimated Gallons Recycled/Reused = Total Volume Saved

²Estimated this value by taking into account water savings, the cost of treatment or purchase of water, and deferred capital cost due to conservation.

5. Comments or Explanations Regarding Data Entered in Sections Above.
 Files to support or explain this may be attached below.

Dollar value of water saved is calculated based on the retail price of water (\$0.00770 / gallons) from line 40 of the water loss audit report.

6. During this reporting period, did your rates or rate structure change? Yes No

Select the type of rate pricing structure used. Check all that apply.

<input type="checkbox"/>	
<input type="checkbox"/>	Uniform Rates
<input type="checkbox"/>	Flat Rates
<input checked="" type="checkbox"/>	Inclining/Inverted Block Rates
<input type="checkbox"/>	Declining Block Rates
<input type="checkbox"/>	Seasonal Rates
<input type="checkbox"/>	Water Budget Based Rates
<input type="checkbox"/>	Excess Use Rates
<input type="checkbox"/>	Drought Demand Rates
<input type="checkbox"/>	Tailored Rates
<input type="checkbox"/>	Surcharge - usage demand
<input type="checkbox"/>	Surcharge - seasonal
<input checked="" type="checkbox"/>	Surcharge - drought
<input checked="" type="checkbox"/>	Other

Surcharge for the Annual Irrigation Checkup program. Customers not compliant with the irrigation checkup are assessed a one-time late fee and an additional volumetric rate on billed irrigation consumption, until they become compliant.

7. For this reporting period, select the public awareness or educational activities used.

Name	Implemented This Year	Number Of Times This Year	Total Population Reached this Year
Brochures Distributed	<input checked="" type="checkbox"/>	418	206,485
Messages Provided on Utility Bills	<input checked="" type="checkbox"/>	12	6,550,800
Press Releases	<input checked="" type="checkbox"/>	28	5,000,000
TV Public Service Announcements	<input checked="" type="checkbox"/>	166	
Radio Public Service Announcements	<input checked="" type="checkbox"/>	493	2,684,000
Educational School Programs	<input checked="" type="checkbox"/>	60	3,365
Displays, Exhibits, and Presentations	<input checked="" type="checkbox"/>	344	197,684
Community Events	<input checked="" type="checkbox"/>	74	8,781
Social Media campaign - Facebook	<input checked="" type="checkbox"/>	332	1,655,000
Social Media campaign - Twitter	<input checked="" type="checkbox"/>	990	6,252,400
Social Media campaign - Instagram	<input checked="" type="checkbox"/>	75	157,600
Social Media campaign - YouTube	<input checked="" type="checkbox"/>	47	205,213
Facility Tours	<input checked="" type="checkbox"/>	81	4,224
Other	<input checked="" type="checkbox"/>	121	2,462,961
Total		3,241	25,388,513

Other includes NextDoor campaigns, GardenStyle website and weekly gardening newsletter, and the Conservation Call Center. More details on those activities and others listed above can be found in the attached documentation.

Leak Detection and Water Loss

1. During this reporting period, how many leaks were repaired in the system or at service connections? 1837

2. Select the main cause(s) of water loss in your system.

Water Loss Causes	
<input checked="" type="checkbox"/>	Distribution line leaks and breaks
<input type="checkbox"/>	Unauthorized use and theft

<input checked="" type="checkbox"/>	Master meter problems
<input type="checkbox"/>	Customer meter problems
<input type="checkbox"/>	Record and data problems
<input checked="" type="checkbox"/>	Other

SAWS continues to identify and address water loss on an ongoing basis with cost-effective solutions knowing that there is always room for improvement. Distribution line leaks and breaks are a primary cause of water loss. Accuracy adjustments on master meters could help address water loss. Processes are in place to improve data and record problems. A pilot was completed using advanced metering technologies and a full roll-out is beginning in 2022. AMI and associated analytics tools and technologies have the potential to reduce nonrevenue water loss.

3. For this reporting period, provide the following information on your distribution lines.

Total Length of Main Lines (miles)	Total Length Repaired (feet)	Total Length Replaced (feet)
7511	606015	13415

4. For this reporting period, provide the following information regarding your meters:

Type of Meter	Total Number	Total Tested	Total Repaired	Total Replaced
Production Meters	534	445	132	4
Meters larger than 1 1/2 inches	9535	1489	29	383
Meters 1 1/2 inches or smaller	546204	1526	54	10704

5. Does your system have automated meter reading? Yes No

Program Effectiveness

1. Program Effectiveness

In your opinion, how would you rank the overall effectiveness of your conservation programs and activities?

Customer Classification	Less Than Effective	Somewhat Effective	Highly Effective	Does Not Apply
Residential Customers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Industrial Customers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Institutional Customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Commercial Customers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Agricultural Customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

2. During the reporting period, did you implement your Drought Contingency Plan? Yes No

3. Select the areas for which you would like to receive more technical assistance:

Technical Assistance Areas	
<input type="checkbox"/>	Best Management Practices
<input type="checkbox"/>	Drought Contingency Plans
<input type="checkbox"/>	Landscape Irrigation
<input type="checkbox"/>	Leak Detection and Equipment
<input type="checkbox"/>	Rainwater Harvesting
<input type="checkbox"/>	Rate Structures
<input type="checkbox"/>	Educational Resources
<input type="checkbox"/>	Water Conservation Annual Reports
<input type="checkbox"/>	Water Conservation Plans
<input type="checkbox"/>	Water IQ: Know Your Water
<input type="checkbox"/>	Water Loss Audits
<input type="checkbox"/>	Recycling and Reuse

Water Loss, Target and Goals

Total, Residential and Water Loss Gallons Per Capita per Day (GPCD) and Water Loss Percentage

The tables below display your current GPCD totals and water loss percentage for your service area.

Total System Input in Gallons Water Produced + Wholesale Imported - Wholesale Exported	Retail Population ¹	Total GPCD (System Input / Retail Population) / 365
81,026,838,193	2,003,714	111

¹Retail Population is the total permanent population of the service area, including single family, multi-family, and group quarter populations

Residential Use in Gallons (Single Family + Multi-family)	Residential Population ²	Residential GPCD (Residential Use / Residential Population) / 365
46,428,853,188	1,973,274	64

²Residential Population is the total residential population of the service area, including only single family and multi-family populations

Total Water Loss in Gallons Apparent + Real = Total Water Loss	Retail Population	Water Loss GPCD ³	Water Loss Percent
15,009,424,554	2,003,714	21	18.52%

³(Total Water Loss / Residential Population) / 365 = Water Loss GPCD
 (Total Water Loss / Total System Input) * 100 = Water Loss Percentage

The table below displays the specific and quantified five-year and ten-year goals listed in your current Water Conservation Plan alongside the current GPCD and water loss totals.

Achieve Date	Target for Total GPCD	Current Total GPCD	Target for Residential GPCD	Current Residential GPCD	Target for Water Loss GPCD	Current Water Loss GPCD	Target for Water Loss Percentage	Current Water Loss Percentage
Five-year Target Date 2024	112	111	73	64	15	21	13.39 %	18.52 %
Ten-year Target Date 2029	107	111	70	64	13	21	12.15 %	18.52 %

Best Management Practice	Implemented?	Estimated Gallons Saved	Estimated Gallons Reused	Notes
Conservation Analysis and Planning				
Conservation Coordinator	Y			Conservation Department - Director of Operations
Cost Effective Analysis	Y			Water savings from a cost effective analysis would be inherently present in the other categories when the analysis is performed
Water Survey for Single Family and Multi-family Customers	Y			Residential and Commercial Consults
Customer Characterization	Y			NAICS coding of over 42,000 ICI accounts
Financial				
Wholesale Agency Assistance Programs	N			
Water Conservation Pricing	Y			Conservation is promoted through use of an Inverted Block Rate Structure
System Operations				
Metering New Connections and Retrofitting Existing Connections	Y			All customer classes are metered and old/broken meters are replaced
System Water Audit and Loss Control	Y			We conduct a water loss audit annually as required by TWDB
Landscaping				
Landscape Irrigation Conservation and Incentives	Y			We attributed savings under other BMPs
Athletic Fields Conservation	Y			Ordinance for athletic fields to apply for variances. Some athletic fields utilize reuse water.
Golf Course Conservation	Y			Ordinance for golf courses to apply for variances. All municipal golf courses utilize reuse water.
Park Conservation	Y			Many parks are part of the large property irrigation checkup, so savings are attributed under the Conservation Programs for ICI Accounts
Residential Landscape Irrigation Evaluation	Y	31,259,592		Residential irrigation consultations
Outdoor Watering Schedule	Y			Watering never allowed 11am-7pm in our service area
Education and Public Awareness				
School Education	Y			No savings attributed to this practice, education department presents to schools throughout the community, year-round
Public Information	Y			No savings attributed to this practice, Conservation staff presented to 2,391 attendees at staff presentations
Public Outreach and Education	Y			
Partnerships with Nonprofit Organizations	Y			No savings attributed to this practice, Reached 206,485 through partnerships
Rebate, Retrofit, and Incentive Programs				
Conservation Programs for ICI Accounts	Y	2,161,296		Combination of commercial irrigation design rebates and commercial consults
Residential Clothes Washer Incentive Program	Y			Washright programs concluded in 2012. 25,000-30,000 washing machines were replaced through SAWS efforts
Water Wise Landscape Design and Conversion Programs	Y	7,232,040		Combination of Landscape and Patioscape coupons, residential irrigation design rebates
Showerhead, Aerator, and Toilet Flapper Retrofit	Y			Showerhead and Aerator distribution programs ended in 2018
Residential Toilet Replacement Programs	Y			Toilet programs have concluded in 2014. 250,000-300,000 toilets were distributed through SAWS Residential and Commercial Programs.
Custom Conservation Rebates	Y	2,297,468		Two custom rebates were completed in 2021, savings dependant on type and scale of project
Plumbing Assistance for Economically Disadvantaged Customers	Y	12,625,140		Plumbers to People and Conservation Makeover programs to assist low income customers with plumbing repair
Conservation Technology & Reuse				
New Construction Graywater	Y			Commercial sites are required to be plumbed for future use
Rainwater Harvesting and Condensate Reuse	Y			Currently offering rebates on rain barrels, although we do not attribute savings to this practice
Water Reuse BMP Categories				
Reuse for On-Site Irrigation	Y		1,087,947,278	Approximately 27% of reuse water used for landscape irrigation
Reuse for Plant Washdown	Y			
Reuse for Chlorination/Dechlorination	N			
Reuse for Industry	Y		926,769,904	Approximately 23% of reuse water used for industrial purposes, remaining 50% of reuse water for other purposes
Reuse for Agriculture	Y			
Regulatory and Enforcement				
Prohibition on Wasting Water	Y	25,200		Savings from 1 WaterWaste Citations, additionally, there were 2,224 warnings (no savings estimated from warnings)
Conservation Ordinance Planning and Development	Y	818,698,800		Savings attributed to Annual Large Property Irrigation Check-Ups
Enforcement of Irrigation Standards	Y			San Antonio enforces irrigation standards including requiring permits for irrigation systems but does not attribute savings directly to this practice
Retail				
OTHER (sum of entries shown below)	Y	270,895,947		
WaterSmart Home Reports Program	Y	253,067,835		Savings based on results of random control trial pilot program, aggregate of print and email water report savings
Flow Sensor Rebate Program	Y	15,428,976		Savings based on random control trial pilot program
Smart Irrigation Controller Program	Y	1,499,136		Savings from the random control trial pilot program
Pool Filters	Y	900,000		
Total		1,145,195,483	2,014,717,182	

Name	Number of Times this Year	Total Population Reached this Year	Notes
Brochures Distributed	418	206,485	Brochures are distributed at community events, exhibits, presentations, and more
Messages Provided on Utility Bills	12	6,550,800	Conservation note in all bill inserts, population based on number of connections over 12 months
Press Releases	28	5,000,000	Local distribution of press releases, some are picked up regionally and nationally, difficult to quantify the reach. 28 press releases sent to contacts that share the information, reaching entirety of population multiple times. Estimate of 5 million reach is conservative.
TV Public Service Announcements	166		No estimate of reach of public service announcements
Radio Public Service Announcements	493	2,684,000	Messages aired on Texas Public Radio (KSTX-FM and KPAC-FM), Population reached is the total web impressions for the year
Educational School Programs	60	3,365	
Displays, Exhibits, and Presentations	344	197,684	
Community Events	74	8,781	
Social Media campaign - Facebook	332	1,655,000	
Social Media campaign - Twitter	990	6,252,400	
Social Media campaign - Instagram	75	157,600	
Social Media campaign - YouTube	47	205,213	
Facility Tours	81	4,224	
OTHER (sum of entries shown below)	121	2,462,961	
Social Media campaign - NextDoor	69	660,039	
GardenStyle weekly gardening newsletter	52	1,194,736	Newsletter is sent weekly to subscribers (average of 23,426 subscribers/week, max of 30,268)
GardenStyleSA.com + Plant Database	-	591,000	591,000 users, 748,000 site visits, 1:30 average time onsite
Conservation Call Center	-	17,186	Average call is handled within 4:09
TOTAL	3,241	26,048,552	