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Conservation

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QUICK FACTS

This is the first state water plan in which planning groups were required to set a per capita water use goal for municipal water users. About half of the planning groups selected 140 gallons per capita per day, a goal first established by the state's Water Conservation Implementation Task Force report to the legislature (WCITF, 2004).

About 977,000 acre-feet in municipal conservation strategies is recommended in 2070, of which 320,000 acre-feet is associated with water loss reduction activities at a capital cost of approximately \$3.8 billion.

Although measuring and tracking conservation implementation can be challenging, statewide average municipal per capita use has generally declined over the past decades, partly due to conservation implementation funded through multiple state financing programs.

Conservation will continue to play an essential role in meeting the future water demands of Texas' rapidly growing population. Significant strides in both indoor and outdoor water use efficiency have been made over the past decade. Within the regional and state water planning process, those strides are reflected in water conservation measures that include practices, techniques, programs, and technologies that will protect water resources; reduce water consumption, loss, or waste; or improve the efficiency of water use.

Conservation is one of the measures water user groups can choose to help address their water needs. As a result, conservation is a water management strategy that can make a water supply available for future or alternative uses,¹¹ without restricting desired economic or other activities.

¹¹ Texas Water Code Section 11.002 generally defines conservation as the development of water resources. For regional planning purposes, water conservation measures do not include reservoirs, aquifer storage and recovery, or other types of projects that develop new water supplies. Additionally, for planning purposes, water reuse is considered a unique strategy type separate from conservation.

This new chapter of the state water plan aggregates conservation information similarly to that of the regional water plans, which are required to provide conservation information in Chapter 5 of each of the plans. More detail may be found in each regional water plan, including consolidated conservation-related recommendations and model water conservation plans.

8.1 Agency program and legislated conservation initiatives

Various TWDB conservation programs provided information used to develop the regional water plans. Water conservation activities and water loss information provided to the regions included data from the agency's collection of water conservation plans (approximately 650 are submitted every five years); conservation plan annual implementation reports (approximately 650 are submitted annually); and water loss audits (approximately 4,000 utilities submit every five years and 750 submit annually).¹² Information from the

¹² www.twdb.texas.gov/conservation/municipal/index.asp

conservation plan annual reports and water loss audits is also posted on the TWDB website.¹³

In addition, the TWDB has undertaken numerous legislatively directed initiatives over this recent planning cycle. These include developing a statewide water conservation quantification project, creating a municipal water conservation planning tool, and the continued issuing of grant funds to support agricultural water conservation programs. The background of these initiatives is summarized below. These initiatives and the tools and other resources that they have produced, as well as an ongoing water loss audit validation study anticipated to be completed in 2021, will support the development of the next regional and state water plans.

House Bill 3605 of the 83rd Legislative Session was implemented during this planning cycle. It requires all retail public utilities to use a portion of the financial assistance they receive from the TWDB to address water loss if it is above a utility-specific threshold. Data collected will be provided to planning groups for consideration in the development of their 2026 regional water plans.

To address the requirements of state budget Rider 26 from the 84th Legislative Session, the TWDB contracted a statewide water conservation quantification study¹⁴ (Averitt, 2017). The study collected water conservation activity information from 170 water utilities across the state and estimated the water and water loss reduction savings from the various programs. Those estimates were then compared to the projected conservation savings from each utility's recommended conservation water management strategies in the 2017 State Water Plan. The study's estimated collective savings to date were projected to exceed the collective 2020 water conservation strategy supply

volumes but fall short of the 2030–2070 strategy supply volumes reported in the 2017 State Water Plan. The TWDB provided these findings to planning groups for their consideration in developing conservation strategies for the 2021 regional water plans. Many planning groups acknowledged the difficulty of quantifying conservation savings with the results of this study. At least one planning group utilized the information to estimate demand reduction since 2011, the base year of the municipal water demands, and refine the costs of demand reduction.

To fulfill the requirements under Rider 24 of the 85th Legislative Session, the TWDB contracted for the development of a municipal water conservation planning tool,¹⁵ which built upon the previous water conservation quantification study results. The planning tool was primarily developed to assist water utilities with their own water conservation planning and reporting, though planning groups were given the option to use the tool to estimate the volumes of recommended conservation water management strategies in their plans. This tool provides an accounting framework for estimating future conservation program costs and water savings as well as estimating the water savings from implementing previous conservation measures.

House Bill 1648 from the 85th Legislative Session requires certain retail public water utilities to designate a water conservation coordinator to implement conservation plans, a named position that must be included in the conservation plan annual report for each utility. House Bill 3339 from the 86th Legislative Session consolidates all water conservation plan requirements for financial applicants to the TWDB and requires the TWDB to provide educational and technical assistance to develop such plans.

¹³ www.twdb.texas.gov/conservation/municipal/waterloss/historical-annual-report.asp

¹⁴ www.twdb.texas.gov/conservation/doc/StatewideWaterConservationQuantificationProject.pdf

¹⁵ www.twdb.texas.gov/conservation/municipal/plans/doc/TWDB_MWCPT_v1.xlsm

House Bill 1573 from the 85th Legislative Session requires individuals submitting a water loss audit to have received TWDB training regarding these audits, and the agency provides this training online or through in-person workshops. This initiative contributes to improving the quality of water loss data reported and considered in developing the state water plan.

The TWDB has also contracted for a water loss audit validation study to be completed by summer 2021. This study will meet the requirements of Rider 22 from the 86th Legislative Session by furthering water conservation through quantification and measurement. The project is intended to provide insight into certain aspects of conducting water loss audit validations in Texas. The study will validate water loss data for at least 10 volunteer utilities of various sizes across the state. Improved data will allow the utilities to make better decisions regarding improving the efficiency of their systems and will assist regional planning groups in identifying those entities that might benefit most from water management strategies, such as water loss mitigation through meter testing and replacement, rapid leak repair, and pipe replacement.

The TWDB's Agricultural Water Conservation Grants Program offers grants to state agencies, political subdivisions, and universities to demonstrate agricultural water conservation best management practices and support the implementation of agricultural irrigation conservation strategies in alignment with the state water plan. Each year, applications are solicited to address topics related to agricultural water conservation. Some examples of previously awarded grants include technical assistance, demonstration projects, technology transfer, equipment cost share, and research and education. The TWDB also provides low-interest, fixed-rate loans to political subdivisions that are used to pass through funds to individual producers, enabling them to upgrade irrigation equipment and improve irrigation efficiency. Through Fiscal Year 2020, the TWDB has

awarded approximately \$113.1 million from these programs. In 2020 alone, the TWDB awarded nearly \$1.2 million in grants to five recipients and a \$725,000 loan to one recipient for their projects.

8.2 Conservation's role in the state water planning process

Every five years, the TWDB develops water demand projections for the regional planning groups' review and use in their regional plans (Chapter 4). The municipal water demands incorporate anticipated water savings (passive conservation savings) from federal and state water-efficiency standards for plumbing fixtures and appliances, because these passive water savings won't require any additional action on the part of water utilities to realize the savings. Importantly, the per capita per day water use in these municipal projections *already reflect previous and often significant conservation savings already achieved*. That includes, for example, benefits from conservation best management practices that water providers may have been following for years. Past conservation achievements necessarily limit the future capacity for achieving additional conservation, especially in areas with limited growth.¹⁶

Under efficiency standards in place at the time of this plan's development, the additional combined savings of water-efficient showerheads, toilets, clothes washers, and dishwashers are anticipated to reduce the future municipal water demands of the state by approximately 5.4 percent in 2020 and 9.5 percent in 2070 (Chapter 4). Passive saving volumes and recommended municipal conservation strategies will together amount to about 517,000 acre-feet of water in 2020 and approximately 1.9 million acre-feet in 2070 (Table 8-1).

Once water supply needs are identified, each planning group is required to first consider water

¹⁶ This tendency for past conservation to increase the difficulty and cost of additional future conservation is called "demand hardening."

Table 8-1. Anticipated (passive and strategy) municipal conservation water volumes in 2020 and 2070 (acre-feet)

		2020	2070
Projections	Passive water savings by fixtures/appliances		
	Showerheads	40,000	175,000
	Clothes washers	134,000	284,000
	Toilets	75,000	334,000
	Dishwashers	48,000	96,000
	Subtotal	297,000	889,000
Strategies	Subtotal recommended municipal conservation strategy supplies	220,000	977,000
	Total	517,000	1,866,000

conservation strategies to address those needs. As planning groups identify and evaluate water management strategies, they must also consider utility water conservation plans and data from water loss audits submitted by water providers in the region. If a planning group determines that recommending a conservation strategy for an identified water need is not feasible, it must document the reason in its plan.

Each plan must also include region-specific model water conservation plans as a resource for entities to reference when developing their own water conservation plans. In doing so, planning groups have generally chosen to reference the Texas Commission on Environmental Quality’s requirements for compulsory conservation plans from certain entities every five years. These include such factors as a utility profile that describes the entity, water system, and water use data; quantified 5-year and 10-year water savings goals; and documentation of coordination with the regional water planning group.

For water users dependent upon water management strategies involving interbasin transfers, planning groups are required to include the highest practicable level of water conservation for those entities. To help each planning group evaluate whether they are meeting those associated conservation expectations, the TWDB uses

the state water planning database to provide summaries of each region’s conservation strategy savings associated with water users who depend on interbasin transfers.

8.3 Establishing regional conservation goals

New to this round of planning was a requirement from House Bill 807, 86th Legislative Session, that directs planning groups to set one or more specific goals for municipal water use in gallons per capita per day in each decade of the period covered by the plan. These goals are not necessarily the same as goals set by utilities as part of their water conservation plans, which are often based on multi-year averages and use total gallons per capita per day. Some, but not all, planning groups set per capita goals specifically intended as goals for dry-year use, which is consistent with the underlying benchmark of the regional and state water plans, and generally correspond to higher per capita water use rates than the goals shown in water conservation plans.

Approximately half of the planning groups set a per capita water use goal of 140 gallons per capita per day for municipal water users, a goal largely informed by a similar goal for average conditions that was in the state’s Water Conservation

Implementation Task Force report to the legislature (WCITF, 2004). The Task Force defined gallons per capita per day as the total amount of water diverted and/or pumped for potable use, including industrial use, divided by total population. Additionally, indirect reuse diversion volumes were to be credited against total diversion volumes for the purpose of calculating gallons per capita per day for targets and goals. There are various methodologies for calculating gallons per capita per day as discussed below. Planning group goals were generally established considering dry-year projected demands and potential future savings from recommended conservation strategies. Other regions determined individual goals for municipal water users based on calculating the expected per capita use after incorporating anticipated efficiency savings and recommended conservation strategy savings. One region used a combination of both methods for setting their municipal water use goals.

The TWDB provided historical water use estimates and other reported information from conservation annual reports to support planning groups' establishment of goals. A gallons per capita per day figure is calculated for each utility water user as part of the state's water planning process and in the annual conservation reports. These methodologies are documented¹⁷ in the *Guidance and Methodology for Reporting on Water Conservation and Water Use* (TWDB and others, 2012) and are summarized below. Specific water use goals can be found in Chapter 5 or the associated appendix of each regional water plan.

Regional water planning gallons per capita per day – The value reported in the regional water planning process. It is the total volume of water intake minus wholesale volumes to other municipal water users and large industrial facilities and retail volumes to large industrial facilities divided by 365 and then divided by the permanent population of the municipal water user.

¹⁷ www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/GPCD_definitions_051120.pdf

Total gallons per capita per day – The value reported in the conservation plans and annual reports. It is the total system input volume of water treated for potable use minus wholesale volumes to other water systems divided by 365 and then divided by the permanent population of the water system. Retail volumes sold to large industrial facilities are included in total gallons per capita per day.

Residential gallons per capita per day – The value reported in the conservation annual reports.¹⁸ Residential gallons per capita per day is calculated as the volume of water metered to single-family and multi-family connections, divided by the total residential population served, divided by 365. Residential water use is collected through the annual Water Use Survey.

8.4 Conservation water management strategies and projects

The types of recommended conservation water management strategies vary between the 16 regions but were generally based on an analysis of a variety of best management practices for various types of water users. These practices either reduce everyday water consumption or increase water use efficiency, allowing more to be done with the same amount of water and resulting in additional available water supplies. Conservation requires a continuous effort, occurs throughout both wet and dry weather cycles, and maintains all normal economic and domestic activities. Best management practices are defined as conservation measures that are useful, proven, cost-effective, and generally accepted among conservation experts. These practices are further described in the water conservation best management practices guides developed by the state's Water Conservation Advisory Council and

¹⁸ www3.twdb.texas.gov/apps/wcreps/wcreports.aspx



Significant strides in both indoor and outdoor water use efficiency have been made over the past decade

available at www.twdb.texas.gov/conservation/BMPs/index.asp.

8.4.1 Municipal conservation

In a report to the Texas Legislature, the TWDB determined that many utilities do not describe their conservation activities in terms of formalized best management practices (TWDB, 2019). Therefore, many municipal conservation water management strategies in the state water plan are essentially a menu of potential best practices that may be implemented to achieve a specific, estimated amount of water savings. The same report to the legislature also determined that all utilities reviewed included at a minimum the following three best management practices:

- metering of all new connections and retrofit of existing connections
- system water audit and water loss control
- public information

The recommended municipal conservation strategies in this state water plan include all of these and other common best practices, as well as infrastructure-based projects that will address water loss and metering. Municipal conservation was a recommended strategy in every regional

water plan and is associated with over 1,200 municipal water user groups statewide (Table 7-4).

Municipal conservation strategies include a variety of activities, such as incentivized installation of water-efficient plumbing fixtures (for example, through rebates, and are included by 9 regions); stronger water conservation pricing structures that discourage waste (included by 11 regions); education programs (included by 13 regions); and year-round landscape irrigation restrictions that continue to allow for maintenance of healthy landscapes (included by 11 regions). Best practices for outdoor landscape watering were included in the municipal conservation strategies in 13 of the 16 regional water plans.

Regional water planning groups recommended about 218,000 acre-feet per year in municipal conservation strategies for 2020 and 977,000 acre-feet per year by 2070 (Table 8-2). These savings are in addition to the estimated volume of additional future passive conservation savings expected to occur as a result of existing plumbing codes and water-efficiency standards discussed earlier in this section (297,000 acre-feet per year in 2020 and 889,000 acre-feet per year in 2070). For municipal water user groups with identified needs, approximately 26 percent of 2020 identified needs and 25 percent of needs in 2070 are addressed by recommended water conservation strategies alone.

Municipal conservation strategies also include activities to detect, measure, and reduce water loss. Planning groups are required to present water loss audit data in Chapter 1 of their plans and to consider this data when developing their plans. Upon considering the information, eight planning groups (Regions A, C, E, F, H, I, J, and N) determined thresholds for recommending water loss audits and leak repair strategies in their plans for entities with significant water loss, and three planning groups established targets for voluntary action (Table 8-3). Regions with thresholds for water loss audit and leak repair

Table 8-2. Annual volume of all recommended conservation strategies by use category in 2020 and 2070 (acre-feet) – continued below

Category	Decade	A	B	C	D	E	F	G	H	I
Irrigation	2020	141,000	7,000	<500	0	34,000	23,000	8,000	94,000	0
Irrigation	2070	565,000	17,000	<500	0	34,000	60,000	19,000	94,000	0
Municipal	2020	5,000	<500	94,000	4,000	5,000	3,000	1,000	40,000	7,000
Municipal	2070	8,000	2,000	192,000	10,000	19,000	4,000	108,000	187,000	22,000
Mining	2020	0	1,000	6,000	0	0	5,000	1,000	0	0
Mining	2070	0	<500	10,000	0	0	1,000	3,000	0	0
Manufacturing	2020	0	0	0	<500	0	0	<500	0	0
Manufacturing	2070	0	0	0	1,000	0	0	1,000	0	0
Steam-electric	2020	0	<500	0	0	0	0	0	0	0
Steam-electric	2070	0	5,000	0	0	0	0	0	0	0
Livestock	2020	0	0	0	0	0	0	0	0	0
Livestock	2070	0	0	0	0	0	0	0	0	0
Total	2020	146,000	8,000	100,000	4,000	39,000	31,000	10,000	134,000	7,000
Total	2070	573,000	24,000	202,000	11,000	53,000	65,000	131,000	281,000	22,000

Table 8-2. Annual volume of all recommended conservation strategies by use category in 2020 and 2070 (acre-feet) – continued

Category	Decade	J	K	L	M	N	O	P	Texas ^a
Irrigation	2020	<500	51,000	0	67,000	1,000	95,000	15,000	536,000
Irrigation	2070	<500	119,000	0	118,000	3,000	153,000	15,000	1,197,000
Municipal	2020	<500	13,000	29,000	15,000	0	2,000	0	218,000
Municipal	2070	<500	82,000	167,000	155,000	19,000	1,000	1,000	977,000
Mining	2020	0	1,000	0	2,000	<500	<500	0	16,000
Mining	2070	0	2,000	0	1,000	<500	<500	0	17,000
Manufacturing	2020	0	0	0	<500	2,000	<500	0	2,000
Manufacturing	2070	0	0	0	1,000	15,000	<500	1,000	19,000
Steam-electric	2020	0	1,000	0	2,000	0	0	0	3,000
Steam-electric	2070	0	1,000	0	2,000	0	0	0	8,000
Livestock	2020	<500	0	0	0	0	0	0	<500
Livestock	2070	<500	0	0	0	0	0	0	<500
Total	2020	<500	66,000	29,000	86,000	3,000	97,000	15,000	775,000
Total	2070	<500	204,000	167,000	277,000	37,000	154,000	17,000	2,218,000

^a Statewide totals may vary between tables due to rounding.

Table 8-3. Planning-group-determined thresholds for water loss audit and leak repair strategies and targets for voluntary action

Region	Threshold for water management strategy ^a	Target for voluntary action
A	Cities: ≥15% total loss WSCs: ≥25% total loss	na
C	Urban/suburban systems: >12% total loss Rural systems: >18% total loss	na
D	na	>15% loss
E	>10% loss	>200 GPCD
F	Cities: ≥15% total loss WSCs: ≥25% total loss	na
H	>10% real loss	na
I	Less than 32 connections per mile: >18% total loss More than 32 connections per mile: >12% total loss	na
J	>10% loss	>200 GPCD
N	>15% real loss (pipeline replacement) >5% apparent loss (meter replacement)	na

^a Whereas the thresholds used to develop water management strategies by the planning groups include the use of GPCD as well as the use of water loss expressed as a percentage, the water industry does not recognize percentage as a metric or performance indicator for water loss, and the TWDB does not use percentage of water loss in its review and analysis of water loss audits. Type of water loss is specified where known.

> = greater than
 ≥ = greater than or equal to
 % = percent
 GPCD = gallons per capita per day
 na = not applicable
 WSC = water supply corporation

strategies primarily considered total water loss in their evaluations. Total water loss is the sum of real and apparent water loss.¹⁹ Region H specifically considered real water loss in its evaluation. Region N differentiated thresholds for both real and apparent water loss, recommending pipeline replacement for entities above the real water loss threshold and meter replacement for entities above the apparent water loss threshold. Planning groups that did not establish such thresholds or targets still recommended water loss reduction strategies. Replacing leaking lines and installing advanced metering infrastructure are examples of recommended projects that involve capital expenditures to specifically address water loss. About 74,000 acre-feet per year in savings associated specifically with water loss projects is recommended in 2020, and 320,000 acre-feet per year in savings is recommended in 2070. The

total capital cost associated with these projects is \$3.8 billion.

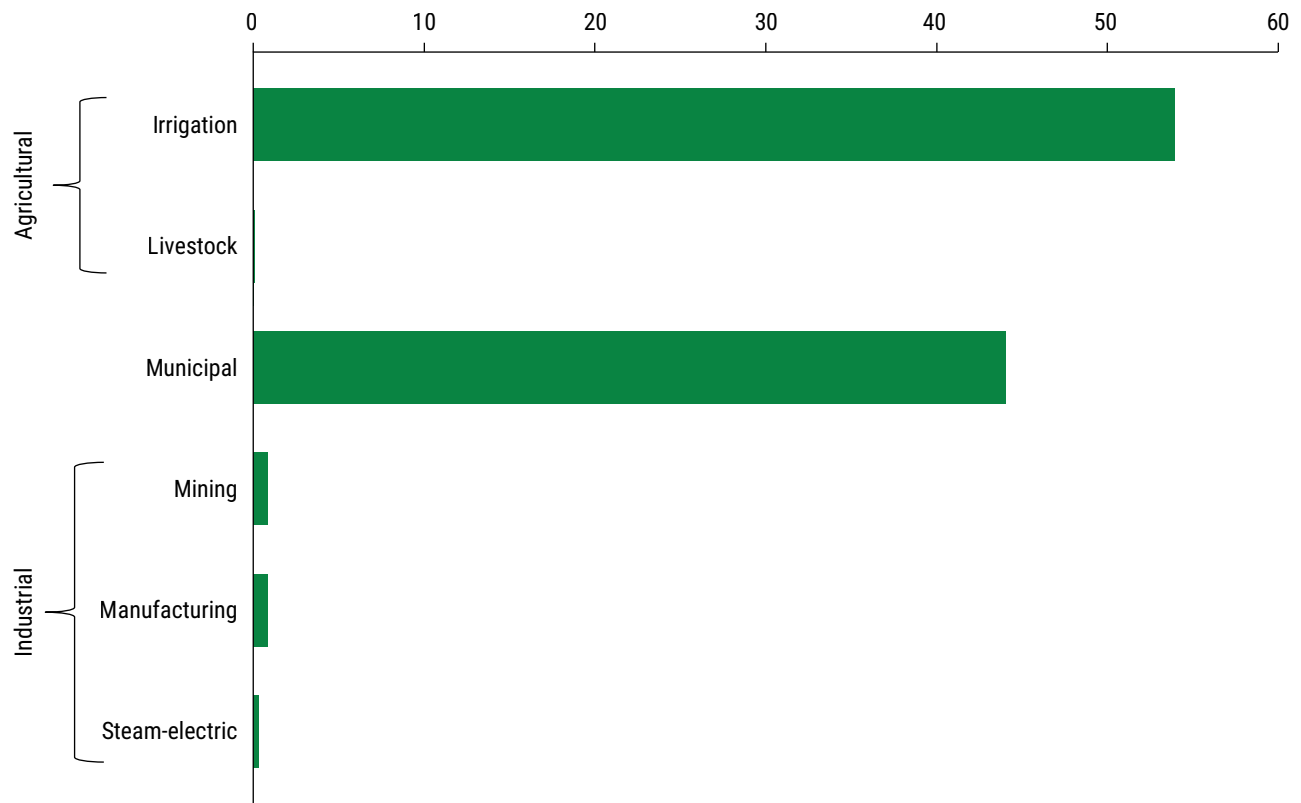
8.4.2 Agricultural conservation

Irrigation for agricultural production is the largest water demand sector in the state for most of the planning horizon and is projected to account for 40 percent of annual statewide water use in 2070. Identified water supply needs for this sector account for 44 percent of total statewide needs in 2070.

Irrigation conservation strategies include changes to irrigation methods, equipment, and crops. For example, conversion to Low Energy Precision Application systems and irrigation scheduling, as well as other activities associated with irrigation best management practices, can help producers reduce their water use. Like municipal conservation, irrigation conservation strategies tend to be an aggregate of multiple best management practices, any one of or several of which could

¹⁹ More information on the TWDB’s water loss programs can be found at www.twdb.texas.gov/conservation/municipal/index.asp

Figure 8-1. Share of statewide recommended conservation water management strategies by use sector in 2070 (percent)



be implemented to achieve the estimated water savings of the strategy. About 536,000 acre-feet per year in irrigation conservation strategies is recommended in 2020, and 1.2 million acre-feet per year is recommended in 2070 (Table 8-2).

Implementing all recommended irrigation conservation strategies will cost approximately \$1.1 billion, or slightly more than 1 percent of the total capital costs of all recommended water management strategy projects in the plan. Conservation is the primary strategy recommended to address identified irrigation needs in most regions and has an estimated statewide average implementation cost of about \$181 per acre-foot in 2070. Irrigation conservation is consistently the largest statewide relative share of recommended conservation and remains so in 2070, even as volumes of municipal needs addressed by conservation increase across the planning horizon (Figure 8-1).

In addition to irrigation water use for agricultural production, livestock water use is another water need identified within the state. However, compared to irrigation water use, livestock accounts for a less significant amount of water use throughout the state. Conservation strategies are also recommended for a small number of livestock water users in Region J, roughly less than 500 acre-feet per year in 2020 and 2070.

8.4.3 Industrial conservation

Conservation is also a recommended strategy for numerous steam-electric, manufacturing, and mining water users. Recommended conservation measures for these users, to be implemented mostly by private interests, are generally based on best management practices appropriate for each facility, which may include evaluating more efficient cooling and process water practices, water audits, or submetering. Although presented

individually in this subchapter, these sectors of use are collectively presented as *industrial conservation* elsewhere in this state water plan. In 2020, 21,000 acre-feet per year in industrial conservation strategies is recommended, and about 44,000 acre-feet per year is recommended in 2070 (Table 8-2).

Three regions (Regions B, K, and M) recommend conservation strategies for steam-electric water users. Approximately 3,000 acre-feet per year in steam-electric conservation strategies is recommended in 2020, and 8,000 acre-feet per year is recommended in 2070.

Seven regions (Regions C, D, G, M, N, O, and P) recommend conservation strategies for manufacturing water users. Region N recommends the most manufacturing conservation strategy supplies, accounting for 70 percent of statewide manufacturing conservation strategy supplies in 2020 and more than 80 percent in 2070. Total supplies from recommended manufacturing conservation strategies increase significantly over the planning horizon from about 2,000 acre-feet per year in 2020 to 19,000 acre-feet per year in 2070.

Eight regions (Regions B, C, F, G, K, M, N, and O) recommend conservation strategies for mining water users. Total mining conservation strategy supplies fluctuate slightly but are relatively stable over the planning period. Approximately 16,000 acre-feet per year in mining conservation strategies is recommended in 2020, and 17,000 acre-feet per year is recommended in 2070. More than 65 percent of the 2020 mining conservation supplies are recommended for mining water users in Regions C and F. By 2070, Region C accounts for over half of the recommended mining conservation strategy supplies.

8.5 Conservation implementation

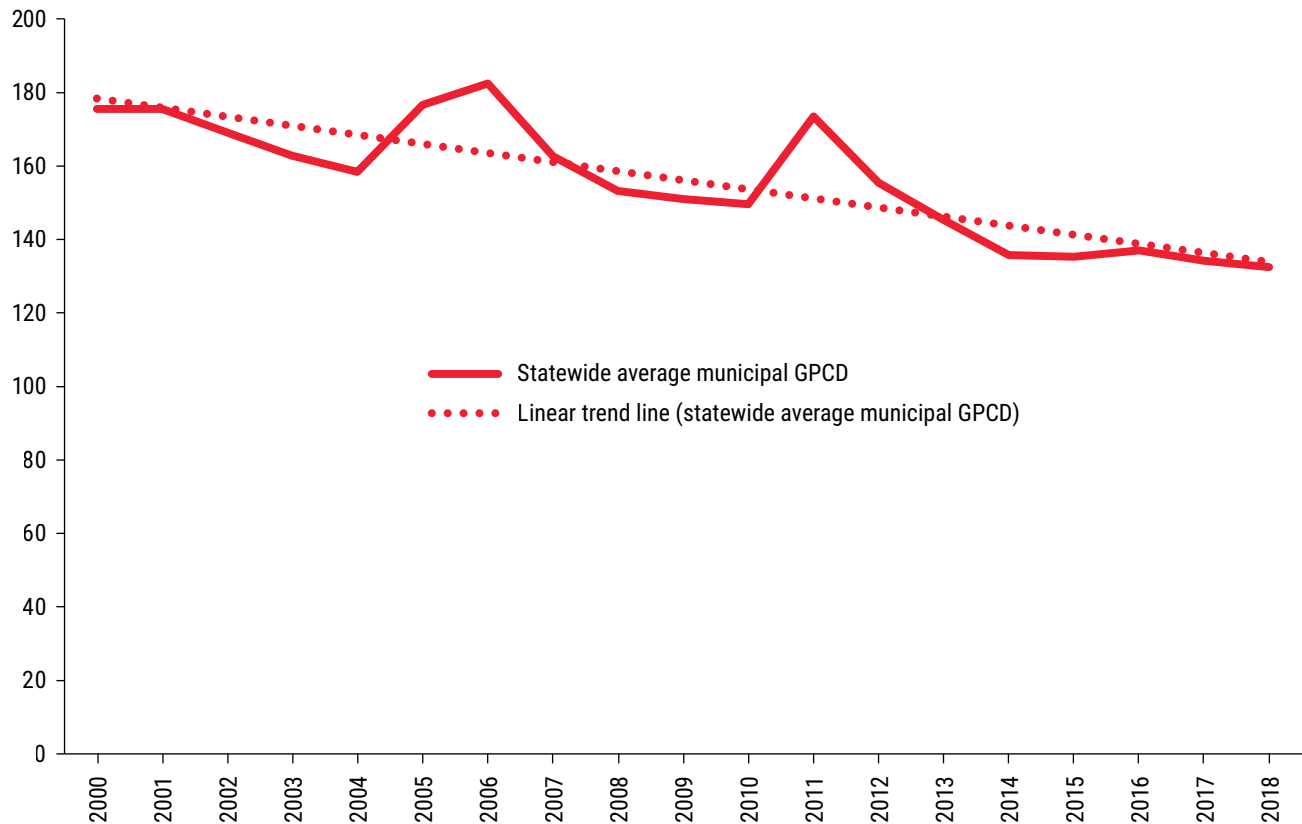
Measuring and tracking conservation implementation can be challenging due to limitations in utilities' data across water use sectors and the large number of factors that can impact water use, such as weather (BBC, 2012; WCAC, 2020; TWDB, 2021). Historical implementation of statewide municipal conservation can be observed in the generally declining trend of the statewide average municipal gallons per capita per day as reported through the TWDB's annual Water Use Survey (Figure 8-2).²⁰ The 2006 and 2011 peaks in reported use correspond to drought conditions experienced across the state.

Each regional water plan is required to report on the implementation status of all strategies that they recommended in their previous plan. Gathering the required information is generally accomplished through surveys of entities in the regional water planning area. The surveys differentiated conservation *strategies* from conservation *projects*. *Strategies* do not require infrastructure or capital costs, whereas *projects* do.

Based on survey respondents and as reported by the regional water planning groups, implementation data indicates that of the conservation *strategies* with reported information (55 percent of all recommended conservation *strategies* in the 2017 State Water Plan), 81 percent of respondents reported implementation, and 5 percent reported progress towards implementation. Of the conservation *projects* with reported information (56 percent of all recommended conservation *projects* in the 2017 State Water Plan), 61 percent of respondents reported implementation, and 24 percent reported progress toward implementation.

The TWDB financial programs have supported implementation of certain conservation projects

²⁰ www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/index.asp

Figure 8-2. Historical statewide average municipal gallons per capita per day (2000–2018)

GPCD = gallons per capita per day

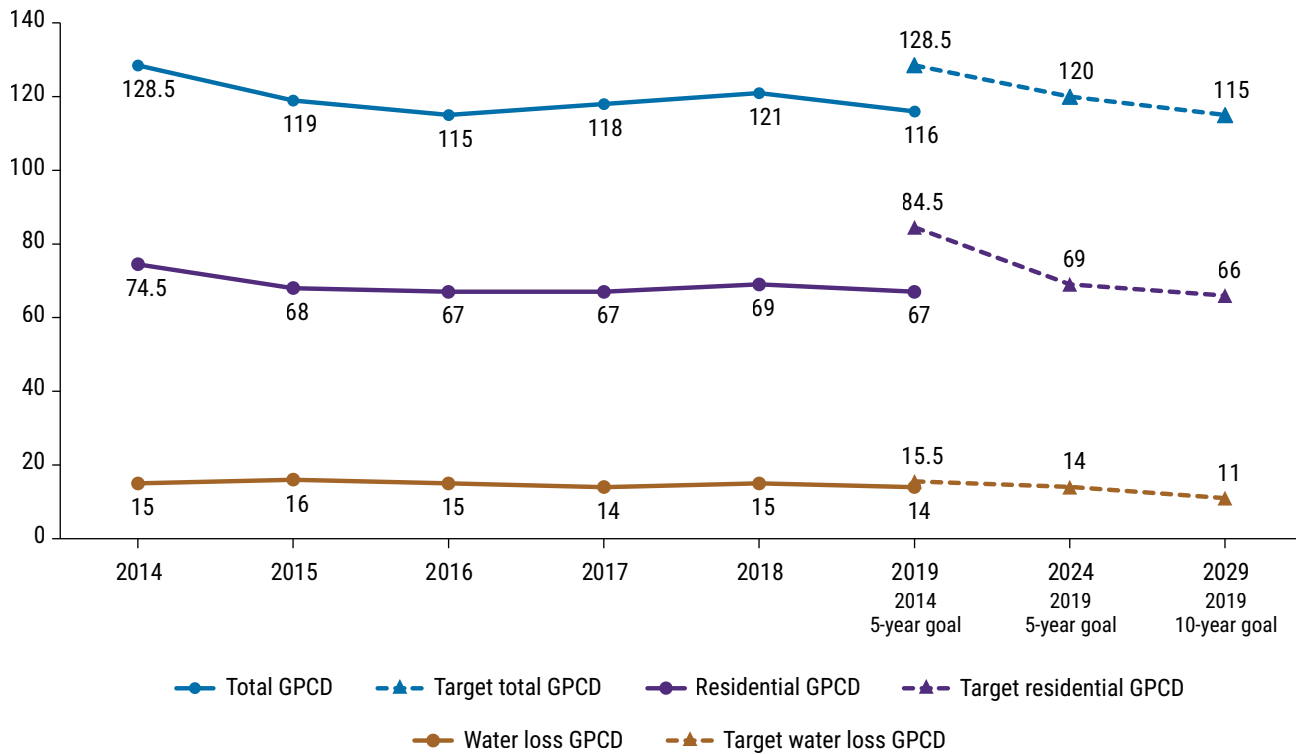
statewide, whether recommended in the state water plan or not. Additionally, since the passage of House Bill 3605 in 2013, all retail water utilities applying for financial assistance for a water supply project from the TWDB must be below water loss thresholds established by the agency, thus encouraging conservation. If the water loss of the applicant is above the thresholds, a portion of the financial assistance project must include water loss mitigation activities. However, if the applicant has water loss above the threshold and is addressing that water loss independently of the project that it is seeking to fund, the utility can apply for a waiver from the TWDB.

Ultimately, each utility is best suited to track its own progress on implementing its programs. However, data that is reported to the TWDB for water conservation plans and annual reports provides insight into the implementation of these

conservation programs across the state. Data collected through annual conservation reports indicates an overall reduction in water use (Figure 8-3). Utilities are required to establish 5- and 10-year goals for total water use, residential water use, and water loss, expressed in gallons per capita per day in their water conservation plans.

Implementing irrigation conservation strategies is the focus of the Agricultural Water Conservation grant and loan program. Collectively, grant recipients reported more than 537,000 acre-feet of water savings over the past 10 years. Over the same 10-year period, the Agricultural Loans Program saved an estimated additional 85,000 acre-feet. The loans program generally funds large-scale equipment cost-share lending programs that encourage producers to implement more efficient irrigation systems and technologies, such as center-pivot irrigation devices.

Figure 8-3. Statewide historical median gallons per capita per day (GPCD) and 5- and 10-year goals for total water use, residential water use, and water loss



8.6 Conservation policy recommendations from the regional water planning groups

Each regional water plan contains policy recommendations developed by the planning groups for consideration by the legislature and various state agencies, including the TWDB. Every planning group included at least one policy recommendation related to either conservation planning, gallons per capita per day goals and calculations, project funding, program support, or data collection. Five planning groups recommended continued support of the state’s Water Conservation Advisory Council and its recommendations. Several planning groups recommended funding additional data collection to support the understanding of conservation implementation in various sectors of water use and to better inform the development of future conservation measures and recommended strategies. A majority of the

planning groups recommended that the legislature continue funding conservation initiatives and project development through the TWDB and other state agencies, including infrastructure projects, educational programs, and demonstration projects.

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Spray irrigator in a grapefruit orchard in Hidalgo County, Texas

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