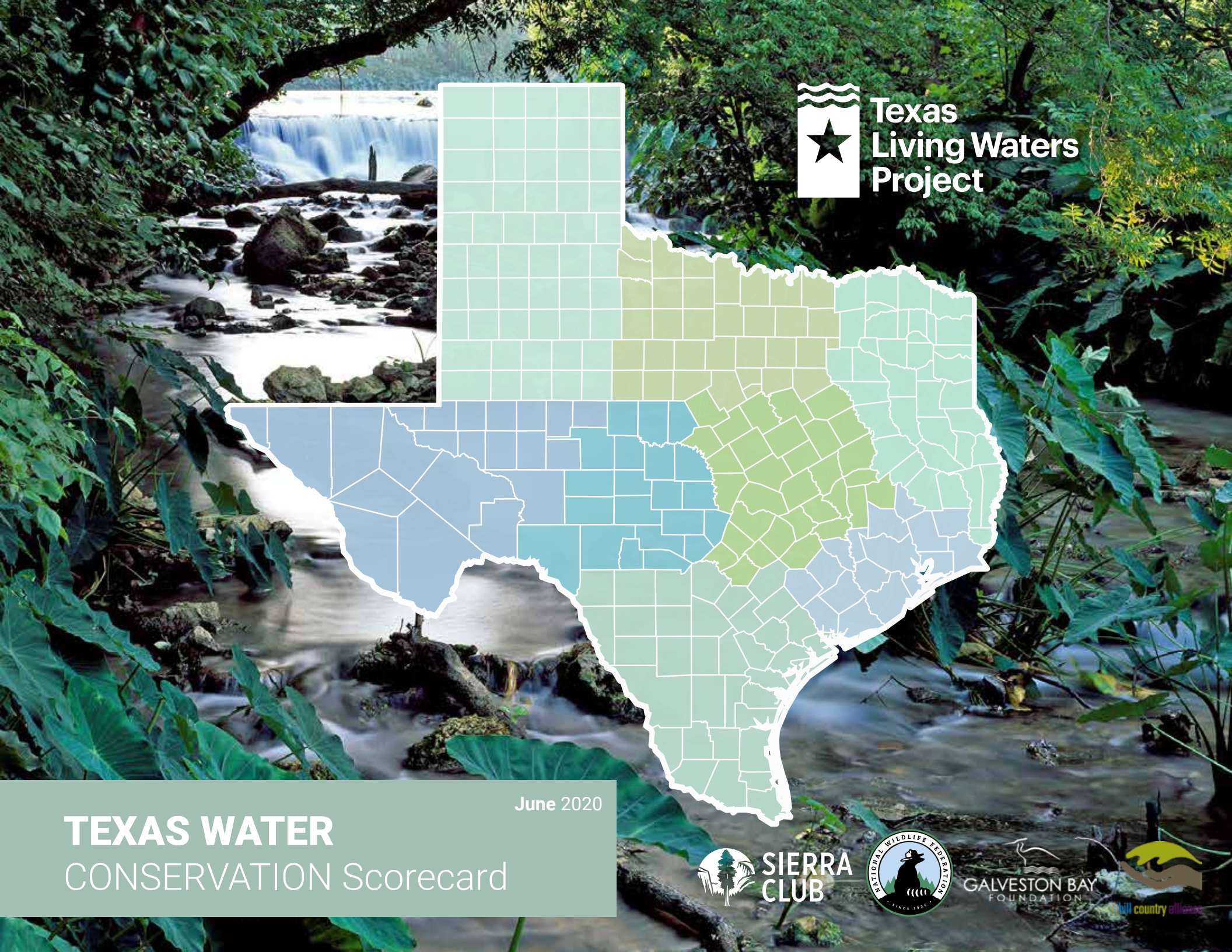

June 2020

TEXAS WATER
CONSERVATION Scorecard

SIERRA CLUB

NATIONAL WILDLIFE FEDERATION

GALVESTON BAY FOUNDATION

hill country alliance

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The Texas Living Waters Project would like to extend special recognition and appreciation to the water utility professionals throughout Texas who toil every day to provide clean and affordable water to everyone dependent upon public water systems for this critical resource. This publication is dedicated to them in the hopes that it will help them advance their water conservation work for the benefit of all of us.

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The Texas Living Waters project is a partnership of the National Wildlife Federation, Sierra Club-Lone Star Chapter, Galveston Bay Foundation, and Hill Country Alliance. The Texas Living Waters Project works to ensure that Texas has the water it needs for thriving communities and abundant fish and wildlife now and into the future.

You can learn more about the Texas Living Water Project at www.texaslivingwaters.org.

Executive Summary

The Texas Water Conservation Scorecard is a review and assessment of over 300 water utilities in Texas on their water conservation activities. Each utility's special circumstances may affect its rating. No evaluation system is perfect, but this Scorecard does at least highlight to Texans where their water utilities are doing well and where more conservation effort is needed.

To determine scores, the Scorecard relies on publicly accessible information from water conservation plans and reports, water loss audits, utility websites, and other such sources. A significant portion of a utility's rating in the Scorecard depended upon information provided by that utility. If a utility failed to submit data to State water officials or if the information was incomplete, a utility may not have received points on one or more of our evaluation measures.

Since the release of the original Scorecard in 2016, Texas public water utilities as a whole have not shown significant improvement in their comprehensive municipal conservation efforts, although there has been progress on some criteria, and some individual utilities have demonstrated greater levels of effort on water conservation. In the 2020 Scorecard, the average score for small utilities (29.5 out of a possible 50 points) is actually 0.3 points lower than in the 2016 Scorecard. For medium and large utilities, their average score in the 2020 Scorecard (56.1 out of a possible 100 points) is only 0.3 points higher than the comparable score in the 2016 Scorecard.

A caveat to the finding of no significant improvement in municipal conservation efforts overall is that, due to increases in population in certain areas, 54 additional water utilities were reviewed for the 2020 Scorecard because they have reached the threshold for inclusion at this time, but had not for the review in the 2016 Scorecard. In other words, comparisons between the 2016 and 2020 Scorecards and the individual metrics in those two Scorecards are not always "apples to apples" comparisons. If the 2020 Scorecard review team had only evaluated the water utilities previously included in the 2016 Scorecard, the comparisons would have been "apples to apples," and the results might (or might not) have shown more improvement in the overall scores for that group of utilities.

Despite 54 water utilities being evaluated for the first time, over 300 utilities were reviewed for both the 2016 and 2020 Scorecards, and some of the water utilities evaluated in both Scorecards did improve their level of water conservation effort and thus their scores.

Moreover, a closer look at individual metrics used to calculate these scores does reveal some meaningful progress on some of the evaluation criteria from what was reported in the 2016 Scorecard.

- The submittal rate of statutorily-required Water Loss Audits increased from 86 percent to 99 percent.
- The number of large and medium-size utilities reporting that they had achieved per capita water use of 140 gallons per day or less more than doubled (from 24 utilities to 59 utilities).
- The percentage of large and medium-size utilities embracing limitations on outdoor landscape watering other than during drought periods increased (from about a third to over 40%)

One area that remains a major challenge for Texas public water utilities is reducing system-wide water loss. Comparing data from the Water Loss Audits available for the 2016 Scorecard to the most recent Audit results available for the 2020 Scorecard, total reported water loss increased almost 3 percent on average for all utilities. Indeed, the rate of water loss in municipal water systems across the state remains alarmingly high.

Overall, most of the water utilities evaluated for the Scorecard could substantially increase their water conservation efforts. Even those utilities scoring highest could do more to help Texans save water. Utilities have many options to control water loss and to reduce municipal water use, especially outdoor water use, that they are not pursuing. Utilities could take advantage of these options, as well as new opportunities to finance water conservation, and save water and money for current and future Texans. In addition, the State of Texas through the Texas Water Development Board and other entities could do more to support utilities in this endeavor and to hold them accountable for meeting legal requirements for water conservation planning and reporting.

The team compiling this 2020 Scorecard recommends a number of actions for both the water utilities and the State of Texas to advance water conservation in the state. Experts forecast a high likelihood of more frequent and more extensive dry periods for Texas in the coming decades. Water utilities can play a critical role in creating a water conservation ethic that will help Texans sustain our economy and our environment over the long term and aid us in enduring those dry periods more easily.

Successive State Water Plans over the past two decades have increasingly emphasized the importance of conservation in meeting the water demands of a growing population. Many experts believe that Texas has the potential to achieve even greater levels of conservation than recommended in the most recent State Plan. No matter what the ultimate potential may be, our Texas Water Conservation Scorecard shows that all water utilities in Texas can and should do more to achieve greater water efficiency – and save us water and money at the same time.

Introduction

The State of Texas continues to receive high marks and recognition for its laws and policies on water conservation. In fact, Texas was only one of two states to receive an "A" grade from the Alliance for Water Efficiency (AWE) and Environmental Law Institute (ELI) in their report "The Water Efficiency and Conservation State Scorecard: An Assessment of Laws," updated in 2017. The report assessed all 50 states based on their adopted statutes, regulations, and practices to promote the efficient use of water, and this assessment recognized the progress Texas has made at the state level in enacting laws and policies to encourage water conservation.

These state laws and policies on water conservation are intended to influence water suppliers to make their best efforts to reduce per capita water use and therefore save water and money for today's Texans and future generations. But, as we first asked in 2016, are they? Are the cities and water districts that provide water to our homes and businesses meeting the requirements set by the State of Texas for conservation planning and reporting and for water loss auditing? If so, are they only meeting the letter of the law in a minimal way, or are they embracing the spirit of the law and advancing water conservation? Are these "municipal" water suppliers employing the "best management practices" (BMPs) for water conservation identified in the State's BMP Guide? Are they following the guidelines for reducing water use recommended by the State?

These are the questions we sought to answer with the Texas Water Conservation Scorecard in 2016 and that we return to in 2020. Who are we? We are the Texas Living Waters Project – a joint water policy and education project of the Lone Star Chapter of the Sierra Club, the National Wildlife Federation, and regional partners Galveston Bay Foundation and Hill Country Alliance. Promoting and achieving water conservation in Texas has been a priority for the Project during the nearly two decades since it was initiated. Water costs money, and will only cost more in the future - by saving it we keep money in the pockets of Texas homeowners and businesses. Saving water also means taking less water out of our rivers, streams, and groundwater aquifers, thus protecting our Texas natural heritage and the quality of life we Texans enjoy and hope to preserve for our children and grandchildren.

In the 2016 Scorecard, we found that: “Over half of the large and medium-size retail public water utilities in Texas and almost 2/3 of the small utilities would need to substantially increase their water conservation efforts in order to approach the potential that conservation provides to meet the municipal water needs of the state.” In this updated Scorecard, we have again reviewed over 300 retail public water utilities in Texas to assess how much their respective level of effort to save our water has improved - if at all.

This Scorecard – and the scale of its review of retail water utilities - continues to be the only one of its kind in Texas and to the best of our knowledge, in any State. Developing this Scorecard is a challenge due to the number and diversity of the water utilities evaluated and the limitations of the data available for that evaluation. Nevertheless, the Scorecard provides important information for Texans about how their local water utility is or is not taking the steps necessary to conserve our most precious resource – water. We hope that Texans will use that information to dialogue with their water providers about the best ways to advance water conservation in their community.

Background

The original Texas Water Conservation Scorecard published in 2016 by the Texas Living Waters Project was an in-depth analysis and ranking of water conservation efforts of more than 300 water utilities in Texas. Since the release of the 2016 Scorecard, Project partners have made interim updates to that Scorecard online using annual reporting required by the State.

In 2019, most Texas water utilities with 3,300 connections or more submitted to the State of Texas their revised 5-year Water Conservation Plans, as required by state law. That milestone and the additional information the revised plans provided prompted the Living Waters Project partners to do a comprehensive update of the Scorecard. This 2020 Scorecard incorporates the latest data available on the criteria used in evaluating water utilities serving a population of about 10,000 or more (the estimated population served by a water utility with 3,300 or more connections). As a result of population growth in many areas of Texas, 50 water utilities that were not evaluated in the 2016 Scorecard reached the threshold for review in the 2020 Scorecard.

A total of 356 utilities were evaluated in the 2020 Scorecard. All of these utilities have 3,300 connections or more and are thus required by the State to submit Water Loss Audits annually, revised Water Conservation Plans every five years, and Annual Reports on implementation of those Plans each year. The 356 utilities include 40 large utilities (those with a population of 100,000 or more), 92 medium-size utilities (those with a population greater than 25,000 but less than 100,000), and 224 small utilities (those with a population of at least 10,000 but less than 25,000).

We are not evaluating water utilities on their efforts in recycling or reuse of water

As was the case with the 2016 Scorecard, this update primarily focuses on the level of effort by water utilities to advance water conservation and not necessarily an assessment of how much conservation they have achieved – with two exceptions: a utility's total water loss and a look at whether they are meeting the water conservation goals they have set for themselves in their 5-year plans. Utility scores reflect a range of metrics that vary depending on the size of the utility. Large and medium-size utilities were rated on ten criteria and could receive up to 100 points total. Small utilities were evaluated on six criteria (numbers 1, 2, 3, 4, 8, and 10, below) and could receive up to 55 points total. The criteria used for evaluation are as follows:

Our Scorecard evaluates ongoing efforts by utilities to conserve water, not temporary responses to drought

1. Did the utility submit its most recent required Water Conservation Plan to the State?
2. Did the utility submit its most recent required Annual Report (on implementation of its Water Conservation Plan) to the State?
3. Did the utility submit its most recent required Water Loss Audit to the State?
4. What was the utility's most recent reported total water loss as stated in its Water Loss Audit?
5. Does the utility (or municipality within which it is housed) have a publicly accessible website on which the public may quickly find the utility's Water Conservation Plan or other conservation information?
6. Did the utility achieve the five-year goal for per capita water use reduction stated in its 2014 (or most recent previous) Water Conservation Plan?
7. If a utility has not already achieved a relatively low GPCD (gallons per capita per day of water use), what is the 5-year goal for water use reduction in its 2019 or most recent Water Conservation Plan?

8. How many of the municipal water conservation Best Management Practices (BMPs) presented in the state's BMP Guide did the utility report in its most recent Annual Report that it was using?

9. Has the utility (or the municipality under which it operates) implemented any mandatory outdoor watering schedules on an ongoing basis (not just as part of the implementation of a drought contingency plan)?

10. Does the utility's water rate structure send a strong "water conservation pricing signal" to the utility's single-family residential customers?

For each of the 40 large utilities, the 2020 Scorecard also provides a "snapshot" - additional context and detail about the utility. As with the 2016 Scorecard, this updated Scorecard recognizes water utilities making strides in conservation efforts but also discusses what additional steps utilities could take to advance water conservation. Though no evaluation system is perfect, the analysis provided here is based on a thorough aggregation and evaluation of data provided by the utilities. Stakeholders can and should therefore feel confident in their ability to incorporate recommendations provided by the Scorecard in their communities.

Scores given to water utilities are a rating that will change over time.

Limitations

As with any research project, the Scorecard and the individual scores for water utilities are limited based on available data. A significant portion of a utility's rating in the Scorecard is dependent upon information provided by that utility itself. If a utility did not submit required plans and reports to State water officials, then a utility not only failed to receive points for submitting the plans and reports but also did not receive points on the evaluation measures dependent upon the data in those plans and reports. For example, if Utility A did not submit its revised 5-year Water Conservation Plan (as required by law), then it received zero points on submittal of its Plan. However, since the 5-year Plan contains the information about whether a utility met its previous goals for reducing per capita water use as well as the utility's next 5-year goals, by not submitting the required Plan, Utility A also received zero points on meeting its goals and zero points on setting strong goals for the next five years. This situation is analogous to a teacher being unable to grade a student's report if the student fails to turn in the assigned report.

Additional limitations arise due to the timing and nature of reporting. If, for example, there are extenuating circumstances affecting a utility's ability to reduce water loss (i.e. major accident that damaged the distribution system), and this is represented in the most recent submitted Water Loss Audit Report at the time of our research, that adversely affects a utility's score on that measure in the short term. Also, for some measures, there is a lag time between submittal of certain reports and the availability of the data in those reports. This is due to the fact that the State agency receiving those reports needs time to quality assure the data and release it to the public. As a result, a water utility's score on any edition of the Water Conservation Scorecard is a rating that will change over time.

Scoring Criteria

Criteria for Scoring Water Conservation Efforts by Retail Public Water Utilities

To rate the water conservation efforts of retail public water utilities we selected several criteria based on publicly accessible data, feedback and suggestions from water utility professionals and water conservation experts, and the experiences of Texas Living Waters Project team members who have worked on water conservation issues for at least a decade and a half, and in some instances much longer. After considerable deliberation the Project team members settled on ten basic criteria for scoring the large and medium-size retail public water utilities in Texas. Large utilities are defined here as those serving a population of 100,000 or more. Medium-size utilities are defined here as those serving a population of at least 25,000 but below 100,000. Six of ten criteria were chosen to evaluate small utilities – those serving at least 3300 water connections but less than 25,000 people.

The population figures for the utilities are numbers generated by the State of Texas and used by the Texas Water Development Board (TWDB) in characterizing the size of water utilities. These numbers are publicly available information and were provided to the Living Waters Project by TWDB at our request. Note that the "Snapshots" (narratives) of the 36 large utilities may include a population number for a specific utility that is different from the population figure provided to us by TWDB if that number came from a different source such as the utility's water conservation plan or was from a different point in time.

Below are the ten criteria used to evaluate the 126 large and medium-size utilities – presented in the form of the long and short versions of the question asked to determine a utility's score on that criterion, the system used to award points to a utility for that criterion, and a brief statement about the importance of that criterion. The six of the ten criteria that were used to score the 180 small utilities are presented here in blue. There was a possible total of 100 points for a large or medium-size utility and a possible total of 55 points for a small utility in fashioning their respective scores for water conservation effort.

Note that if a utility did not submit one of the three statutorily required items (water conservation plan, annual report, or water audit report) that constitute the first three criteria in our scoring system, that utility also did not receive points on some of the other criteria that were based on information available in those documents. For example, if a utility did not submit its required Water Audit Report to TWDB then it received zero points on the criterion of water loss rate, no matter what its rate might be.

Here are the criteria used to score the retail water utilities:

1. Did the utility submit its most-recent required Water Conservation Plan (WCP) to the State? *WCP Submitted?*

- Yes 5 points
- No 0 points

The purpose of a Water Conservation Plan is to ensure water use efficiency within a water utility's operation. Submitting this plan is essential to a utility reducing the consumption of water, reducing the loss or waste of water, and improving or maintaining the efficiency in the use of water. This information is also helpful to TWDB in water resources planning.

2. Did the utility submit its most recent Annual Report (on implementation of its Water Conservation Plan) to the State? *Annual Report (AR) Submitted?*

- Yes 5 points
- No 0 points

Water Conservation Plan (WCP): The purpose of a Water Conservation Plan is to ensure water use efficiency within a water utility's operation. The Water Conservation Plan is a strategy or combination of strategies for reducing the consumption of water, reducing the loss or waste of water, improving or maintaining the efficiency in the use of water, or increasing recycling and reuse of water.

The purpose of an Annual Report is to evaluate an entity's progress in implementing programs to achieve targets and goals in the water conservation plan. Submitting this report is essential to a utility reviewing conservation programs annually and evaluating program successes and needs. This information is also helpful to TWDB in water resources planning.

3. Did the Utility submit its most-recent annual Water Audit Report to the State? *Water Audit Report (WAR) Submitted?*

- Yes 5 points
- Removed 2 points
- No 0 points

The purpose of a Water Audit Report (also known as a Water Loss Audit) is to provide utilities with a standardized approach to auditing water loss. Preparing a Water Audit Report is essential to help a utility understand where and how much water is being lost from the distribution system. Submitting a Water Audit Report to TWDB is helpful to the agency in water resources planning and decisions about State financial assistance. In some instances, TWDB will "remove" submitted Water Audit Reports for various reasons including data inconsistencies. Utilities receive partial points (2) if they submitted their Water Audit Report but it was removed.

4. What was the Utility's most recent reported total percent water loss as stated in its Water Audit Report? *Total Percent (%) Water Loss*

- % Water Loss of less than or equal to 6.65% 15 points
- % Water Loss of greater than 6.55% to 10.29% 10 points
- % Water Loss of greater than 10.29% to 13.91% 5 points
- % Water Loss greater than 13.91% 0 points

The percentage of water lost from the distribution system provides the utility with a baseline from which to monitor and improve water loss control. A higher percentage means that a utility is losing water that could be used or conserved to delay or avoid potential expensive water infrastructure projects in the future. Each Water Audit Report has a number of metrics that might be used to describe a utility's water loss. We chose to use "unadjusted total water loss," which is presented as a percentage of the utility's total water pumped, as the metric for this evaluation. This metric is the one that the public most likely will see from time to time in the news media in reports about their utility's "water loss."

"Unadjusted" water loss refers to the total water loss of a utility that is both a retail and wholesale water supplier and refers to that utility's water loss in both its retail and wholesale operations. (Another metric, "adjusted" water loss, takes out the water loss in the wholesale operation.) That means, of course, that using "unadjusted" water loss as our metric for evaluation of utilities might be criticized on the basis that most of the utilities scored here are retail providers only. However, we are concerned about the total water loss of a utility, whether that loss comes from their retail or wholesale operations, because it informs us about how well a utility is doing in solving this problem. A utility that provides retail and wholesale service must keep water loss at a minimum on both sides of its operation. Hence our choice of "unadjusted" water loss as our metric.

5. Does the Utility (or municipality in which it is housed) have a publicly accessible website on which the public may quickly find the utility's Water Conservation Plan (WCP) and/or other conservation information? *WCP and/or Conservation Info Accessible Online?*

- Yes, Water Conservation Plan (WCP) 5 points
- Yes, Water Conservation Information Only 3 points
- No 0 points

Water Conservation Plan Annual Report (Annual Report or AR): The purpose of an Annual Report is to evaluate a utility's progress of program implementation for the water conservation plan. The effectiveness of the water conservation plan is in the implementation of the water conservation program. Reviewing the program annually helps to evaluate program successes and needs.

Water Audit Report (WAR): The purpose of a Water Audit Report, also termed a Water Loss Audit, is to provide utilities with a standardized approach to auditing water loss with a reliable means to analyze their water loss performance. Completing the Water Loss Audit will help a utility understand where and how much water is being lost from the distribution system and will provide a baseline to track and improve water loss control.

The WCP is a strategy or combination of strategies for reducing the consumption of water. Communication of the WCP and/or water conservation information on a utility or city website educates the public on current programs and how residents can become more engaged in conservation practices.

6. Did the utility achieve the 5-year goal for water use reduction stated in its "2014" or its most recent previous Water Conservation Plan (WCP)? *Achieved 5-Yr Conservation Goal Set in 2014 WCP?*

- 5-year water use reduction goal exceeded — 10 points
- 5-year water use reduction goal reached — 5 points
- 5-year water use reduction goal not achieved — 0 points

Comparing a utility's 5-year water use goal set in its "2014" WCP to its actual water use in 2019 provides feedback as to the utility's ability to meet a 5-year goal to reduce water use. The term "2014" refers to the fact that the statute mandating that all retail public water utilities with 3300 connections or more file a WCP with TWDB required that the plan be submitted by May 1, 2014. Some utilities may have been required to file a WCP before 2014 if they fell under the auspices of another statute, and some utilities who were first required to file a WCP in 2014 missed that deadline and filed in a later year. The "2014" WCP as used here refers to the plan submitted to the State in the year closest to 2014.

7. The utility already achieved a relatively low GPCD (gallons per capita per day of water use)? If not, what is the 5-year goal for water use reduction in its "2019" or most recent Water Conservation Plan? *Set a Strong Conservation Goal in Its 2019 WCP?*

- Either achieved a GPCD of 125 or less OR set an average annual reduction of more than 1.25% as its 5-year goal — 15 points
- Either achieved a GPCD of less than 140 but more than 125 OR set an average annual reduction of 0.85% to 1.25% as a 5-yr goal — 10 points
- Set an average annual reduction of 0.1% to less than 0.85% — 5 points
- Set an average annual reduction of less than 0.1% — 0 points

Determining whether a utility has set a strong 5-year water use reduction goal in 2019 provides feedback as to the utility's willingness to implement conservation strategies and its commitment to a significant rate of progress in saving water. Utilities that have reduced water use substantially in past years may find it difficult to continue to decrease that use at a high rate from this point. Therefore, on this criterion we have given the maximum number of points both to utilities that have set a high percent water use reduction as their 5-year goals and to utilities that have already received a relatively moderate or low GPCD even if their next 5-year goals are not high as some others.

8. How many of the municipal water conservation Best Management Practices (BMPs) presented in the state's BMP Guide did the utility report in its most recent Annual Report that it was using? *Number of Best Management Practices (BMPs) implemented?*

- Incorporated 15+ BMPs into its WCP — 10 points
- Incorporated 12-14 BMPs into WCP — 8 points
- Incorporated 9-11 BMPs into WCP — 6 points
- Incorporated 6-8 BMPs into WCP — 4 points
- Incorporated 1-5 BMPs into WCP — 2 points
- Incorporated no BMPs into WCP — 0 points

BMPs are voluntary efficiency measures that are intended to save a quantifiable amount of water and can be implemented within a specified timeframe. Detailed information on over 20 municipal water conservation BMPs is available in the State's BMP Guide, which is accessible online at www.savetexaswater.org. The greater number of these BMPs a utility implements, the more extensive the reach of its water conservation measures, not only within the utility but throughout the area in which it is located.

Gallons per Capita per Day (GPCD): GPCD is the Net Use, divided by a Population Estimate, divided by 365 days. Net Use is defined as the volume of water taken into the system or systems of a city, minus water sales to other water systems and large industrial facilities. Definition from the Texas Water Development Board *http://www.twdb.texas.gov/index.asp*

9. Has the utility (or the municipality under which it operates) implemented any mandatory outdoor watering schedules on an ongoing basis (not just as part of the implementation of a drought contingency plan)? *Outdoor Watering Schedule?*

- Outdoor watering is limited to no more than 1x per week 15 points
- Outdoor watering is limited to no more than 2x per week 10 points
- Time of day outdoor watering schedule only 5 points
- No outdoor watering schedule on ongoing basis 0 points

TWDB has reported that outdoor water use accounts for approximately 31% of annual water use in Texas single-family homes. A significant reduction in annual and peak water use can be realized if a city or a utility implements a mandatory year-round outdoor watering schedule or permanently places a limitation on outdoor watering during certain months (for example, during summer months to reduce peak use) each year even if the area is not experiencing a drought.

10. Does the utility's water rate structure send a strong "water conservation pricing signal" to the utility's single-family residential customers? *Conservation Pricing Signal?*

- Strong - Greater than or equal to a 40% increase in the water rate per 1000 gallons charged when a customer's monthly use is 10,000 gallons rather than 5,000 gallons
  15 points
- Moderate - Greater than or equal to 25% and less than 40% increase
  10 points
- Slight - Greater than zero and less than 25% increase
  5 points
- No signal - zero increase
  0 points

A water conservation pricing signal is based on a water rate structure designed and priced so that it significantly increases a consumer's water bill when he or she uses more water. The above percentages reflect the rate increase when a customer uses 10,000 gallons versus when a customer uses 5,000 gallons. This metric was suggested by the Environmental Finance Center (EFC) at the University of North Carolina, which has done extensive research and analysis of utility water rates.

The Texas Living Waters Project Team utilized the data on water rates available from the 2019 Texas Municipal League Water and Waste Water Surveys, information which is publicly available online. According to EFC, the two water consumption points chosen to determine a conservation pricing signal represent a household that regularly irrigates its lawn (10,000 gallons a month) and one that does not (5,000 gallons a month). Research shows that the higher the marginal price from 5,000 to 10,000 gallons, the less water the average customer is likely to use. For every dollar saved, the average customer will use 41.5 fewer gallons, and for every percent saved the average use goes down by 20.8 gallons.

The water utilities in this Scorecard have been grouped according to how high their marginal price is in relation to other utilities, using these two consumption points for comparison. There are obviously other consumption points that could be used for comparison, but these are logical to use in Texas because of the impact of outdoor irrigation on water use by single families and other water customers in the state.

We note that this evaluation of a water conservation pricing signal does not necessarily mean that water is valued at its true cost in any water rate structure in Texas. This metric is based on comparison of current rate structures. Water in many Texas utilities may need to be priced at a higher rate to reflect its value, although we also note that close attention needs to be given in any water structure to make sure that low-income households are provided adequate water at an affordable price.

Best Management Practices (BMPs): BMPs are a menu of options for which entities within a water use sector can choose to implement in order to achieve benchmarks and goals through water conservation. Best management practices are voluntary efficiency measures that are intended to save a quantifiable amount of water, either directly or indirectly, and can be implemented within a specified timeframe. Definition from the Texas Water Development Board *http://www.twdb.texas.gov/conservation/BMPs/index.asp*

Conservation Pricing Signal: A rate structure designed and priced in a way that would significantly increase a customer's water bill when he or she uses more (discretionary) water and conversely offers a significant decrease in the bill when the customer conserves. Definition from The University of North Carolina Environmental Finance Center http://www.efc.sog.unc.edu/

Total Scores for Water Conservation Effort: Large and Medium-Size Retail Water Utilities

Based on the evaluation measures and scoring system used in the 2020 Scorecard each of the 132 large and medium-size retail public water utilities in Texas – all of the utilities serving a population of 25,000 or more – received a numerical score based on a possible 100 points.

The top scoring utilities in these population segments were the Cities of Hurst (84) and Austin (80).

The next highest scoring group of utilities serving 25,000 or more people were 14 utilities with scores of 70 to 78:

- Fort Worth, Lubbock - 78
- Friendswood, Dallas, Wylie - 75
- League City - 74
- Allen, Irving - 73
- Rosenberg - 72
- Arlington, Carrollton - 71
- Keller, El Paso, San Antonio - 70

The third highest scoring group of utilities serving 25,000 people or more were 34 utilities with scores of 60 to 69:

- Frisco, City of The Colony - 69
- Southlake - 68
- Agua SUD, Clear Lake City Water Authority, Goforth SUD, Rowlett - 67
- Cedar Park, Midland, Sachse - 66
- Garland, Little Elm East, New Braunfels - 65
- Burleson, College Station, Georgetown, Killeen, Lewisville, North Richland Hills - 64
- Cedar Hill, Euless, Plano, San Angelo, San Marcos, Walnut Creek SUD, Weatherford, Wichita Falls - 63
- Baytown, Conroe, Duncanville, Kyle, Mansfield - 62
- Lancaster, Pharr - 60

A number of these utilities demonstrated noteworthy progress since the 2016 Scorecard. Thirty-eight percent (13 utilities) previously had scores below 60 points but saw their scores increase by an average of 16 points in the 2020 Scorecard.

Of the remaining 132 large and medium-size utilities scored, 57 percent scored between 50 and 59 points, 27 percent scored between 40 and 49 points, 13 percent scored between 30 and 39 points, and 2 percent scored 29 points or less. Over half of the large and medium-size retail public water utilities in Texas scored below 60 out of 100 points in our evaluation.

While recognizing the wide point spread among these 82 utilities, the fact that only two of these utilities scored 80 or above and over half of them fell below a total score of 60 indicates that most of the water utilities serving 25,000 people or more could be making a stronger effort to advance water conservation.

The scores for each of the 132 large and medium-size utilities are presented on the next two pages in alphabetical order by the name of the utility:

Large and Medium Utilities

UTILITY NAME	SCORE (out of 100)
Agua SUD	67
Amarillo Municipal Water System	44
Aqua WSC	59
Bethesda WSC	37
Brownsville Public Utilities Board	55
City of Abilene	51
City of Allen	73
City of Arlington	71
City of Austin	80
City of Baytown	62
City of Beaumont	57
City of Bedford	42
City of Big Spring	39
City of Bryan	59
City of Burleson	64
City of Carrollton	71
City of Cedar Hill	63
City of Cedar Park	66
City of Cleburne	47
City of College Station	64
City of Colleyville	39
City of Conroe	62
City of Converse	57
City of Coppell	30
City of Copperas Cove	54
City of Corpus Christi	58
City of Corsicana	40
City of Deer Park	23
City of Denton	59
City of Desoto	50
City of Duncanville	62
City of Eagle Pass	47
City of Edinburg	57
City of Euless	63
City of Farmers Branch	54
City of Fort Worth	78
City of Friendswood	75
City of Frisco	69
City of Galveston	52
City of Garland	65
City of Georgetown	64
City of Grand Prairie	56
City of Grapevine	50
City of Greenville	47
City of Haltom City	38
City of Harker Heights	40
City of Houston	57
City of Huntsville	44
City of Hurst	84
City of Irving	73
City of Keller	70
City of Killeen	64
City of Kingsville	34
City of Kyle	62
City of La Porte	52
City of Lake Jackson	50
City of Lancaster	60
City of Laredo	59
City of League City	74
City of Leander	54
City of Lewisville	64
City of Longview	37
City of Lufkin	50

City of Mansfield	62
City of McKinney	54
City of Mesquite	49
City of Midland	66
City of Mission	39
City of Nacogdoches	44
City of North Richland Hills	64
City of Odessa	55
City of Paris	49
City of Pasadena	57
City of Pearland	43
City of Pflugerville	58
City of Pharr	60
City of Plano	63
City of Port Arthur	38
City of Richardson	59
City of Rockwall	54
City of Rosenberg	72
City of Round Rock	52
City of Rowlett	67
City of Sachse	66
City of San Angelo	63
City of San Juan	39

City of San Marcos	63
City of Schertz	57
City of Seguin	59
City of Sherman	47
City of Southlake	68
City of Sugar Land	54
City of Temple	51
City of Texarkana	43
City of Texas City	57
City of The Colony	69
City of Tyler	47
City of Victoria	47
City of Waco	59
City of Waxahachie	49
City of Weatherford	63
City of Weslaco	47
City of Wichita Falls	63
City of Wylie	75
Clear Lake City WA	67
Dallas County WCID 6	44
Dallas Water Utility	75
Del Rio Utilities Commission	27
El Paso Water Utilities	70

Fort Bend County WCID 2	54
Galveston County WCID 1	59
Goforth SUD	67
Green Valley SUD	49
Harlingen Water Works System	34
Horizon Regional MUD	54
Johnson County SUD	59
Lower Valley WD	44
Lubbock Public Water System	78
Lumberton MUD	54
Manville WSC	53
McAllen Public Utility	50
Montgomery County MUD 47	53
New Braunfels Utilities	65
North Alamo WSC	55
Rockett SUD	55
San Antonio Water System	70
Sharyland WSC	52
Southern Utilities	49
Town of Flower Mound	54
Town of Little Elm	65
Travis County WCID 17	53
Walnut Creek SUD	63

Total Scores for Water Conservation Effort: Small Retail Water Utilities

Each of the 224 small retail public water utilities in Texas – all of the utilities serving at least 3,300 connections but a population of less than 25,000 – received a numerical score based on a possible 55 points.

None of the 224 small utilities scored 50 points or higher.

The top scoring utilities were 9 utilities with total scores of 44 or higher. The small utility with the highest total score was the City of Katy in the Houston metropolitan area with a score of 49 points. The other 8 utilities were, in order:

- Addison, Brenham, Laguna Madre Water District - 47
- Bellaire - 46
- Clute, Harris County MUD 165, Langham Creek Utility District, Terrell - 44

The next highest scoring group in this population category were 14 utilities with scores of 39 to 42:

- Borger, Brushy Creek MUD, Cypress Hill MUD 1, Harris County MUD 368, Marshall, Richmond, Saginaw, Sulphur Springs - 42
- Universal City - 41
- Benbrook Water Authority, Fort Bend County MUD 25, Midlothian, Porter SUD, Quail Valley UD - 39

The third highest scoring group in this population category were 32 utilities with scores of 33 to 37:

- Canyon Municipal Water System, Denton County FWSD 1-A Castle Hills, El Campo, Ennis, Forney, Harris County FWSD 61, Harris County MUD 81, Harris County MUD 157, Northwest Harris County MUD 5, Pampa, Pleasanton, Port Neches, Remington MUD 1 - 37
- Burkburnett, Horseshoe Bay, Memorial Villages Water Authority, New Caney MUD, Sweetwater - 36
- Montgomery County MUD 46, Montgomery County MUD 60, Montgomery County 7 - 35
- Belton, Cash SUD, Crowley, Kerrville, Mineral Wells, Northwest Park MUD, White Settlement - 34
- Granbury, University Park, Wells Branch MUD 1, Woodway - 33

All other small utilities (nearly 75 percent of the utilities in this population category) scored 32 or less.

The scores for each of the 224 small utilities are presented on the next three pages in alphabetical order by the name of the utility:

Small Utilities

UTILITY NAME	SCORE (out of 55)
Acton MUD	26
Atascosa Rural WSC	32
Benbrook WA	39
Benton City WSC	27
Bi County WSC # 1	15
Bolivar Peninsula SUD	22
Bolivar WSC	20
Borger Municipal Water System	42
Bridgestone MUD	27
Brookesmith SUD	27
Brushy Creek MUD	42
Caddo Basin SUD	20
Canyon Municipal Water System	37
Cash SUD	34
City of Alamo	29
City of Alamo Heights	25
City of Alice	27
City of Alvin	29
City of Andrews	17
City of Angleton	29
City of Anna	25
City of Aransas Pass	27
City of Athens	32
City of Azle	26
City of Bastrop	27
City of Bay City	27
City of Beeville	12
City of Bellaire	46
City of Bellmead	27
City of Belton	34
City of Boerne	29
City of Bonham	27
City of Brenham	47
City of Bridge City	29
City of Brownfield	32
City of Brownwood	24
City of Buda	22
City of Burkburnett	36
City of Carthage	32
City of Celina	29
City of Cibolo	25
City of Clute	44
City of Corinth	27
City of Crowley	34
City of Denison	31
City of Donna	20
City of Dumas	27
City of El Campo	37
City of Elgin	20
City of Ennis	37
City of Fate	25
City of Forest Hill	29
City of Forney	37
City of Fort Stockton	17
City of Fredericksburg	31
City of Freeport	30
City of Gainesville	24
City of Galena Park	32
City of Glenn Heights	15
City of Gonzales	27
City of Graham	29
City of Granbury	33
City of Groves	29
City of Henderson	25
City of Hereford	17
City of Hewitt	26
City of Hidalgo	15
City of Highland Park	28
City of Highland Village	30
City of Hillsboro	15
City of Hondo	32
City of Horseshoe Bay	36
City of Humble	25
City of Hutto	27
City of Ingleside	30
City of Jacinto City	15
City of Jacksonville	32
City of Jasper	27
City of Jersey Village	24
City of Katy	49
City of Kenedy	22

City of Kennedale	25
City of Kerrville	34
City of Kilgore	17
City of La Marque	25
City of Lago Vista	12
City of Lamesa	24
City of Levelland	30
City of Livingston	27
City of Lockhart	27
City of Mabank	27
City of Marshall	42
City of Mercedes	30
City of Midlothian	39
City of Mineral Wells	34
City of Mount Pleasant	24
City of Murphy	26
City of Nederland	32
City of Orange	27
City of Palestine	29
City of Pampa	37
City of Pecos	32
City of Pleasanton	37
City of Port Lavaca	32
City of Port Neches	37
City of Portland	24
City of Princeton	17
City of Richmond	42
City of Rio Grande City	27

City of Robinson	24
City of Rockport	25
City of Roma	32
City of Royse City	30
City of Saginaw	42
City of San Benito	27
City of Seabrook	29
City of Seagoville	17
City of Silsbee	27
City of Snyder	24
City of South Houston	27
City of Stephenville	24
City of Sulphur Springs	42
City of Sweetwater	36
City of Taylor	27
City of Terrell	44
City of Tomball	27
City of Universal City	41
City of University Park	33
City of Uvalde	22
City of Vernon	26
City of Watauga	31
City of Webster	22
City of West University Place	22
City of Wharton	24
City of White Settlement	34
City of Woodway	33
Clear Brook City MUD	20

CLWSC Canyon Lake Shores	29
CLWSC Triple Peak Plant	29
CNP Utility District	29
Crystal Clear SUD	24
Cypress Hill MUD 1	42
Cypress Springs SUD	27
Dalhart Municipal Water System	29
Denton County FWSD 1-A Castle Hills	37
Denton County FWSD 7 Lantana	17
East Cedar Creek FWSD - Brookshire	24
East Central SUD	27
East Fork SUD	29
East Rio Hondo WSC	32
Ector County UD	25
Fort Bend County MUD 23	19
Fort Bend County MUD 25	39
Harris County FWSD 51	17
Harris County FWSD 61	37
Harris County MUD 102	29
Harris County MUD 120	19
Harris County MUD 157	37
Harris County MUD 165	44
Harris County MUD 167	17
Harris County MUD 168	32
Harris County MUD 200	27
Harris County MUD 24	22
Harris County MUD 26	24
Harris County MUD 368	42

Harris County MUD 53	17
Harris County MUD 55 Heritage Park	27
Harris County MUD 71	19
Harris County MUD 81	37
Harris County WCID 36	29
Harris Montgomery County MUD 386	29
Hudson WSC	20
Jonah Water SUD	17
Kempner WSC	22
Laguna Madre WD	47
Lake Cities MUA	24
Lakeway MUD	26
Lamar County WSD	27
Langham Creek UD	44
Lee County WSC	30
Lindale Rural WSC	20
Mauriceville MUD	17
Memorial Villages WA	36
MILITARY HWY WSC LAS RUSIAS	17
Montgomery County MUD 46	35
Montgomery County MUD 60	35
Montgomery County MUD 7	35
Montgomery Trace WS	28
Mountain Peak SUD	29
Mustang SUD	32
New Caney MUD	36
Newport MUD	30
North Austin MUD 1	24

Northtown MUD	26
Northwest Harris County MUD 5	37
Northwest Park MUD	34
Nueces County WCID 3	20
Nueces County WCID 4	22
Orange County WCID 1	27
Pecan Grove MUD	17
Perryton Municipal Water System	32
Plainview Municipal Water System	27
Porter SUD	39
Quail Valley UD	39
Rayford Road MUD	24
Remington MUD 1	37
S S WSC	24
Sardis Lone Elm WSC	15
Southern Montgomery County MUD	32
Spring Creek UD	24
Springs Hill WSC	27
The Woodlands MUD 1	17
Timberlane UD	15
Town of Addison	47
Town of Fairview	32
Town of Prosper	30
Tri SUD	27
Wellborn SUD	24
Wells Branch MUD	33
West Cedar Creek MUD	25
West Travis County Regional WS	25

Wickson Creek SUD	15
Windermere Community	32
Zapata County Waterworks SWTP	25

General Findings

The Texas Living Waters Project has compiled the 2020 Texas Water Conservation Scorecard and performed an in-depth look at the 40 largest retail public water utilities - as a result there are several major findings that can and should help guide actions to advance municipal water conservation in Texas. The following summarizes both the overall changes in water conservation efforts that have taken place between the 2016 and 2020 Scorecards and the specific changes that have occurred within each scoring criteria:

Overall Findings

Since the release of the original Scorecard in 2016, Texas public water utilities as a whole have not shown significant improvement in their comprehensive municipal conservation efforts, though there has been progress on some individual criteria, and some utilities have demonstrated greater levels of effort on water conservation. In the 2020 Scorecard, the average score for small utilities (29.5 out of a possible 55 points) is actually 0.3 points lower than it was in the 2016 Scorecard. For large and medium-size utilities, their average score in the 2020 Scorecard (56.1 out of a possible 100 points) is 0.3 points higher than the comparable score in the 2016 Scorecard.

A closer look at individual metrics used to calculate these scores does reveal meaningful progress on some evaluation criteria from what was reported in the 2016 Scorecard:

- ***The submittal rate for statutorily-required Water Loss Audits increased from 86 percent to 99 percent.*** At least two factors may account for this improvement in the submittal rate. In 2017, based on a recommendation from the state Water Conservation Advisory Council, the Texas Legislature enacted a new state law requiring that Water Loss Audits be completed by a person trained to conduct water loss auditing. That state law also required the Texas Water Development Board (TWDB) to provide such training via the agency's website. TWDB implemented that law prior to the completion of the annual Water Loss Audits used to compile water loss data for the 2020 Scorecard. In addition, in recent years TWDB staff have held workshops around the state to provide information to local water utility staff about water loss auditing. The flip side of the increased rate of submittal of Water Loss Audits, however, is the high rate of rejection of those Audits by TWDB staff for suspected errors or other problems (approximately 30% of the Audits submitted in 2019 were rejected). Additional work is needed to improve the Audits submitted.

- ***The number of medium-sized and large utilities reporting that they had achieved per capita water use of 140 gallons per day or less more than doubled (from 24 utilities to 59 utilities).*** This progress probably stems from a variety of factors, but it would indicate that many water utilities are using the 140 GPCD goal recommended by the 2004 state Water Implementation Task Force as a benchmark for their conservation programs.

- ***The number of medium-sized and large utilities embracing limitations on outdoor landscape watering increased.*** The positive experiences with outdoor watering limitations of "early adopters" such as Dallas Water Utilities (which adopted no-more-than-twice-a-week outdoor watering limitations in 2012) likely have led more water utilities to give serious consideration to this conservation measure. In addition, an updated version of the report Water Conservation by the Yard: A Statewide Analysis of Outdoor Water Savings Potential by the Texas Living Waters Project, released in March 2018, quantified the potential water savings from enacting outdoor watering limitations.

One area that remains a major challenge for Texas public water utilities is reducing system-wide water loss. Comparing data from the Water Loss Audits available for the 2016 Scorecard to the most recent Audit results available for the 2020 Scorecard, total reported water loss increased an average of nearly 3 percent for all utilities. Indeed, the rate of water loss in municipal water systems across the state remains alarmingly high.

Overall, most of the water utilities evaluated for the Scorecard could substantially increase their water conservation efforts - even those utilities scoring highest. Utilities have many options to control water loss and to reduce municipal water use, especially outdoor water use, that they are not pursuing. Utilities could take advantage of these options, as well as new opportunities to finance water conservation, to save water and money for current and future Texans. Experts forecast a high likelihood of more frequent and more extensive dry periods for Texas in the coming decades. Water utilities can play a critical role in creating a water conservation ethic that will help Texans sustain our economy and our environment over the long term and aid us in enduring these dry periods more easily.

Scoring Criteria Findings

Submission of Water Conservation Plans

The total number of water utilities submitting their 5-year water conservation plans decreased, but the vast majority of utilities are submitting these legally required plans to the State of Texas. Unfortunately, these plans vary widely in quality, detail, and public accessibility.

At a minimum, all retail water utilities legally required to prepare and submit revised water conservation plans to the State every five years need to do so, and most are. When the team preparing the 2020 Scorecard reviewed the submitted plans, however, we found wide disparity in the usefulness, cohesiveness, and even accuracy of information in those plans. Despite the efforts thus far of the Texas Water Development Board (TWDB) to provide guidance to utilities in preparing these plans, many utilities do not seem to take development of the plans seriously.

More information may be needed to determine the reason for the lack of improvement in submission and quality of required reports by utilities. Staff turnover, level of effort and time required, and lack of penalties for not submitting the plans are all anecdotal concerns that have been expressed by utilities. In 2017, the Texas Legislature – at the recommendation of the state Water Conservation Advisory Council – enacted a requirement that each water utility submitting a water conservation plan designate a person responsible for implementing the Plan and provide that person's name to TWDB. However, if a Plan is not submitted in the first place, no one appears to be held responsible for that failure to meet a legal requirement.

Submission of Annual Reports and Water Loss Audits

Approximately half of all water utilities that submitted legally required annual reports on the implementation of their water conservation plans did so every year for the past five years. Their track record for submitting legally required water loss audits over the past five years, however, is higher (66 percent). Even though the number of utilities submitting annual Water Loss Audits has improved, the percentage of those plans being rejected by TWDB due to apparent errors or other problems remains high.

While some people might dismiss the filing of reports and audits as merely "paperwork requirements" and of no real significance, the opposite is the case. Neither the public nor State water decision-makers are able to assess the performance of utilities on

advancing conservation if those utilities do not regularly report on the progress they are making in carrying out those plans or if the utilities do not accurately report the volume of water they annually lose in their distribution systems. Although the Legislature has required that each water utility designate a person responsible for implementing its water conservation plan, thus far many of those utilities are not assuring that these "conservation coordinators" are making the legally required annual reports on implementation of their plans.

Although the rate of submittal of the annual Water Loss Audits has improved significantly, the large number (30% of audits submitted in 2019) that the TWDB continues to reject due to errors or other problems is troubling and suggests the need for a continued focus on training and consideration of additional measures such as third-party validation of these audits. The high volume of water loss reported by municipal water systems throughout Texas argues for the most accurate data possible, especially important for pinpointing ways to reduce that level of loss.

Water Loss

Approximately 33% of the utilities report a water loss of 13.9% or greater of the water pumped through their systems (13.9% is the average percent water loss for all data collected over the past five years), and there are questions about the quality of some of the water audit reports submitted.

Water loss has been a significant issue for utilities across Texas for many years, and the situation is not improving. In terms of percent water loss, the average for all utilities has increased by 2.7% since the 2016 Scorecard. Small utilities reported a higher average percent water loss compared to medium/large utilities.

As noted in the 2016 Scorecard, some water loss in a utility is inevitable, at least on a temporary basis – water mains break, particular types of soil affected by the ever-changing Texas weather play havoc with water pipelines, some folks tap illegally into utility distribution lines. However, a water utility dedicated to reducing water loss can make progress by implementing an active program to find and repair leaking pipelines, respond expeditiously to water main breaks, and spot illegal taps, among other measures. Some utilities are implementing major water loss control programs and making progress. However, huge volumes of water are being lost in large Texas cities. The most recent figures available for preparation of the 2020 Scorecard indicated the following incredibly high total water loss figures for the largest Texas cities: Austin, over 15%; Dallas, almost 18%; El Paso, 13%; Fort Worth, almost 18%; Houston, almost 17%; and San Antonio, over 17%,

Publicly Accessible Website with Conservation Plan or Information

The number of medium to large utilities that have made their Water Conservation Plans available online has decreased to less than a third (32%) from what already was barely more than half (52%) in the last 2016 Scorecard. On the other hand, approximately three quarters (75%) of utilities overall, both in 2016 and now, have and continue to include some form of publicly accessible conservation information on their websites.

The WCP is a strategy or combination of strategies for reducing the consumption of water. Communication of the WCP and/or water conservation information on a utility or city website is an important means to educate the public on current programs and how residents can become more engaged in conservation practices. Not only are the majority of utilities (68%) not including their plans online, but this is also a step backwards from where we were four years ago at the publication of the last Scorecard. Fortunately, a significant number of large to medium size utilities (75%) continue to provide some form of conservation information online, however, how comprehensive or informative this information is, is not measured here and varies widely across all utilities.

Establishing 5-Year Conservation Targets

Overall, about 18% of Texas water utilities evaluated for the 2020 Scorecard received no points on this metric - because they have not achieved a GPCD of 140 or less, did not set any per capita water use reduction goals, or set goals in their Water Conservation Plans that were extremely weak. "Extremely weak" goals are defined as an average annual reduction of less than one-tenth of one percent. Of those utilities that have not met or exceeded the 140 GPCD goal (73 utilities, or nearly 55%), nearly one third - or 23 out of the 73 remaining- have set five-year reduction targets in their most recent Water Conservation Plans that are below even the minimum rate of progress to merit points on this Scorecard.

Under current state law, while water utilities are required to include targets for per capita water use reduction in their Water Conservation Plans, each utility sets its own five-year and ten-year targets. However, a state Water Conservation Implementation Task Force in 2004 recommended that water utilities should consider a "minimum annual reduction of one percent in total GPCD, based upon a five-year rolling average, until such time as the entity achieves a total GPCD of 140 or less." The 140 GPCD was actually a compromise among Task Force members, with some urging 125 GPCD as the recommended target.

In the 2016 Scorecard about 25% of the utilities serving a population of 25,000 or more did not receive any points for their per capita water use reduction goals – either because they have not achieved a GPCD of 140 or less, did not set any per capita water use reduction goals, or set goals in their Water Conservation Plans that were extremely weak. In the 2020 Scorecard the percentage of utilities which did not receive points on that basis has decreased, to 18%.

The percentage of utilities that either achieved a low GPCD (125 or less) or set strong conservation goals – defined as an average annual reduction of greater than 1.25% - increased from 29% in the 2016 Scorecard to 46% in the 2020 Scorecard.
The percentage of water utilities that achieved a moderate GPCD (between 126 and 140) or set moderate per capita water use reduction goals also increased since the 2016 Scorecard. A "moderate" goal is defined as an average annual reduction of 0.85% to 1.25%. In the 2016 Scorecard, 19% of the water utilities had set moderate goals, and that percentage jumped to 23% in the 2020 Scorecard.

The percentage of utilities setting low per capita water use reduction goals decreased from the 2016 to the 2020 Scorecards. A "low" goal is defined as an average annual reduction of 0.10% to less than 0.85%. About 26% of utilities evaluated in the 2016 Scorecard had set low goals, and that percentage has dropped to 12.9% in the 2020 Scorecard. This is good news because this decrease indicates more utilities either have achieved either low/moderate GPCDs or set strong/moderate conservation goals.

Achieving 5-Year Conservation Targets

The proportion of water utilities that met and/or exceeded their per capita water use reduction goals (66%) and those water utilities that either did not submit plans with goals or did not meet the targets they set (34%), did not change significantly from the 2016 to 2020 Scorecards. However, there has been a significant increase in the number of large and medium-sized utilities overall have met or surpassed the 140 GPCD benchmark recommendation made by a state Water Conservation Implementation Task Force in 2004. This percentage increased from 19% to 45%. Moreover, the percentage of utilities that have not only met but surpassed that goal to achieve 125 GPCD or less has improved from 12% in the 2016 Scorecard to 30% in the updated Scorecard.

For those utilities that did meet or beat their five-year targets, the factors leading to their success are not clear. In some instances, per capita water use reduction may have occurred as the result of implementation of drought contingency plans during certain dry years in that five-year period. In other situations, as a result of greater than average rainfall or extensive flooding events (for example, Hurricane Harvey in 2017), the volume of water used for outdoor landscape watering may have been reduced significantly for long periods, thus lowering per capita water use. Much more in-depth analysis than is possible here would be required to pinpoint how either drought in some areas or heavy rainfall in other areas may have impacted water use for different utilities. However, the City of Houston, for example, in its updated Water Conservation Plan in 2019 indicated that rainfall in preceding years had been a factor in lowering its per capita water use during that period, and Houston was one of the water utilities that beat their five-year target for per capita water use.

Among large and medium-sized utilities, a majority - nearly three quarters - met or exceeded their five-year targets for water use reduction set in their last Water Conservation Plans. However, approximately 20% did not meet their goals, and the remainder could not be evaluated because their information was either not provided or not available.

As of the 2020 Scorecard, approximately 45% of the large and medium-size retail public water utilities in Texas have met or achieved a lower per capita water use rate than the 2004 Task Force recommended 140 GPCD. While this still means a majority - or 55% - of utilities have not, it is an improvement from the last Scorecard when only 19% overall had met or exceeded the 140 GPCD benchmark.

Municipal Conservation Best Management Practices

Of the more than 20 "best management practices" (BMPs) recommended for municipal water providers in the State's BMP Guide, 57% of large and medium-size utilities and less than a quarter of the small utilities report they are using more than five BMPs. Only 10 of the 132 large & medium-size utilities and none of the small utilities, are using 15 or more BMPs.

The Water Conservation Advisory Council, a State body with diverse representation, works with the Texas Water Development Board to continually review and update the BMPs for municipal, agricultural, and industrial water conservation – all of which are available online at www.savetexaswater.org. The State BMP Guide presents the most easily accessible source of municipal conservation measures tailored to Texas utilities. A few Texas water utilities use a wide variety of BMPs. One standout, the San Antonio Water System (SAWS), not only uses most of the state recommended BMPs but also has developed practices of their own (such as active outreach and technical assistance to targeted heavy water users). However, the majority of Texas retail water utilities are not using more than a handful of these BMPs – a very disappointing level of water conservation effort, especially given the availability of information about these BMPs and the positive experiences of many water utilities in employing them to advance conservation.

Outdoor Watering Restrictions

While the percentage of utilities that have adopted limitations on outdoor landscape has increased since the last Scorecard, around half of the large and medium-size water utilities in Texas have yet to adopt any limitations other than during drought periods. This situation persists despite the fact that utility profiles submitted to the State of Texas consistently demonstrate that most utilities see substantial increases in water use during hot summer months - increases which can lead to the building of costly water infrastructure to meet those peak water demands.

This peak demand occurs in the summer because single-family residences and even other water customers such as some institutions (college campuses, for example) are using significant amounts of water to maintain outdoor landscaping during that part of the year. The 2020 Scorecard does indicate some progress in this area of water conservation, however. For example, the percentage of large and medium-size utilities embracing some form of limitations on outdoor landscape watering other than during drought periods increased from about a third in the 2016 Scorecard to almost 50% in the 2020 Scorecard.

More specifically, the percentage of large and medium-size utilities limiting outdoor watering to no-more-than-twice-a-week increased from over 14% in the 2016 Scorecard to over 21% in the 2020 Scorecard. The City of Georgetown, The City of Keller, and The City of Wylie are examples of water utilities adopting this measure since the 2016 Scorecard (under its seasonal approach, Wylie actually has no-more-than-once-a-week outdoor watering limitations from November through March and no-more-than-twice-a-week the rest of the year). The City of Frisco now has no-more-than-once-a-week limitations during March through November. The City of Corpus Christi now had adopted permanent time-of-day outdoor watering restrictions.

Determining which utilities have ongoing or permanent limitations and which have those limitations in place only during drought, however, was one of the more challenging data-gathering tasks in preparing this Water Conservation Scorecard. For the most part it necessitated dutiful searching of utility or city websites and in many instances the answer to the question was as clear as mud.

Water Rate Structures

Less than a half of large and medium-size water utilities in Texas and one-third of small utilities have water rate structures that send a relatively strong "conservation pricing signal" to their customers. This can work to reduce the amount of water used although will depend on whether water is priced at its true value in these rate structures.

The analysis done for the Water Conservation Scorecard, based on water rate data available from the Texas Municipal League, indicates that a significant number of water utilities in the state have "conservation-oriented" rate structures that can send a relatively strong pricing signal in order to reduce water use. However, the analysis also shows that a majority of the 356 utilities could be sending a stronger signal through their rate structures to customers in order to encourage water conservation.

Findings - Summary and Context

The 2020 Texas Water Conservation Scorecard was prepared to determine whether retail public water utilities in Texas had improved their water conservation efforts since preparation of the original Scorecard in 2016. The revised 5-year Water Conservation Plans that most of these utilities were required to submit to the State of Texas by May 1, 2019 provided new data for evaluating utilities on several measures used in the Scorecard as did four additional years of Water Loss Audits and Annual Reports (on implementation of the Water Conservation Plans). Updated water rate information compiled by the Texas Municipal League and time-intensive reviews of the websites of 132 large and medium-size water utilities also contributed to the water conservation picture painted by the 2020 Scorecard.

Overall, as noted above, the 2020 Scorecard indicates that there has not been much improvement in water conservation efforts by retail public water utilities serving 3300 or more connections. A caveat to this finding is that due to increases in population in certain areas, 50 additional water utilities were reviewed for the 2020 Scorecard that were not in the 2016 Scorecard because they had reached the threshold for inclusion. Thus, whereas the 2016 Scorecard reviewed only 306 water utilities, the 2020 Scorecard evaluated 356 water utilities. In other words, comparisons between the 2016 and 2020 Scorecards and the individual metrics in those two Scorecards are not always “apples to apples” comparisons. If the 2020 Scorecard review team had only evaluated the 306 water utilities previously included in the 2016 Scorecard, the comparisons would have been “apples to apples,” and the results might (or might not) have shown more improvement in the overall scores for that group of utilities.

The threshold for evaluation of utilities in the Scorecard was based, of course, on the fact that several state legal requirements regarding water conservation and reporting kick in once utilities reach 3300 or more connections. One could speculate that such a relatively large number of utilities (50) passing that threshold in the past few years means that many of these utilities may have been unfamiliar with those legal requirements and thus are only now beginning to understand and start to comply with them. (Some of these utilities would have had to meet certain water conservation and reporting requirements before reaching 3300 connections or more, however, as a result of receiving financial assistance from the Texas Water Development Board or other factors.) Perhaps as these utilities become more accustomed to the relatively new conservation and reporting requirements imposed on them and begin complying with them more consistently, the overall scores on water conservation efforts will improve.

Regardless of the issue of water utilities being evaluated for the first time, over 300 utilities were reviewed for both the 2016 and 2020 Scorecards, and some of the water utilities evaluated in both Scorecards did improve their level of water conservation effort and thus their scores. The improvements in the scores were usually related to progress made by a utility in controlling water loss or the utility successfully submitting required plans, audits, or reports after previously not doing so. These utilities are to be commended for taking these actions.

Looking closely at individual scoring criteria in the 2020 Scorecard, the main "takeaways" are as follows:

- ***Reporting:*** **t**he percentage of legally required Water Conservation Plans and Annual Reports being submitted by water utilities has not improved much. Utilities have been providing Water Loss Audits more consistently, but almost a third of the Audits submitted in 2019 were rejected by the Texas Water Development Board due to suspected errors or other problems.

- ***Controlling Water Loss:*** water loss in municipal distribution systems remains a significant issue for utilities across Texas, especially due to the huge volumes of water being lost in the largest cities in the state

- ***Publicly Accessible Website with Conservation Plan or Information*****:** a minority of utilities are posting their Water Conservation Plans online. While many more have some form of publicly available information on water conservation,how comprehensive or informative this information is, was not measured for this report and varies widely across all utilities.

- ***Achieving Per Capita Water Use Reduction Goals:*** over a quarter of large and medium-size utilities did not meet their goals and over half of all large and medium-size utilities have yet to achieve at least the 140 GPCD goal recommended in 2004 by a state Water Conservation Implementation Task Force.

- ***Setting Future Per Capita Water Use Reduction Goals:*** about one-fifth of the state's water utilities have set extremely weak goals or do not report setting goals at all to reduce per capita water use.

- ***Implementing Conservation Best Management Practices (BMPs):*** the average number of BMPs implemented by a water utility in Texas, remains around five, even though there are over 20 BMPs that have been developed or updated by the state Water Conservation Advisory Council and posted online at www.savetexaswater.org; this is a clear indication that most of the state's water utilities are not making the effort necessary to achieve the potential for municipal water conservation in Texas

- ***Implementing Outdoor Watering Restrictions:*** **s**light improvement since the 2016 Scorecard, but over 50% of large and medium-size utilities still do not have any time-of-day or days-per-week outdoor watering restrictions outside of drought periods.

- ***Water Rate Structure with Conservation-Pricing Signal:*** many utilities have water rate structures that encourage customers to conserve water, but a majority of the state's water utilities could be sending a stronger "conservation-pricing" signal - especially by equitably reflecting the true value of water through their water rate structures and/or water rates.

Bottom line: some Texas retail public water utilities are making progress on water conservation, but overall, the rate of progress among water utilities in the last four years has been slow, at best. The Texas Water Conservation Scorecard analysis was not designed to examine the reasons for this slow rate of progress. However, one factor may be the considerable focus by the public and public officials in the past few years on how to deal with too much water, not too little water. Flooding has tended to dominate the water policy agenda in recent years due to numerous dramatic flood events – not just historic events such as the coastal flooding resulting from Hurricane Harvey in 2017 but other floods in southeast Texas in other years and major Hill Country floods.

Although regional droughts have occurred periodically in parts of Texas in recent years, we are increasingly far removed from the trauma of the worst 12-month drought period in Texas history from October 2010 through September 2011. Although conservation is something to be pursued on an ongoing basis, regardless of wet or dry periods, human nature appears to focus on conservation when it is not raining and be less concerned about water use when it is raining.

Another possible factor in the slow change in level of conservation effort is the inherent conflict that many water utility managers seem to feel between what they see as the necessity to sell water to cover vested infrastructure and operation and maintenance costs and an understanding of the long-term benefits of water conservation. However, a number of water utilities in Texas such as Austin Water and San Antonio Water Systems have embraced conservation and have learned that their water systems may retain – and even enhance for the long haul – the financial viability of their systems through effective management and avoidance of enormous costs for new infrastructure. Nevertheless, the traditional approach to responding to projected water demands through new water development rather than more aggressive water conservation efforts retains a powerful hold in the minds of many civic leaders, business executives, and public officials.

The good news is that the information provided by the Texas Water Conservation Scorecard demonstrates that there remains tremendous potential for advancing water conservation in the state. Increased utilization of conservation best management practices, more extensive adoption of reasonable (and proven) limitations on outdoor landscape watering, modification of utility water rate structures in order to send stronger signals to customers to save water, and more focused efforts to control water loss – among other options – could move Texas water utilities much farther down the road to meet the water supply challenges of the next 50 years.

Recommendations

The previous Texas Water Conservation Scorecard in 2016 made eight overarching recommendations to Texas retail public water utilities to advance water conservation in Texas. Additional recommendations were made to the Texas Water Development Board (TWDB) and the State of Texas to assist and support those utilities. Some of these recommendations were followed but others were not. In general, most (although not all) water utilities fell short in adopting outdoor watering limitations, expanding the use of conservation BMPs, controlling water loss, and enhancing customer outreach and education on water conservation (for example, posting their Water Conservation Plans and/or conservation information online). On a positive note, TWDB has provided the opportunity for water utilities to enter water data online, beginning in 2019. This option has helped streamline the process for reporting and has provided a dashboard for utilities to track their own progress on water conservation and other topics over the years.

Based on the findings from the 2020 Scorecard, as detailed above, we make the following recommendations to utilities and State officials to advance municipal water conservation in Texas and to better engage the public in that effort:

Recommendations for Retail Public Water Utilities (those with 3,330 connections or more) – each utility should:

- Adopt outdoor watering limitations on an ongoing basis, not just during drought. Studies have shown that, annually, outdoor water use for single-family homes in Texas accounts for approximately 31% of water use. A significant reduction in annual and peak water use could be realized if a municipal water utility implemented required outdoor watering limitations (time-of-day and days-per-week limitations) year-round or at least on a seasonal basis.
- Adjust its water rate structures to accurately reflect the cost and value of water and to send a stronger conservation-pricing signal that will effectively encourage customers to conserve. Any water rate structure, however, should include life-line rates that provide socially vulnerable populations, such as low-income customers, a sufficient amount of water to meet basic needs at an affordable price. These populations are not the heaviest users of water and thus life-line rates for those using small amounts of water will not negatively affect design of a water structure to promote conservation.
- Evaluate the potential to tap state financial assistance from the State Water Implementation Fund for Texas (SWIFT) and the related State Water Implementation Revenue Fund for Texas (SWIRFT), or other TWDB funding mechanisms, to finance certain water conservation activities, including especially water loss control.
- Encourage their local government officials to consider establishing PACE (Property Assessed Clean Energy) mechanisms to provide a new option for commercial, institutional, and industrial operations and owners of multi-family residential units in their communities to obtain attractive long-term financing to make energy efficiency and water efficiency improvements on their properties (some areas such as Travis County, the City of Houston, and others already have established PACE programs)

Recommendations for The Texas Water Development Board – TWDB should:

- Prepare and make available model Water Conservation Plans – not just the existing template for a Water Conservation Plan – specifically tailored to the circumstances of large, medium-size, and small retail public water utilities – incorporating preferred per capita water use reduction goals, reasonable outdoor landscape watering limitations, relevant conservation BMPs, online accessibility of water conservation information, and other appropriate conservation and accountability measures.
- Evaluate possible ways to encourage more water utilities to tap SWIFT and SWIRFT to finance certain water conservation activities, including water loss control, and suggest any changes needed in those funding mechanisms to accomplish the water conservation goals for these funding programs. The enabling legislation requires TWDB to undertake to apply not less than 20% of these funds for water conservation
- Communicate expeditiously with a retail public water utility when a Water Loss Audit submitted by the utility is rejected and provide guidance to the utility in correcting any problems with the Audit and improving the utility's auditing process.

Recommendations for the state Water Conservation Advisory Council – the WCAC should:

- Update and revise the recommendation of the 2004 state Water Conservation Implementation Task Force report to encourage retail public water utilities to achieve a more ambitious goal than 140 GPCD and a higher average annual rate of reduction in per capita water use than 1%.
- Expand its outreach to and dialogue with retail public water utilities which have not been adopting a wide range of best management practices to determine what obstacles exist to implementing additional BMPs and how the State of Texas might help utilities in that regard.

Recommendations for The State of Texas (at the appropriate level) – the State should:

- Conduct a study on how water conservation pricing signals are calculated and how retail public water utilities might better use those signals in modifying their water rates. Research exists that demonstrates how to better design water rate structures to be not only affordable to the customer, but also maintain revenue for the utility while promoting conservation.
- Evaluate potential mechanisms for ensuring enforcement of requirements for submittal of 5-year Water Conservation Plans, Annual Reports, and Water Loss Audits and adopt the mechanism or mechanisms that are judged most likely to be effective in achieving the highest possible compliance with required submittals.
- Consider requiring third-party validation of Water Loss Audits to improve the accuracy of those Audits so that they provide utilities and the State of Texas with the information needed to pinpoint and address water loss problems.

Implementing these recommendations will help promote the wise and efficient use of our limited water resources in Texas.

Conclusion

Advancing municipal water conservation in Texas requires an "all hands on deck" approach, where the State, retail public water utilities, and water customers/ratepayers all have a role to play. Thankfully, the State of Texas has made a lot of progress when it comes to advancing laws and policies that encourage water suppliers to conserve water – including providing financial opportunities to retail public water utilities to support conservation efforts. However, it is necessary to ask: do these laws and policies incentivize water providers to conserve water in tangible ways? The purpose of this report is to answer this question and to propose recommendations to help ensure that water in Texas, a finite and valuable resource, is used wisely. Promoting and refining laws and policies that incentivize a smart approach to water consumption ensures not only that our resources are put to good use, but also that taxpayer dollars spent on water infrastructure projects are used sensibly. While this report does not evaluate how much water retail public water utilities have conserved, it does gauge the level of effort undertaken to advance conservation.

Through this Scorecard we analyzed 356 utilities. Out of the utilities analyzed, it was clear that there are some true leaders in certain aspects of water conservation, such as addressing the heavy use of water for outdoor landscaping. Other positive findings include the following: the vast majority of utilities are submitting legally required 5-year water conservation plans; the number of large and medium-size utilities reporting that they had achieved per capita water use of 140 gallons per day or less more than doubled in the 2020 report compared to the 2016 report; and the percentage of large- and medium-sized utilities embracing limitations on outdoor landscape watering other than during drought periods continues to increase, to name a few.

However, overall we concluded that retail public water utilities have not shown significant improvement in their municipal conservation efforts, compared to our 2016 Scorecard. The average score for medium- and large-size utilities is 56.1 out of 100 points, while the average score for small utilities is 29.5 out of 55 points – both failing grades. Further, around half of the large- and medium-sized water utilities have not adopted any limitations on outdoor landscape watering, one of the most effective ways to conserve water and can help ensure that costly infrastructure investments are made only when necessary. In other words, the 2020 Texas Water Conservation Scorecard clearly demonstrates that active advancement of water conservation is far from universal among the state's 356 public retail water utilities serving populations of approximately 10,000 or more.

This shows that Texas is nowhere near reaching the potential that water conservation could provide for addressing a significant portion of our state's current and future water supply challenges. One factor that is likely contributing to these scores is the focus on recent catastrophic flooding events, resulting in reduced levels of public urgency around addressing conservation. However, it is imperative we do not wait until the next drought period to focus on conservation. As this report shows, more needs to be done by utilities to support conservation. Serious consideration of the recommendations made in this Scorecard could help move Texas closer to achieving that potential for the benefit of the state's economy and its environment.

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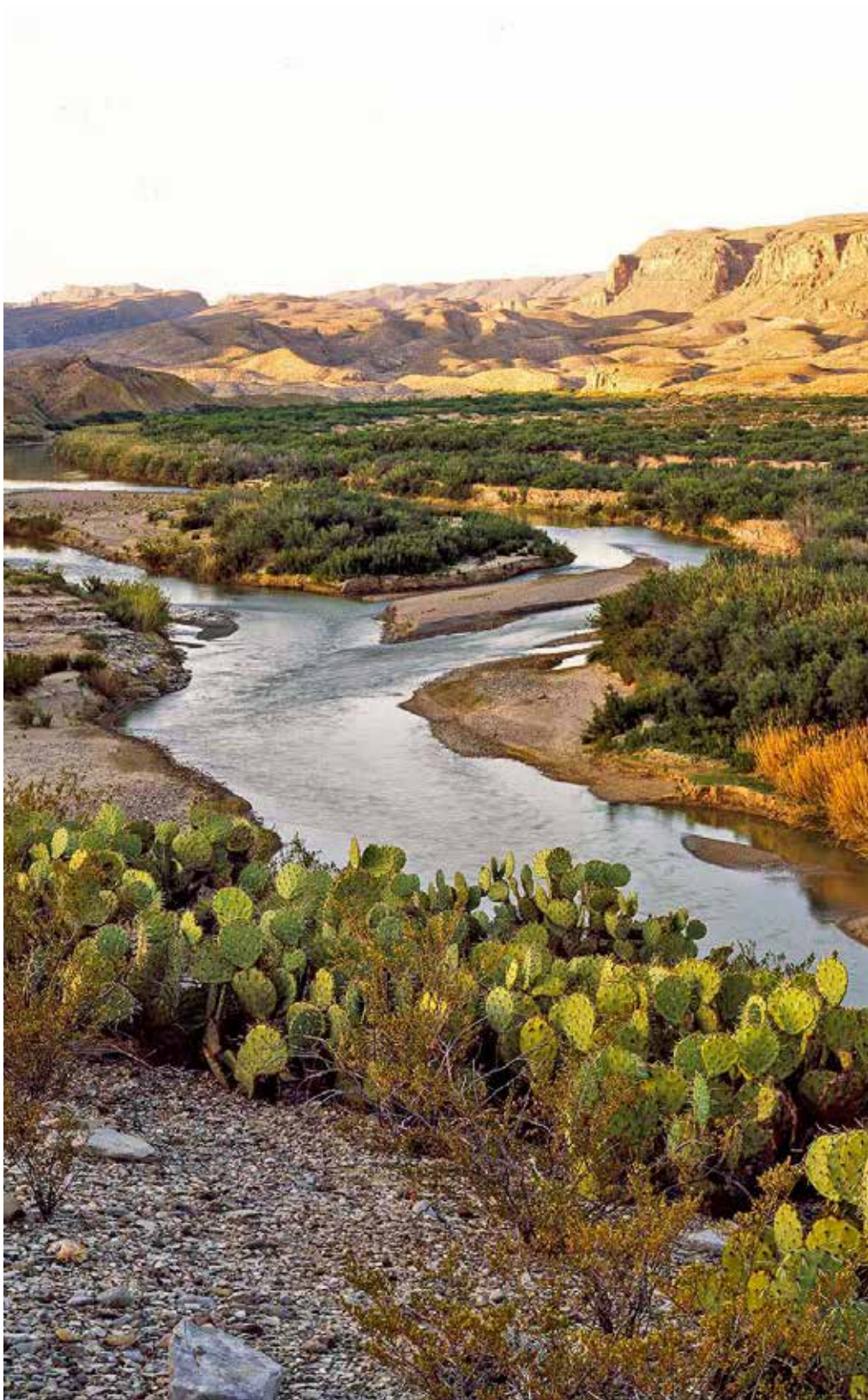
In addition to the references above, the researchers for the Texas Water Conservation Scorecard obtained from the Texas Water Development Board and the Texas Commission on Environmental Quality in electronic form public documents including but not limited to municipal water conservation plans, annual reports, water audit reports, and related documents submitted to the agencies by retail public water utilities in Texas as well as public information with data from these sources in the form of Excel spreadsheets. Researchers also searched the websites of the large and medium-size retail water utilities (those utilities providing water service to a population of 25,000 or more) for water conservation plans, other water conservation information, and outdoor watering restrictions imposed by a utility or a municipality under whose jurisdiction a utility operates.

Appendix A - Utility Snapshots

Since each retail water utility is unique to some extent, we have tried to go beyond just the numerical scoring and provide additional context for evaluating the efforts of each of the 40 largest retail water utilities in the state – those serving a population of 100,000 or more. Here, paired with its score based on our ten criteria, is an individual narrative for each of the 40 utilities. Taken together, the score and the narrative provide a "Snapshot" of the utility.

Each narrative goes into a little more depth about the utility's water supplies, specific conditions, and water conservation actions. The narratives are somewhat more subjective than the score for each utility, but they allow us to highlight some positive actions by utilities with relatively low scores as well as point out some potential actions that even fairly highly rated utilities could take to advance water conservation in their respective service areas. These Snapshots reflect the status of the water utilities as of the Summer of 2020.



City of Abilene

Population 122,955

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	2
4. Total Percent (%) Water Loss	15	0
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	0	10
8. Number of Best Management Practices (BMPs) implemented?	2	4
9. Outdoor Watering Schedule?	0	5
10. Conservation Pricing Signal?	15	15

Abilene: At A Glance

The conservation score for the City of Abilene went down from 60 points in 2016 to 51 points in 2020. Contributing to the lower score is the City not meeting its 2014 conservation goals and implementing only eight out of the 23 conservation Best Management Practices (BMPs) presented in the state's BMP guide. Further, Abilene has room for improvement in its water conservation efforts, especially with regard to reducing water loss. In the 2019 WCP the City reported that its water loss had increased from about 3.22 percent in 2014 to 7.51% in 2018, but Abilene did not receive full points towards this metric because the TWDB flagged the City's Water Loss Audit for potential data issues.

Discussion

The City of Abilene is located in West Central Texas between a humid subtropical climate to the east and a semi-arid one to the west. Abilene is in the Brazos G regional water planning area. The City's estimated 2020 population of 122,542 population used approximately 87% of total water delivered while 33,273 wholesale customers used the remaining 13%. Abilene has a broad range of municipal, industrial, and even agricultural water users within its retail service area of 108 square miles and a wholesale service area of 874 square miles. The City also provides reuse water for golf courses and other customers.

In an effort to improve its water conservation record, the City has made strong commitments in its 2024 conservation goals. With a GPCD baseline of 167 GPCD, they have set five- and ten-year targets of 157 and 152 GPCD, respectively. Notably, the 5- and 10-year goal for residential per capita water use by City users is to maintain residential per capita water use at or below 70 GPCD by the end of 2024 and 2029. Also, the 5- and 10-year per capita water loss goal will be to maintain per capita water loss at less than 10 GPCD by the end of 2024 and 2029.

The City also continues to implement an active reuse program to further conservation efforts - primarily by providing treated wastewater effluent to a number of users throughout the City, including golf courses and universities, in order to reduce reliance on potable water.

There is of course, room for improvement. As was reported in the 2016 Scorecard, the City does have "water conservation goals" for wholesale water use, industrial water use, and agricultural water use, but they still are merely intended to maintain historic or current use levels and standards, and not move toward the reduction of water use. Additionally, Abilene can stand to benefit from the implementation of more BMPs and twice-a-week watering restrictions. Finally, reporting issues as it relates to their water loss audit will need to be addressed as well, as their audit was removed by the TWDB due to concerns over its accuracy.

City of Allen

Population 103,272

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	10
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	5
8. Number of Best Management Practices (BMPs) implemented?	8	8
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	10	10

Allen: At A Glance

Not much has changed with the City of Allen when it comes to water conservation. The City has maintained the same score in their 2020 Scorecard as they had on the 2016 Scorecard, a total of 73 points. Allen's water loss percentage has decreased slightly to 9.29%, the City continues to implement a number of best management practices, and it has a no-more-than-twice-a-week outdoor watering restrictions - all noteworthy. The City's score remains stagnant though, because Allen has not been very proactive in improving beyond the status quo. For example, the conservation goals in the City's Water Conservation Plan are not ambitious. Allen's recent five-year average GPCD was 150, but its five-year and ten-year goals for water use are only 149 and 148 GPCD, respectively, which does not indicate a strong commitment to advance water conservation.

Discussion

Allen is located in Collin County, and is bordered by the cities of McKinney and Fairview to the north, Lucas to the east, Parker to the south, and Plano to the west and south. The land area of the City is 27.11 square miles. As of December 31, 2018, the City's population is 103,272, with 38,634 metered water utility connections. Of these connections, 75.41% are Single-Family Residential, 19.41% are Multi-Family Residential, and 5.17% are Industrial/Commercial/Institutional. The City has no Agricultural metered connections. The average daily water use is 15.22 million gallons with a peak day use of 32.24 million gallons.

The City purchases treated water from the North Texas Municipal Water District (NTMWD). NTMWD is a regional wholesale supplier for 13 Member Cities and numerous other customers in Collin, Dallas, Denton, Rockwall, Kaufman, Hunt, Hopkins, Fannin, and Rains Counties in North Central Texas. The NTMWD currently provides water for over 1.7 million people. The City does not wholesale any of this purchased water from NTMWD to other customers. All of the City's wastewater is treated by NTMWD at the Wilson Creek Wastewater Treatment Plant, which has permits for effluent direct back to Lavon Lake.

The City of Allen has done a few things well when it comes to water conservation but there is much room for improvement. On the plus side, the City continues to be consistent in its water conservation reporting to the Texas Water Development Board (TWDB) - not necessarily an easy task nor one that is accomplished by all water utilities in Texas. Allen's Water Conservation Plan is posted on its website, along with information on water conservation - but this information does not go beyond simply providing details on the City's outdoor watering restrictions. Allen also has in place no-more-than-twice-a-week outdoor watering restrictions in addition to twelve implemented best management practices.

However, the City of Allen can do more. The number of best management practices adopted by the City could be increased, for example, and the no-more-than-twice-a-week outdoor watering restrictions can be augmented to no-more- than-once-a-week, especially important given the percentage of single-family residential water customers in Allen. Perhaps most importantly at this stage, the City of Allen could set more ambitious water conservation goals, as many other cities have.

Amarillo Population 199,826

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	2
4. Total Percent (%) Water Loss	15	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	0	15
8. Number of Best Management Practices (BMPs) implemented?	4	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

Amarillo: At A Glance

Amarillo's overall water conservation score has decreased by 5 points since the 2016 Scorecard, from 49 to 44 in the 2020 Scorecard. While the city does deserve credit for setting ambitious water conservation goals – with the aim to reduce a historic baseline of 221 GPCD to 200 GPCD in five years, and 195 GPCD in ten – they have made limited improvements elsewhere, and in fact regressed in other areas. With fewer implemented BMPs, a Water Loss Audit that was removed by the TWDB because of concerns about its accuracy, and still no outdoor watering restrictions, these are just a few immediate and tangible things Amarillo can address in order to achieve their newly minted and ambitious conservation goals.

Discussion

The City of Amarillo is the largest metropolitan area in the Texas Panhandle and lies within the Region A water planning region and three groundwater conservation districts. The Amarillo Municipal Water System has a service area population of 199,826. In its 2017 WCP (its latest plan) Amarillo indicates that it obtains water from several sources, including the Canadian River Municipal Water Authority (CRMWA) and city-owned groundwater well fields, and that the City provides reclaimed water for industry and irrigation. Since the City's wells tap into the depleting Ogallala Aquifer, Amarillo has an imperative for advancing water conservation.

Amarillo has many options to reduce water use and groundwater withdrawals that it has not employed thus far or that it could consider strengthening, including the following:

- Implementing an ongoing outdoor landscape watering schedule, such as time-of-day limitations on lawn irrigation or restricting watering to certain days of the week;
- Making treated wastewater available for landscape irrigation;
- Increasing the number of Best Management Practices (BMPs) adopted and implemented (in its most recent Annual Report to TWDB the Amarillo Municipal Water System said that it was implementing only five of the over 20 municipal BMPs included in the State BMP Guide);
- Increasing the conservation pricing signal sent to its customers by its water rate structure to encourage customers to be more efficient in the use of water and thus save money

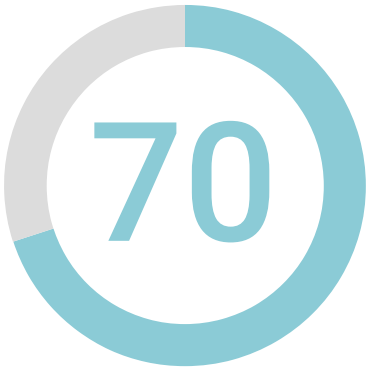
Past WCPs provides water use data that makes the case that an ongoing outdoor watering schedule or programs targeting outdoor use could have an impact on Amarillo's Total GPCD:
In their 2017 WCP, residential baseline water use (which includes outdoor landscape watering) was 106 GPCD – nearly half (47.9%) of the total water use of 221 GPCD. Seasonal water use totals of 153 GPCD in winter 2011 contrasted sharply to water use of 402 GPCD in summer 2011 (2011 was an exceptional drought year, but Amarillo's ratio of summer to winter use was also substantial in other years reported in its 2012 WCP).

Outdoor landscape irrigation is likely a significant part of the increase in summer water use over winter water use. Other major cities are targeting outdoor landscape watering in various ways that might provide a path for Amarillo to take. For examples, Dallas has limited outdoor watering to no more than twice a week on a permanent basis, while San Antonio has developed outreach and assistance programs to customers to help them reduce outdoor water use.

City of Arlington

Population 375,337

2016 Score



2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	10
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	10	10
8. Number of Best Management Practices (BMPs) implemented?	10	6
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	10	10

Arlington: At A Glance

The water conservation score for the City of Arlington increased slightly from 70 in the 2016 Scorecard to 71 in the 2020 Scorecard. Though this is incremental improvement, Arlington does have a lower rate of per capita water use than many of its North Central Texas neighbors – at 139 GPCD. Arlington has also shown a dedication to conservation with its adoption of multiple best management practices (BMPs) to achieve greater efficiency in the use of water, and the utility continues to set and achieve reasonable goals for reducing water use. As recommended in the last Scorecard, Arlington should consider adopting a permanent no-more-than-twice-a-week outdoor watering schedule similar to what several other cities in the region have done with good results. Furthermore, the City's water rate structure could also send a stronger conservation pricing signal.

Discussion

The City of Arlington lies within the Dallas-Fort Worth Metroplex and the Region C water planning area and has an average rainfall of 39". Arlington has a service area of 99 square miles and provides retail water service for 375,337 people. City planners expect the population to increase to 423,439 people by 2060. Arlington is a customer of Tarrant Regional Water District and receives surface water from that wholesale supplier.

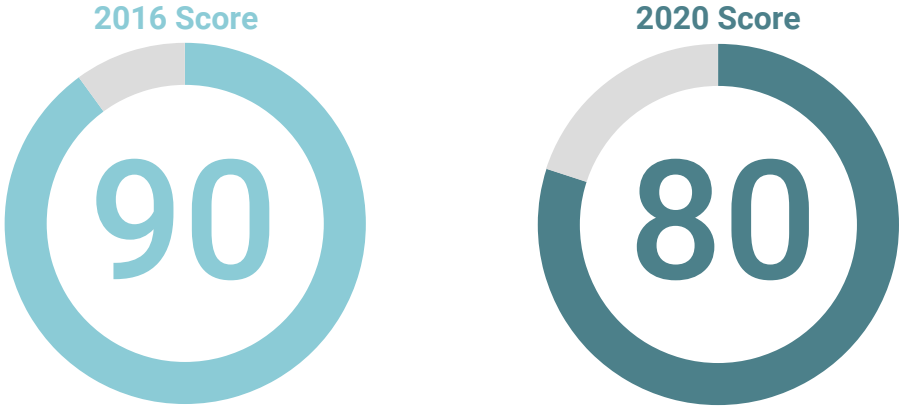
Single and multi-family residential customers constitute the vast majority of Arlington's retail water connections (64.59% and 32.10% respectively, 96% total) and accounted for 72.63% of 2018 retail water use. Arlington's industrial, commercial, and institutional customers account for just over 3% of accounts but use nearly 28% of the water produced by the utility. A vast majority of the City's non-residential customers are commercial or industrial. Arlington's highest volume retail water users are the GM Assembly Plant, University of Texas at Arlington, and Arlington ISD.

In its 2019 WCP the City reports that its current average for total GPCD was 139. The single-family residential GPCD for that same period was 91, a substantial portion of the total. The 2019 WCP sets a target to reduce total GPCD to 132 by 2024 and to 126 by 2029, which is in keeping with the recommendation of a state task force to reduce municipal per capita water use at a minimum of 1% each year on a five-year rolling average. Arlington beat its 2014 WCP goal, so there is a reasonable expectation that the City will be able to meet if not beat the GPCD goals in its 2019 WCP.

Limiting outdoor water use is one of the most important things a utility with a large single-family residential customer sector can do to stretch current water supplies to meet the needs of a growing population. Arlington's summer to winter differential (or "peak") is about 1.4, which probably reflects the spike in outdoor watering during hot weather.

Thus far, Arlington has not placed year-round limits on outdoor watering except for time-of-day restrictions. Implementing a no-more-than-twice-a-week watering limitation would enhance the City's ability to again beat its conservation goals. Arlington does provide several tools and some information on efficient lawn watering and other conservation practices. Some of the programs include, sprinkler checks, upcoming events, watering advice, troubleshooting tips, irrigation rules, watering tips, and conservation resources. Arlington could also revise its water rate structure to send a stronger conservation pricing signal to customers to encourage cutting outdoor water use.

City of Austin Population 999,960



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	15	10
8. Number of Best Management Practices (BMPs) implemented?	10	10
9. Outdoor Watering Schedule?	15	15
10. Conservation Pricing Signal?	15	15

Austin: At A Glance

Although the City of Austin's water conservation score dropped from 90 in 2016 to 80 in 2020, it has maintained its position as one of the top ranking Texas cities practicing water conservation. Austin dramatically decreased per capita water use from 190 in 2006 to 138 in 2013 to 126 in 2018, reaching its goal of 140 GPCD seven years ahead of schedule, partly due to a focused effort to reduce peak water demand in the summer. The City has also set ambitious 5- and 10-year water reduction targets of 119 GPCD and 106 GPCD, respectively. In 2018 Austin unveiled Water Forward, an integrated water resource plan that is likely to play a significant role in guiding the City toward these targets. Despite these achievements, Austin continues to struggle with curbing citywide water loss, with percent losses exceeding 15 percent the past two years.

Discussion

The City of Austin, located in Central Texas and the Region K water planning area, is known for its conservation-minded, yet rapidly growing population, now exceeding one million. The City draws its water from the Highland Lakes on the Colorado River. Austin has its own water rights on the Colorado but also contracts with the Lower Colorado River Authority (LCRA) for water. Austin Water operates three water treatment plants to process this water for distribution. Among Austin's high-volume water customers are "high-tech" companies (Samsung being the highest water user) and The University of Texas at Austin.

In its 2019 WCP, Austin has a baseline of 126 GPCD and aims to reduce that baseline to 119 GPCD by 2024 if drought conditions do not occur. Austin does have an alternative goal if the City remains in drought stage restrictions. However, the Austin City Council adopted Water Forward in November 2018, a long-term integrated water resources plan to manage Austin's water resources over the next 100 years. The Water Forward Plan sets forth a comprehensive list of water conservation and water use efficiency strategies to help the city reach its ambitious 10-year water reduction goal of 106 GPCD.

The City of Austin's most recent Water Conservation Plan indicates an average water loss of 18.9 GPCD between 2014 and 2019. The city is implementing a multi-year plan to reduce water loss, including a campaign to detect underground water leaks. In 2016, Austin Water launched an Advanced Metering Infrastructure (AMI) pilot study to determine if AMI can help change the behavior of utility customers and how to use AMI to improve Austin Water's customer services. The study is ongoing.

Austin Water provides easily-accessed conservation information to its residents through both website and social media presence, and the utility promotes conservation through extensive advertising using multiple media. Additionally, Austin Water has a five-tiered rate structure that provides residents an incentive to conserve both money and water through judicious water use.

Over the years the City of Austin has benefited from active citizen participation and input for its water conservation program, including citizen task forces that have developed detailed proposals for curbing water use. This effort has produced progressive conservation initiatives adopted by the City and its water utility, and it has brought greater citizen support for carrying out these initiatives.

City of Beaumont Population 119,114

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	0	5
4. Total Percent (%) Water Loss	0	0
5. WCP and Conservation Info Accessibility?	3	0
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	10
7. Set a Strong Conservation Goal in its current WCP?	0	15
8. Number of Best Management Practices (BMPs) implemented?	0	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Beaumont: At A Glance

Beaumont's score has nearly doubled since 2016 from 28 to 57 points. In particular, Beaumont saw improvements in realizing the city's previous 5-year water reduction target, setting strong conservation goals in its current WCP, and submitting state-required water loss reporting. Compared to other large cities in Texas, however, Beaumont's performance is still very sub-par. The city's baseline GPCD remains high, and this despite being located in one of the wettest regions of the state. Although the City touts its activities on water conservation education, the City has fallen short of incorporating a wide mix of best management practices into its conservation program. It is hard to see how Beaumont will achieve its ambitious water use reduction goals based on its current level of conservation effort.

Discussion

The City of Beaumont is located in the far eastern part of Texas, close to the Louisiana border. According to data from the National Oceanic and Atmospheric Administration, over the last 30 years Beaumont has had an annual average rainfall of over 60 inches, which is 70% more than the average for the state. The City's Water Utilities Department reports on the City website that it has a surface water treatment plant capable of producing 40 million gallons of water a day and a groundwater well pumping system with the capacity to provide 17 million gallons of water a day. The City's surface water source is the Neches River, and its three groundwater wells are into the Chicot formation of the Gulf Coast Aquifer.

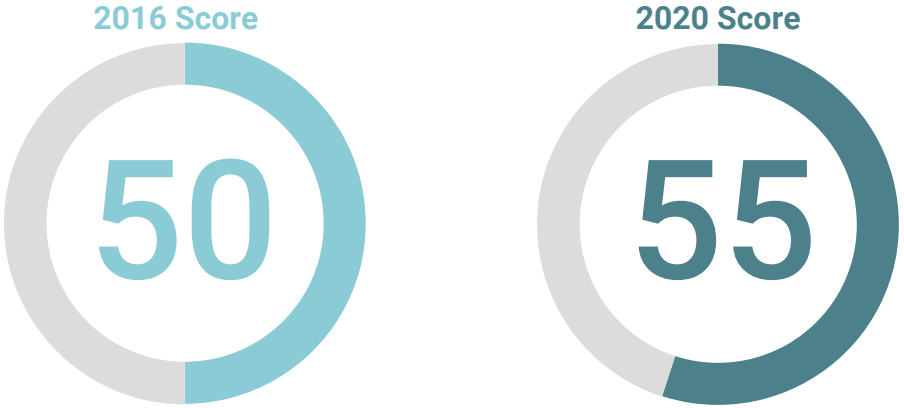
Based on data from its 2014 WCP it appears that the City delivered (sold) almost 5.8 billion gallons of water a year on average during the 2009-2013 period to residential, commercial, industrial, public, and other customers. Its top five retail customers on average accounted for about nine percent of the total. A disturbing statistic from the 2014 WCP was that in addition to the 5.8 billion gallons of water a year sold, on average another 3.7 billion gallons of water pumped by the utility was "unaccounted-for" (lost or unmetered) each year during 2009-2013. This translates to a whopping 37.65% of water pumped per year on average during that period.

The discussion of "planning goals" in the 2014 Beaumont WCP was quite confusing. The City reported a total GPCD of 208 in 2013, although the average for the 2009-2013 period was 225 per year. Based on these baselines and the "total technical potential for reducing per capita water use," the City then set forth total GPCD goals of 239 by 2018 and 198 by 2023. Fortunately, Beaumont exceeded these targets in its 2019 WCP after having reached a baseline of 167 GPCD. Moving forward, the city is no longer underestimating their potential to reduce total GPCD, as they have established ambitious 5-year and 10-year water reduction goals of 156 and 147, respectively, which represent an average annual reduction of 1.2% over the 10-year period.

Aside from this progress though, Beaumont can still improve in other ways. At the time of this report, for example, Beaumont's WCP was still under review by the TWDB and had not been published on the City's website. Per the City's 2019 Water Conservation Annual Report, Beaumont had made efforts to implement only four BMPs, one of which is now a statutory requirement (a utility must have an identified water conservation coordinator). Therefore, it remains to be seen how the City will achieve these results given the limited depth of its water conservation program.

Brownsville Public Utilities

Population 200,179



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	5
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	0	15
8. Number of Best Management Practices (BMPs) implemented?	2	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

Brownsville: At A Glance

The Brownsville Public Utilities Board (BPUB) increased its water conservation score by 5 points from the 2016 Scorecard to the 2020 one. The greatest achievement for the utility was reaching a baseline total GPCD of 102 in 2019 – surpassing its prior 5-year water reduction goal of 120 GPCD by 18 GPCD and achieving a per capita water use that is low relative to other water utilities in Texas. While the utility does expect a slight increase in total water use from 102 GPCD in 2019 to 105 in 2024, it aims to reduce this to 98 GPCD as a ten year goal. Despite this overall progress however, Brownsville could stand to work harder in other areas. The utility still has not increased the number of water conservation BMPs it implements - perhaps because their low rate of water use does not provide the same impetus for water conservation that curbing a high rate of use would. Additionally, Water Loss remains an issue for Brownsville with a reported total water loss of 13.99%.

Discussion

BPUB is the utility that provides water to the City of Brownsville, the El Jardin Water Supply Corporation, and the Brownsville Navigation District. As of 2019 BPUB provided retail water service to over 214,368 people and expects to grow to 262,806 by 2030.. The utility's service area is located in the Lower Rio Grande Valley in the very southernmost part of Texas, and it is in the Region M water planning area. The primary source of water for the BPUB water is the Rio Grande, with supplemental water from almost complete ownership of the Southmost Regional Water Authority (SRWA)'s brackish groundwater treatment facility.

BPUB utilizes at least 692 miles of water pipelines, which may make it a challenge to control water loss. This is evident in the utility's recent water loss rates, which have hovered just above 10% per year, and their most recent Water Loss Audit reporting a four year high of 13.99%. Obviously, there is still room for improvement in this regard and therefore it is disappointing that BPUB's 2019 WCP five and ten year goal is to only keep water loss at 12% or less.

Brownsville PUB has a relatively low rate of per capita water use, reporting a baseline of 102 GPCD in 2019. Although BPUB beat the 5-year goal set in its 2014 WCP (120 GPCD) that 5-year target was still far above the 2014 baseline GPCD of 111 reported in BPUB's 2014 WCP. Now again, looking at the current 5-year target, BPUB has set a goal that is higher than its current baseline. If BPUB aims to build upon GPCD reductions as it inches towards a 98 Total GPCD goal in 2029, setting a less ambitious short-term goal is not very advantageous.

BPUB continues to be an EPA WaterSense Partner, providing a $50 incentive for its customers to use High Efficiency Toilets. The utility's comprehensive residential and small business program, GreenLiving, continues to incentivize joint energy efficiency and water conservation efforts. That program and a very basic list of online conservation tips (such as taking showers instead of baths and watering lawns in the cooler parts of the day), however, constitutes the bulk of the array of water conservation measures implemented by BPUB. The utility's website also promotes "The WaterConservationSuite™", an online tool that offers a water conservation calculator and information for managing water use and costs. However, during a recent visit to this section of the website, the link to the tool did not work.

City of Carrollton Population 132,330

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	10
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	5
8. Number of Best Management Practices (BMPs) implemented?	4	6
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	15	15

Carrollton: At A Glance

The City of Carrollton dropped slightly in points from 74 in the 2016 water conservation Scorecard to 71 in 2020. This decrease was largely due to the City's percent water loss, which increased from 4.1% in 2014 to 7.3% in 2019. The City did add two BMPs to its list of implemented water conservation practices. An area where the City has seen no improvement is its per capita water use goals. In both the 2014 and 2019 WCPs, the City of Carrollton set very minimal 5-year and 10-year targets despite having exceeded targets set in prior plans. Considering the City still remains far from achieving moderate per capita use, Carrollton could certainly set more ambitious water reduction goals, especially given past results.

Discussion

The City of Carrollton - with a population of over 132,330 – lies within Denton, Dallas, and Collin counties just south of Lewisville Lake in the Dallas-Fort Worth Metroplex and the Region C water planning area. The City has a service area of 37 square miles with 56,604 connections – an increase in the last three years. Carrollton essentially relies upon surface water provided under contract by Dallas Water Utilities for the City's supply, which is totally for retail customers.

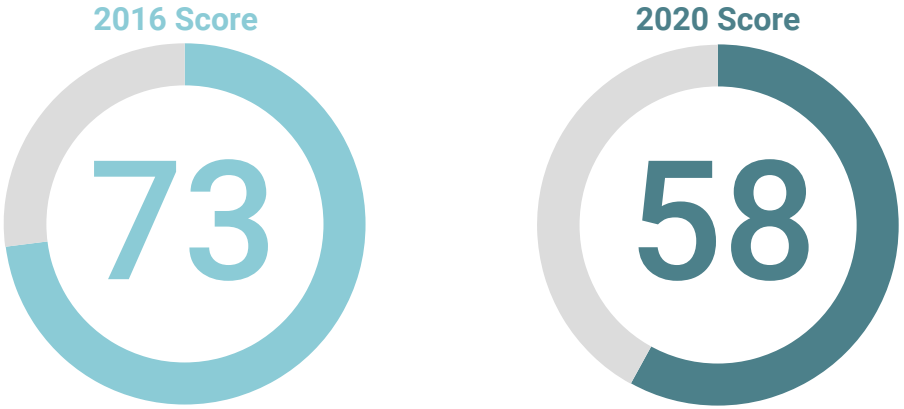
The bulk of Carrollton's water customers are residential (95% of the utility's connections and on average over 2/3 of the City's water use), and Carrollton's residential GPCD of 97 is a substantial portion of the City's total GPCD of 151. Carrollton has come a long way since the late 1990s when per capita water use was well in excess of 200 GPCD, but today's 153 baseline GPCD is still above what a State task force recommended as a target over a decade ago (140 GPCD) and even farther above what some cities have achieved in water conservation.

Carrollton continues to implement a seasonal outdoor watering schedule from April 1 through October 31 that restricts watering by sprinkler system from 10 AM to 6 PM and encourages customers to conduct outdoor watering no more than twice per week on a voluntary basis. With its high percentage of residential water users though, if the City chose to implement a no-more-than-twice-a-week outdoor watering limitation (as many of the other cities in North Central Texas have done), this would dramatically reduce annual water use. Historically, Carrollton's water use doubles during the summer, which is certainly due in part to outdoor watering during the hottest time of the year.

The City still maintains useful water conservation information on its website, including outdoor and indoor water conservation tips, events and classes, retrofits and rebates, directions to demonstration gardens, and more. Unfortunately, it appears Carrollton no longer offers a free irrigation system inspection to residential customers by a licensed irrigation technician each year. Programs such as this, in addition to outdoor watering restrictions, can play a big role in reducing outdoor water waste.

City of Corpus Christi

Population 325,605



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	2
4. Total Percent (%) Water Loss	10	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	10	15
8. Number of Best Management Practices (BMPs) implemented?	8	6
9. Outdoor Watering Schedule?	0	5
10. Conservation Pricing Signal?	15	15

Corpus Christi: At A Glance

The City of Corpus Christi saw a 15-point drop in its score since 2016. The water loss component of the Scorecard was the primary driver for the City's diminished performance. The City of Corpus Christi also continues to have a high per capita water use, which may partly reflect the volume of water the City provides to certain large industrial operations. In hopes of reversing this trend, the City's 2014 and 2019 WCPs established relatively ambitious water conservation goals, including a 1.34 percent average annual reduction in Total GPCD between 2019 and 2024. Although the City recognizes the importance of reducing summertime peak demand, permanent year-round outdoor watering restrictions have yet to be put into place.

Discussion

The City of Corpus Christi Water Department through its retail and wholesale operations provides water to nearly 500,000 residents and some major petrochemical operations in a seven-county service area in the Coastal Bend Region. Wholesale customers include water operations serving the cities of Alice, Beeville, Mathis, Robstown, and San Patricio. Corpus Christi relies solely on surface water sources for its water supply, specifically Lake Corpus Christi (Nueces River Basin), Choke Canyon Reservoir (Frio River Basin), and Lake Texana (on the Navidad River in the Lavaca River Basin). In addition, in 1999, Corpus Christi purchased senior water rights to 35,000 acre-feet of water annually in the Colorado River, which in the future might be transported to Lake Texana for connection to the existing Mary Rhodes Pipeline. The City through the Corpus Christi Aquifer Storage and Recovery District is exploring the prospect of storing water underground for use in dry years.

The City in its 2019 WCP has set an ambitious goal of reducing total per capita water use by 1.34 percent annually through 2024, which is an improvement from its last 2013 WCP. However, for the entire 10- year projection period, reductions in per capita water use average out to only one percent.

Corpus Christi had a water loss rate of 6.7 percent in 2018, which is a reduction from 7.5 percent as of 2012. For 2024 the City has set a goal of reducing its current water loss rate to 6.5 percent over a five- year period and 6.7 percent over 10 years. Despite having maintained a relatively low percent water loss compared to many other cities across the state, the City of Corpus Christi did not receive full points towards this metric because the TWDB flagged the City's Water Loss Audit for potential data issues.

The City continues to offer an extensive water conservation education program, among other efforts, and it has taken steps to encourage its wholesale customers to engage in water conservation. The 2019 WCP identifies several new water conservation initiatives by the City in pursuing water conservation, including a rainwater harvesting rebate program, an irrigation consultation program, and a park/athletic field conservation program.

City of Dallas

Population 1,286,380

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	10
7. Set a Strong Conservation Goal in its current WCP?	5	10
8. Number of Best Management Practices (BMPs) implemented?	10	10
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	15	15

Dallas: At A Glance

Dallas Water Utility's water conservation Scorecard performance has improved since 2016. Not only did the City exceed its 2019 5-year target from its 2014 WCP, it also set stronger 2024 conservation goals. These achievements are due in large part to DWU's ambitious efforts to expand its conservation program in recent years along with its aggressive no-more-than-twice-per-week outdoor watering schedule. DWU, however, continues to face the challenge of controlling water loss.

Discussion

Dallas Water Utilities (DWU) provides retail water service to approximately 1.28 million people in Dallas and wholesale service that covers well over one million other North Central Texas residents in water planning region C. DWU reported in its 2019 Utility Profile that during 2017-2018, it delivered 142 billion gallons of treated water. On average about 40% was for single-family residential use, 25% for multi- family residential, about 26% to commercial customers, and less than ten percent to industrial operations.

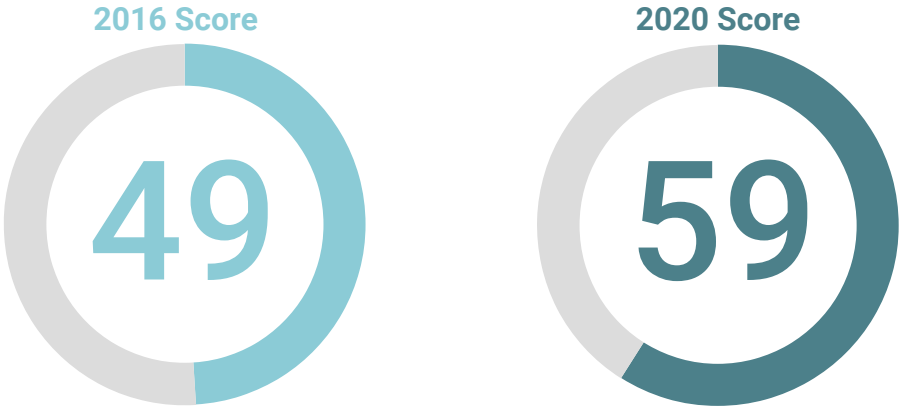
All of the raw water sources for Dallas are surface water sources, including Lakes Ray Hubbard, Lewisville, Ray Roberts, Grapevine, and Tawakokni (via contract with Sabine River Authority), and the Elm Fork of the Trinity River. In addition, DWU has contracts for water from Lake Fork and from Lake Palestine, although these are not fully connected to Dallas at present (DWU and Tarrant Regional Water District are partnering on an Integrated Pipeline to bring Lake Palestine water to the D-FW area). Dallas also has developed a reuse water supply.

Since the 2014 WCP, DWU has reduced its baseline from 204 total GPCD to 181 as per the 2019 WCP. This 2019 WCP sets a target to reduce that figure to 173 by 2024, and 164 in 2029. While these conservation goals are more ambitious than the targets set in the 2014 WCP, they could stand to be more aggressive, especially given DWU's comprehensive water conservation efforts. DWU also continues to have high water loss in its system – the water loss rate averaged about 18 percent from 2014-2019, up from 15 percent a year between 2009 and 2013. The 2019 WCP does set a target of reducing that water loss to 10 percent by 2024. DWU has an extensive leak detection and repair program and is committed to achieving that goal for unaccounted water losses in its water system.

There are very positive signs of progress overall in DWU's water conservation efforts. Dallas has dramatically expanded its conservation program over the last decade with a wide array of best management practices, high efficiency toilet vouchers and rebates, a growing and highly professional conservation staff, use of the innovative "Lawn Whisperer" campaign to educate residents on outdoor landscaping, and the limits on outdoor watering, among other highlights. Also, the utility's water rate structure sends a strong conservation pricing signal. DWU also adopted a water conservation work plan in 2016 and has since continued to improve upon its diverse menu of programs with an ongoing, dynamic approach to conservation whereby programs are continually measured and evaluated systematically for effectiveness and efficiency. The plan is allowing for tangible opportunities to accelerate reductions in water use and to make significant progress in curbing water loss.

City of Denton

Population 130,990



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	0	5
4. Total Percent (%) Water Loss	0	10
5. WCP and Conservation Info Accessibility?	5	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	0
8. Number of Best Management Practices (BMPs) implemented?	4	6
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	10	10

Denton: At A Glance

Since the City of Denton adopted a plan to be "Sustainable Denton," the City has made significant improvements in its water conservation score from 49 points in 2016 to 59 points in 2020. But there are additional steps such as permanent outdoor water limitations and a strong water conservation pricing signal that Denton needs to take to assure a sustainable water future.

Discussion

The City of Denton, located north of Dallas and Fort Worth and in the Region C water planning area, provides water services to over 130,990 people who live within its 139 square-mile service area. Denton draws its water from Lake Lewisville and Lake Ray Roberts. Denton is a minority water rights holder in both lakes, which are managed by Dallas Water Utilities. The City reports that on average it pumped approximately 30 million gallons of water a day to its customers 2018, an amount that has nearly doubled compared to the prior 4-year average

According to its 2019 Utility Profile, the City's annual average per capita water use rate for the previous five years was 140 GPCD, which is down from 158 GPCD from the previous five years. In contrast, the City has identified in its 2019 WCP a 5-year GPCD target of 152 in 2024 and the same for 2029. The increase is most likely due to increasing population and economic development in Region C that have led to growing demands for water.

The City recognizes that additional supplies to meet higher demands will be expensive and difficult to develop. Therefore, Denton is making it a priority to efficiently use existing supplies and make them last as long as possible. However, greater opportunity lies in reducing outdoor watering use as a means to maintain or reduce its previous 5-year average of 138 GPCD, specifically through outdoor landscape watering management

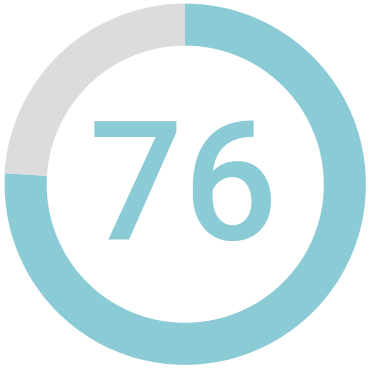
Denton's own website reports that the average household it serves uses 320 gallons of water per day. Of that amount, 40% goes toward lawn irrigation, increasing to 70% during the summer. Denton has taken some steps to address outdoor watering. The City has a time-of-day watering restriction (no watering between 10 AM and 6 PM) during the hottest months of the year. To address similar seasonal demand issues created by outdoor watering, other water suppliers in the North Central Texas area have introduced a limit of no-more-than-twice-a-week outdoor watering on a permanent basis. Denton would be well-advised to consider this step

An additional focus for Denton should be on its water rate structure and how that impacts water use. Denton's rate structure sends a very weak conservation pricing signal to its residential customers. The first change in price per 1000 gallons does not come in Denton's rates until a household uses 15,000 gallons of water a month – and that is only for billings during May through October.

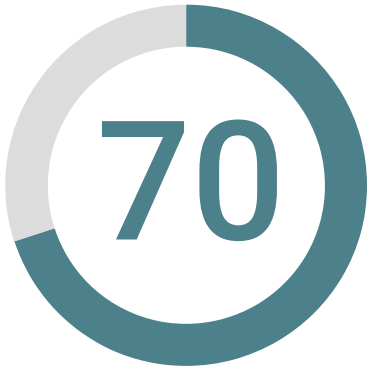
El Paso Water Utilities

Population 759,004

2016 Score



2020 Score



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	5
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	10	10
8. Number of Best Management Practices (BMPs) implemented?	6	10
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	15	10

El Paso: At a Glance

El Paso Water Utilities (El Paso Water) conservation Scorecard performance has dropped slightly from 76 points in the 2016 Scorecard to 70 in the 2020 Scorecard. Although El Paso Water continues to implement a wide range of water conservation best management practices, the utility has not taken an aggressive stance on limiting outdoor water use through outdoor watering restrictions as some other major Texas cities. Water loss in the utility's distribution system has also increased over the years. El Paso Water continues to represent in many ways a good model for water conservation by a large retail water utility, but there are opportunities for improvement.

Discussion

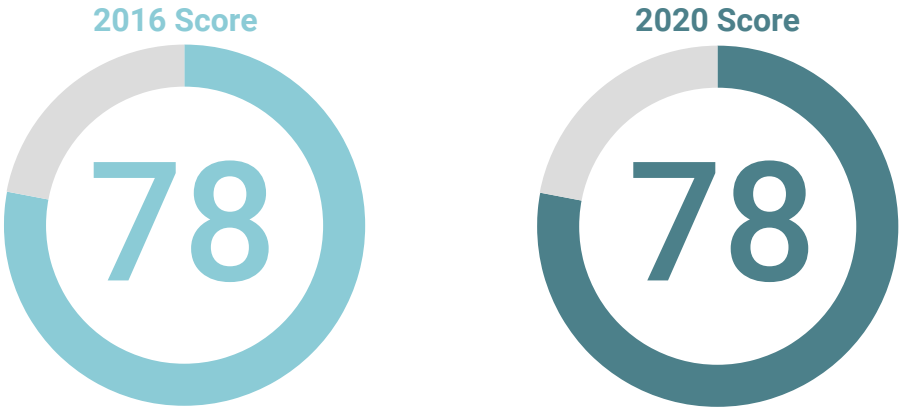
El Paso Water Utilities (El Paso Water) serves the City of El Paso, the sixth largest city in Texas with a population around 759,000. According to its most recent Water Conservation Plan, El Paso Water also provides water to an additional 75,000 residents through eight wholesale contracts. El Paso is located in the far northern part of the Chihuahuan Desert and receives on average only eight inches of rain each year. El Paso is in the Region E water planning area.

El Paso Water uses both groundwater and surface water, specifically from the Rio Grande (40%) and two aquifers, the Hueco (40%) and Mesilla Bolsons (20%). In 2018, El Paso Water delivered over 107,748 acre-feet of treated water and approximately 61,378 acre-feet of treated wastewater. El Paso Water for over 25 years has been injecting treated wastewater back into the Hueco Bolson to augment that water source, and El Paso Water has a joint brackish groundwater desalination project with Fort Bliss that is currently the largest such facility in the country.

El Paso has had an active water conservation program since the early 1990s which has and continues to garner results. Though its total score here has not changed significantly, there has been progress that should be noted. Since the 2016 Scorecard, El Paso Water has implemented an additional six Best Management Practices, increasing its total from 10 to 16 BMPs, a relatively high number compared to other water utilities in Texas. Additionally, El Paso Water has achieved a relatively low GPCD consistently of below 140 GPCD, and now aims for 126.5 by 2024, and 125 GPCD by 2029.

El Paso Water did regress slightly since the 2016 Scorecard with regard to water loss and its water rate structure. Its water loss percentage rose from 9.73% to 13.05% and its water rate structure no longer sends a strong conservation pricing signal. El Paso Water would benefit from addressing these water loss and water rate structure concerns, and could further reinforce its efforts through stronger outdoor watering restrictions (such as no-more-than-twice- or no-more-than-once-a-week outdoor watering limitations).

City of Fort Worth Population 829,560



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	0	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	8	8
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	15	15

Fort Worth: At A Glance

The City of Fort Worth's water conservation Scorecard performance has remained the same at 78 points, but behind this score, the City has made marginal improvements with the addition of one best management practice and more ambitious conservation targets. Fort Worth, continues to struggle with controlling water loss but has addressed this ongoing issue with an advanced water loss detection and repair program. The City is certainly on the right track towards achieving its 2024 conservation targets.

Discussion

The City of Fort Worth provides retail water and sewer service to approximately 820,000 residents and wholesale water service to 33 wholesale customers. Service through wholesale customers accounts for approximately 440,000 additional residents. In total, Fort Worth provides water directly or indirectly to nearly 1.3 million people in Tarrant, Denton, Johnson, Parker and Wise counties. The city purchases their water (all surface sources) from six major reservoirs: Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Lake Benbrook, Cedar Creek Reservoir, and the Richland-Chambers Reservoir.

Though the City's water conservation score has not changed since 2016, Fort Worth continues to make slow but sure progress when it comes to water conservation. The City in its 2019 WCP has set ambitious conservation goals as it did in the past. In its 2014 WCP, as of 2013, Fort Worth's 5-year average water-use rate had been 171 GPCD and the City set a 5-year target of 160 GPCD by 2020, slightly higher than the minimum 1% per year reduction rate for municipal water suppliers suggested by a State task force in 2004. As of today, Fort Worth has surpassed that goal – with a total GPCD of 159 – and set a strong goal of reaching 140 GPCD by 2024, a 2% water use reduction annually. This ambitious goal will likely be met thanks to water conservation strategies such as the implementation of no-more-than-twice-a-week outdoor watering restrictions and a rate structure that sends at least a moderate water conservation pricing signal.

While the City of Fort Worth has made progress, there are ways in which the City could improve, reinforce, and support what it is trying to achieve. The single most significant way Fort Worth could do so would be to address its high water loss, which was reported as 16.8% in the 2018 Water Loss Audit. The City would also benefit from taking even more steps to curtail water use for outdoor landscaping by adopting a no-more-than-once-per-week outdoor watering restriction.

City of Frisco

Population 183,173

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	10
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	10	0
8. Number of Best Management Practices (BMPs) implemented?	4	4
9. Outdoor Watering Schedule?	10	15
10. Conservation Pricing Signal?	15	10

Frisco: At A Glance

The City of Frisco saw a 13-point drop in its score since 2016 due to less ambitious conservation targets, an increase in water loss, and a decrease in the strength of its conservation pricing signal. Despite having enhanced its efforts to reduce residential outdoor water use by transitioning to a no-more-than-once-per-week outdoor watering schedule, Frisco anticipates an uptake in its residential per capita water use due to population growth. Total per capita water use is also quite high, and while the city's water conservation program focuses primarily on residential use, Frisco would benefit from expanding these efforts to commercial and industrial customers.

Discussion

The City of Frisco lies within the Dallas-Fort Worth Metroplex and the Region C water planning area. As of 2020, the City provides retail water service for approximately 183,200 people and is reliant on the North Texas Municipal Water District (NTMWD) as its sole water supplier.

The City of Frisco has dropped precipitously in this year's Scorecard – from 82 points in the 2016 Scorecard to 69. The primary reason for this decrease is the unambitious per capita water use goals that Frisco set for 2024 in its 2019 WCP. Frisco has set a "conservation" target of 195 GPCD and anticipates that residential per capita use will increase from a historic average of 106 GPCD to 110 GPCD by 2024.

Frisco has revised its water rate structure such that it no longer sends a strong water conservation pricing signal, as determined by the percent increase in the amount a residential customer will pay for greater water use. The City also reports higher water loss than earlier, an increase from 4.03% in the 2016 Scorecard to 8.65%.

As a member city of the conservation-oriented North Texas Municipal Water District, Frisco has the support and resources to be a model for other cities in North Texas in pursuing water conservation. Since the 2016 Scorecard some progress has in fact been made, through the implementation of stronger watering restrictions (from no more than twice a week to no more than once a week). This should help address water use by Frisco's residential customers, who account for the bulk of Frisco's consumption.

However, it has been 15 years since a state Water Conservation Implementation Task Force recommended a target of 140 GPCD for municipal water suppliers, which Frisco is still a long way from achieving. The City will need to adopt more BMPs for water conservation, become more ambitious in accelerating its reductions in per capita water use, address its increased water loss, and revise its pricing structure to encourage conservation.

City of Garland

Population 238,293

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	5	15
8. Number of Best Management Practices (BMPs) implemented?	4	10
9. Outdoor Watering Schedule?	5	10
10. Conservation Pricing Signal?	10	10

Garland: At A Glance

The City of Garland saw a 4-point drop in its water conservation score from the 2016 Scorecard. Unlike neighboring cities in the Dallas area, Garland has maintained relatively moderate per capita use in recent years, though water use increased from 145 to 156 GPCD between the 2014 and 2019 WCPs. Despite this increase, the city continues to have an aggressive 5-year target of 141 GPCD. Replacing its no-more-than-twice-per-week outdoor watering schedule with a dedicated no-more-than-once-per-week schedule could help close this gap. What is most surprising about the city's performance in the 2020 Scorecard is its dramatic increase in water loss since the 2016 Scorecard (from about 4% to 17%).

Discussion

The City of Garland covers 57 square miles of land northeast of Dallas. Garland is a member city of the North Texas Municipal Water District (NTMWD) which supplies water from several reservoirs to Garland and numerous other cities in North Central Texas. Garland is in the Region C water planning area and serves a population of approximately 238,300 people.

The City of Garland has made progress towards water conservation, though it is a mixed bag. The two most positive developments since the last Scorecard have been an increase in the number of BMPs the city has implemented (16 total now, as compared to only six in its 2014 WCP) and the adoption of no-more-than-twice-a-week outdoor watering restrictions.

The most worrisome development however – and a big reason why Garland didn't score higher in this Scorecard – was a dramatic increase in water loss percentage (up over 13%.) In the 2016 Scorecard the water loss reported by Garland (3.82%) was in fact much lower than the rates indicated in the City's utility profile in the years leading up to it. With a current reported loss of 17.4% - and with the two previous year losses of 15.44% and 9.72% - it is apparent that 3.82% was the exception rather than the rule.

Beyond addressing water loss, Garland could take some practical next steps to make further progress on water conservation. The first would be to adopt a water rate structure with a stronger conservation pricing signal. The 2016 Scorecard that Garland's water use in the summer is nearly double that of its winter use, indicating that curtailing outdoor watering is an area of great potential savings – and a strong conservation pricing signal in its water rate structure would help to do so.

The second important step Garland could take would be to bolster outdoor water restrictions by going to no-more-than-once-a-week watering restrictions and designating the day when a customer is permitted to water. Today, under the no-more-than-twice-a-week restriction, customers have the flexibility of choosing which days of the week to water, which makes the restriction virtually unenforceable.

City of Georgetown Population 106,813

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	0	5
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	6	4
9. Outdoor Watering Schedule?	0	10
10. Conservation Pricing Signal?	5	10

Georgetown: At A Glance

The City of Georgetown experienced an impressive 18-point increase in its water conservation score since 2016. In addition to making strides in controlling water loss, the City has also implemented a no-more-than-twice-per-week outdoor watering schedule and strengthened the conservation pricing signal conveyed through its customer water rates. The City's biggest challenge looking ahead will be reducing its high per capita water use of 187 GPCD. Although Georgetown has set very ambitious water use reduction targets, the City will need to explore a broader array of conservation best management practices to help achieve these goals.

Discussion

The City of Georgetown currently serves over 400 square miles (Figure 2.1) which includes over 106,000 people, and 39,702 metered connections. The connections are made up of the following categories: 37,475 Residential, 1,895 Commercial, 28 Industrial, and 284 Institutional. In 2018, the average daily water use was 20. 79 million gallons per day (MGD), and the peak usage was 41.22 million gallons.

The City is supplied surface water from Lake Georgetown through the Brazos River Authority, and ground water from the Edwards Aquifer. The City's service area is currently served by four treatment facilities; additional treated water can be supplied through an interconnection with Round Rock if needed. The total treatment capacity is 47.1 MGD.

Georgetown has made strides towards water conservation over time, as is represented in its overall scores. It has made the most progress since the 2016 Scorecard through a significant decrease in its water loss percentage (from 24.51% to 12.35%), through the implementation of no-more-than-twice-a-week outdoor watering restrictions, and the adoption of a rate structure that sends a stronger conservation price signal.

While Georgetown did not meet the water use reduction goals established in its previous WCP, the City has set ambitious targets for the future (for example, with a current baseline of 187 GPCD in 2018, Georgetown is targeting 170 GPCD in five years, an annual reduction of 1.81%). There are a number of ways by which Georgetown could meet the new goals. Strategies include: increasing the amount of implemented BMPs (currently at seven, a decrease since the last Scorecard), addressing its total water loss percentage which is still high, instituting even stronger outdoor watering restrictions (no-more-than-once-a-week), and by implementing water conservation pricing signals within its rate structure.

City of Grand Prairie

Population 189,430

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	0	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	15	10
8. Number of Best Management Practices (BMPs) implemented?	6	6
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	10	10

City of Grand Prairie: At A Glance

The City of Grand Prairie's water conservation Scorecard performance decreased from 71 in the 2016 Scorecard to 56. The City fell short of achieving its 2019 5-year total GPCD target of 128. Despite maintaining a moderate total GPCD of 130, the city has continued to set unambitious 5-year and 10-year water reduction targets (129 and 128 total GPCD, respectively). The City has shown no improvement in controlling water loss, which has hovered at around 16% over the past five years. With such a high water loss percentage, it comes as a surprise that the city did not establish 5- or 10-year goals aimed at reducing this loss. Current and future population growth may continue to exacerbate water loss, so it is important for the City of Grand Prairie to take a more strategic approach towards controlling water loss.

Discussion

The water utility system of the City of Grand Prairie – located between Dallas and Arlington – serves over 189,000 residents. The City is located in the Region C water planning area and currently utilizes several water sources: water purchased through contracts with the Cities of Dallas (up to 33.8 MGD), Fort Worth (up to 2.5 MGD), and the City of Midlothian (up to 2.0 MGD) as well as groundwater pumped from seven City-owned wells drawing from the Trinity Aquifer (up to 6 MGD).

The City of Grand Prairie lost twenty points since the 2016 Scorecard for two reasons. One, the City was unable to meet its 5-year target (set in 2014) of a 128 GPCD by 2019. Second, the 5-year goal Grand Prairie has now set for 2024 aims to reduce total GPCD from 130 to only 129.

According to Grand Prairie's 2019 WCP, per capita water use from 2014 to 2018 averaged 130 GPCD. In Grand Prairie's 2014 WCP, the City reported that its 5-year average from 2009 to 2013 was 135 GPCD. While Grand Prairie has made incremental improvement, the City will need to take a few important actions to make real progress in water conservation.

Setting more ambitious conservation goals would be the first step. However, the 138 GPCD goal Grand Prairie set for 2024 is higher than the City's historic yearly averages. Though Grand Prairie claims population growth is a barrier to achieving a lower GPCD, aiming for 125 GPCD or setting an average annual reduction of more than 1.25% should be achievable by, for example, targeting "peak" water demand. Grand Prairie reports that its peak water demand from 2014 to 2018 ranged from 36.3 MGD to 42.4 MGD, compared to the City's average daily demand of 22.9 MGD to 26.0 MGD. This peak likely reflects outdoor water use during the hottest parts of summer. Strengthening limitations on outdoor watering of lawns (such as no more than once per week) and taking more ambitious initiatives to encourage the use of water-conserving outdoor landscaping, would be effective strategies to reduce peak water demand and help the City of Grand Prairie realize more ambitious water conservation goals.

City of Houston

Population 2,328,419

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	0
5. WCP and Conservation Info Accessibility?	5	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	10
8. Number of Best Management Practices (BMPs) implemented?	2	4
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Houston: At A Glance

The City of Houston's score dropped from 62 in the 2016 Scorecard to 57, primarily due to an increase in water loss from 11% to 17%, despite concerted efforts in recent years to address the City's historically high rate of water loss. Houston did, however, incorporate two more best management practices into its water conservation program. The City has also made significant strides in reducing total water use from 144 GPCD in 2014 to 130 GPCD in 2019. The City's 5-year and 10-year targets set forth in the 2019 WCP are far more modest though. The good news is that the City of Houston has many options to improve its water conservation and water loss control efforts.

Discussion

Houston is the largest city in Texas with a population of over 2.3 million. The City provides retail water service to over 488,000 single-family, multi-family, and commercial, industrial, and institutional connections. The City is also the largest wholesale water provider in the region, supplying water to 274 contract customers such as municipal utility districts (MUDs), regional water authorities, industries, and other municipalities. The City of Houston draws its water supplies from several sources, including Lakes Houston, Conroe, and Livingston, the San Jacinto River, bayous, and groundwater pumping. Houston is in the Region H water planning area.

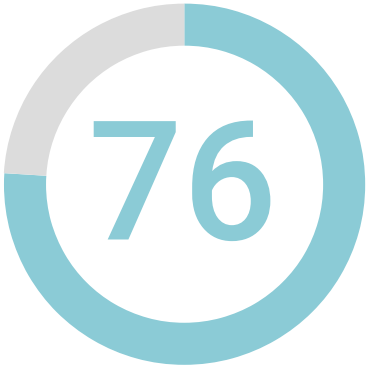
Since 2016, Houston's conservation score has fluctuated but never improved and now in 2020 the City has scored 5 points less than it did in the 2016 Scorecard. Houston regressed on water loss, reporting a 16.87% water loss in its most recent water audit, up from 10.9% just four years ago. The 2016 Scorecard noted that Houston historically has had a very high water loss rate in its distribution system. As reported in its 2014 WCP, for example, the historic five-year water loss experienced by Houston was 14 percent. However, the City of Houston had begun an active effort to curb this water loss – including acquiring state financial assistance to replace water lines. As of 2020 though, with a loss rate of 16.87%, further efforts are required for Houston to address this issue.

In terms of GPCD, Houston has historically had a moderate rate of per capita water use relative to other cities. This likely reflects in part Houston's annual average rainfall of almost 50 inches, which reduces the need for outdoor watering. Over the past several years Houston has reduced its per capita water use, from 144 GPCD in 2013 to 129 as of 2019. This progress, however, may be due to the historically heavy rainfall incidents in Houston in 2015, 2016, and 2017, which no doubt depressed outdoor watering (one does not water their lawn when their house is flooded). Nevertheless, Houston's 2024 water conservation target of 127 GPCD could be more ambitious, especially for a water utility that to date has not undertaken a comprehensive water conservation program.

City of Irving

Population 237,490

2016 Score



2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	10
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	0
8. Number of Best Management Practices (BMPs) implemented?	6	8
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	15	15

Irving: At A Glance

With a moderate rate of water loss, no-more-than-twice-a-week outdoor watering restrictions in place, and a fair number of implemented best management practices, the City of Irving is making gradual progress on water conservation. However, Irving has also set less than ambitious water conservation goals. If the City wants to continue to make progress in the right direction, Irving should consider specialized programs to address the GPCD of its commercial and industrial customers.

Discussion

The City of Irving lies within the Dallas-Fort Worth Metroplex and the Region C water planning area and has an average rainfall of 36". Irving has a service area of 68 square miles and provides retail water service for 237,490 people. City planners expect the city to be built out by 2040, with the population reaching 301,541 residents by that time. Irving relies on surface water for its supply. The city gets most of its water from Lake Jim Chapman and also has a contract with the City of Dallas for water from Lake Lewisville.

The City of Irving continues to do well in some areas of water conservation. Irving has implemented an additional two BMPs since the 2016 Scorecard, has a no-more-than-twice-a-week outdoor watering restriction, and has maintained (and even improved upon) a moderate water loss rate. Also, the City now offers a "Water Conservation Outreach Program" and a "Residential Irrigation System Checkup" for Irving residents.

An area where the City of Irving has failed to improve is setting strong five-year GPCD reduction targets. Although Irving exceeded its most recent five-year target of 168 to reach a GPCD of 157, the City in its 2019 WCP set a 2024 target of 166 GPCD.

The City of Irving could improve its water conservation efforts by instituting specialized programs to achieve water savings from the utility's heavy commercial and industrial water use customers. By doing so, Irving could begin to narrow the range of per capita water use experienced in the last five years (163 GPCD to 189 GPCD, with an average of 170 GPCD) and start setting ambitious but realistic water conservation goals.

City of Killeen Population 144,000

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	0	15
8. Number of Best Management Practices (BMPs) implemented?	6	6
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Killeen: At A Glance

The City of Killeen continues to just miss the mark on water conservation. The 2016 Scorecard noted that Killeen had a low per capita water use rate yet had set a water use goal for the next decade that went in the wrong direction - a target that was above its historic GPCD averages. Now, again, the City has set future 5- and 10-year targets of 110 GPCD, above its historic five-year average of 104 GCPD. Killeen has options, such as outdoor watering restrictions, the City could adopt to keep water use low or even reduce it. Indeed, Killeen has an opportunity to be a state leader in water conservation if it takes certain steps.

Discussion

Killeen is in the Brazos Valley in Central Texas and is part of the Brazos Region G water planning area. The City purchases all its treated water from the Bell County Water Control & Improvement District (WCID) Number 1, for which Lake Belton is the water supply. Killeen has only retail water customers and no wholesale operations

Since the 2016 Scorecard, Killeen has increased its water conservation score from 54 to 64. This boost was a result of achieving 125 GPCD or less. However, despite its better score overall, Killeen has a higher water loss percentage now (17.69%), then it did in 2016 (12.62%). Also, the fact that Killeen surpassed its 2019 goal (set in its 2014 WCP) of 140 total GPCD – and earned points because it did so - is not surprising given that its average GPCD was already 117 in 2014.

Moving forward, the two most significant ways for Killeen to improve its water efficiency efforts would be to implement outdoor watering restrictions and work to reduce its water loss. Killeen has already achieved notable total GPCD averages and has great potential to maintain or even lower its GPCD numbers to some of the lowest in the state.

City of Laredo Population 260,654

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	10
5. WCP and Conservation Info Accessibility?	5	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	5
7. Set a Strong Conservation Goal in its current WCP?	15	10
8. Number of Best Management Practices (BMPs) implemented?	6	6
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

Laredo: At A Glance

The City of Laredo continues to make progress in reducing per capita water use although its water conservation score may not reflect that. In its 2009 WCP, Laredo set a goal of reducing per capita water use from its four-year average of 190 GPCD to 170 by 2014 and 150 by 2019. By 2019 Laredo actually achieved a GPCD baseline of 137 and aims to reach 130 GPCD in five years. Laredo could make even more progress by such measures as instituting outdoor watering restrictions and further reducing water loss.

Discussion

Laredo, whose population now approaches 261,000, is located on the Texas-Mexico border. The City's primary source of water supply is the over-permitted Rio Grande. The City has two water treatment plants, the Jefferson Water Treatment Plant and the El Pico Water Treatment Plant, with a combined capacity of 85 million gallons per day.

Laredo's 2020 water conservation score represents a decrease from 66 points in 2016 to 59. The most notable reason for the lower score is that although Laredo reported a total GPCD of 140 or less, the City did not set a more aggressive 5-year GPCD annual reduction goal in its 2019 WCP. Laredo also does not post its Water Conservation Plan online, which is important for full public transparency of its water conservation efforts.

Despite the overall decrease in its water conservation score, the City of Laredo has made improvements. Since 2016, its percent water loss has decreased, for example, from 12.5% to 10.1% today. Moreover, although its Water Conservation Plan is not posted online, a webpage dedicated to water conservation can be found on the City website, which not only includes water conservation tips but offers a rebate program incentivizing the adoption of water efficient toilets.

Overall, the City of Laredo has several opportunities to enhance its water conservation efforts. The City can continue to decrease its water loss. Laredo could also implement outdoor watering restrictions, which would allow the City to set and achieve more ambitious conservation goals. Finally, Laredo could provide its Water Conservation Plan online for public accessibility and accountability.

City of League City Population 106,415

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	10
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	6	6
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

League City: At A Glance

Not much has changed when it comes to water conservation and League City. Its score has stalled at 74, with too few proactive steps taken toward improvement. Though League City maintains a relatively low GPCD of 115, it has regressed in terms of implemented BMPs, and the City has struggled with its water loss percentage over the last few years - reaching nearly 15% and only now nearing the low of 7.94% reported in the 2016 Scorecard. Given League City's location and concerns over the effects of subsidence, the City would be wise to act more aggressively on water conservation to help reduce groundwater withdrawals.

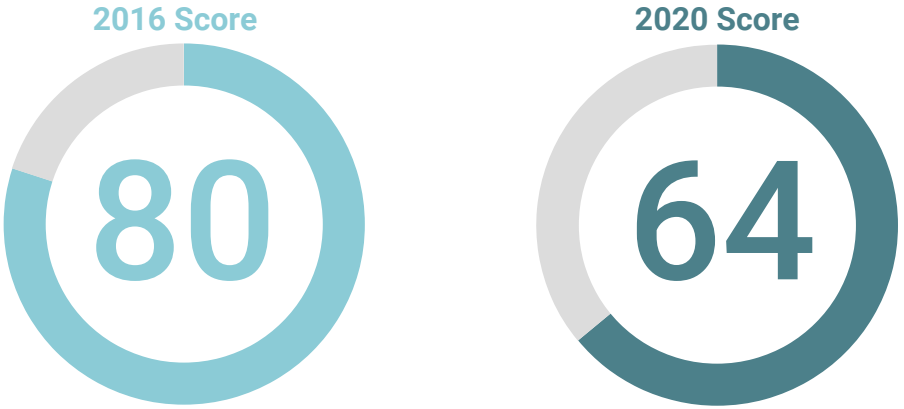
Discussion

League City is geographically located in the Harris-Galveston Subsidence District's (HGSD) Regulatory Area 1 and is required to limit its use of groundwater to 10 percent of annual water usage, due to the effects that subsidence has had on the region. League City provides retail water service to approximately 106,000 people and does not have any wholesale customers. In 2018, on a monthly basis League City purchased an average of 310 million gallons of treated water from the City of Houston and an average of 42 million gallons of treated water from the Gulf Coast Water Authority (GCWA), in addition to pumping an average of 3 million gallons of groundwater.

League City maintained the same overall score from the 2016 Scorecard to the 2020 Scorecard because not much has changed. League City has yet to establish any form of outdoor watering restrictions. Also, the City has not implemented any additional BMPs, in fact they have implemented one less BMP than in the past (ten, as opposed to eleven). On the positive side, the City has brought their water loss percentage back down to 9.92% - from a high 14.86% just a few years ago, though that is an increase from the 7.94% reported in the 2016 Scorecard. Another positive note is that League City reports a relatively low GPCD of 115 and a 5-year goal of reaching 112 GPCD.

To make progress, the City could establish limitations on outdoor watering, such as time-of-day restrictions, as well as increase the number of BMPs implemented. Both of these steps would not only improve the City's water conservation score, but more importantly help garner public awareness of water consumption and promote a culture of conservation.

City of Lewisville Population 104,780



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	5
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	5
7. Set a Strong Conservation Goal in its current WCP?	15	10
8. Number of Best Management Practices (BMPs) implemented?	0	4
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	10	10

Lewisville: At A Glance

The City of Lewisville seems to be headed in the wrong direction on water conservation. While Lewisville has begun to implement best management practices, has in place a no-more-than-twice-a-week water restriction, and adopted a conservation pricing signal in its water rate structure, both the City's water loss percentage and baseline annual GPCD have been trending upwards. Lewisville has set a rather unambitious 5-year goal of maintaining a current baseline of 140 GPCD and achieving 135 GPCD in 10 years, but the City likely will need to take much more significant steps than it has done so far to meet even those goals.

Discussion

The City of Lewisville encompasses 42.68 square miles, with a service area of 34.7 square miles. The service area includes the area within the current city limits of Lewisville, as well as the portions of the Lakewood Hills (Lord and Clem tracts) and the Castle Hills Subdivisions. The City of Lewisville serves a population of over 104,000. Lewisville is located in the Region C water planning area and supplies water from the City's Water Treatment Plant and from treated water purchased from Dallas Water Utilities (DWU). The City of Lewisville's water system consists of a water supply reservoir, water treatment facilities, distribution and collection systems, and a wastewater treatment plant.

The overall score for the City of Lewisville decreased dramatically compared to the 2016 Scorecard - from a high of 80 points to 64. A significant reason for this decrease was a fairly substantial increase in water loss, from a relatively good 6.01% to 11.45%. Additionally, in its 2019 WCP Lewisville has set less ambitious water use reduction goals than those set in its earlier WCP. While Lewisville met its 2019 GPCD goal of 140, that was in fact higher than its actual GPCD in each of the last five years prior to revision of its WCP (i.e. 129 GPCD in 2014, 127 GPCD in 2015, 128 GPCD in 2016, and 139 GPCD in 2017). Thus, the 5-year goal Lewisville has now set for 2024 – again 140 GPCD - would only maintain or increase the GPCD levels it has already achieved. Lewisville has implemented seven BMPs, however, a noteworthy increase from the 2016 Scorecard.

The City of Lewisville could improve its water conservation score by focusing efforts in a few areas. First, the City could set stronger conservation goals in future WCPs - maintaining the status quo will not lead to progress. Second, the City could continue to implement more BMPs to achieve stronger conservation goals and enable a culture of conservation in the community. Additionally, Lewisville could go from its current no-more-than-twice-a-week to no-more-than-once-a-week outdoor watering restrictions. Finally, the City could revise its water rate structure to send a stronger conservation pricing signal to encourage households to use less water, especially in terms of outdoor watering during the summer.

City Lubbock Population 261,946

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	10
5. WCP and Conservation Info Accessibility?	5	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	5
8. Number of Best Management Practices (BMPs) implemented?	4	10
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	10	15

Lubbock: At A Glance

The City of Lubbock has made progress on water conservation since 2016 and was one of the highest scoring cities in the 2020 Scorecard. Lubbock is located in a dry area of the state (the Texas Panhandle). As of the 2016 Scorecard, the City did not appear to be aggressively moving to reduce its water use or water loss, especially considering its geographic context. Since then Lubbock has taken steps to better prepare for its water future. With a decrease in water loss percentage, the implementation of a relatively high number of best management practices, and the adoption of a stronger conservation pricing signal, Lubbock is moving in the right direction.

Discussion

The City of Lubbock, located in the Region O water planning area, serves a population of over 260,000. Lubbock is a member of the Canadian River Municipal Water Authority (CRMWA) and currently utilizes three water supply sources. Approximately 66% of the city' s annual water usage is supplied from the Canadian River Municipal Water Authority (CRMWA). The water supplied from CRMWA is a blend of surface water from Lake Meredith and groundwater. Fifteen percent of the City' s annual water usage is supplied from a well field located in Bailey and Lamb Counties, owned and operated by the City of Lubbock, and approximately 19% of the city's annual water usage is supplied from Lake Alan Henry, which is located 60 miles southeast of Lubbock in Garza and Kent Counties.

The City of Lubbock has done well on water conservation since the 2016 Scorecard, increasing its overall score from 64 to 78 - one of the highest scores in the 2020 Scorecard. To do so, Lubbock decreased its water loss percentage from 11.9% to 9.87%, implemented an impressive 18 BMPs (a jump from only seven earlier), and improved its water conservation pricing signal.

To build on its progress, Lubbock could enact no-more-than-once-a-week outdoor watering restrictions. Given that the average winter water usage GPCD in Lubbock is 111 while the average summer water usage is 152, strengthening outdoor water restrictions could reduce water use and further the building of a stronger culture of conservation.

City of McAllen Population 145,249

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	5
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	0	5
8. Number of Best Management Practices (BMPs) implemented?	8	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

McAllen: At A Glance

The 2016 Scorecard reported that the City of McAllen had historically seen a wide variation in its rate of per capita water use, but the overall trend has been to reduce that use. This would appear to remain true - with current baseline GPCD of 157 and 5- and 10-year target reductions of 151 and 148, respectively. However, these "reduction" goals are modest and higher than the annual GPCD rates that McAllen has already achieved. Furthermore, McAllen is now implementing fewer BMPs than reported in the 2016 Scorecard, raising questions about the utility's commitment to conservation.

Discussion

The City of McAllen serves a population of just over 145,000 within a service area of 48.7 square miles and is located in the Lower Rio Grande Valley and the Region M water planning area. The water source for the City is the Rio Grande with delivery contracts via canals from four Valley irrigation districts.

The overall score for the City of McAllen has decreased since the 2016 Scorecard - from 61 total points to 50. The main reason for this decrease is a fairly substantial rise in water loss, increasing from a low 4.68% to 10.74%. The city also has regressed in terms of implemented BMPs, from an impressive 14 implemented BMPs to only three now. While its conservation goals are moderately stronger than they were for the 2016 Scorecard, McAllen only seeks to reduce daily per capita water use to 151 GPCD in the next five years, which is not an ambitious goal.

To make greater strides towards water conservation, the City could first adopt permanent limitations on the time of day and number of days a week that a household may do outside landscape watering. Second, the City could revise its water rate structure to send a stronger conservation pricing signal to encourage households to use less water, especially in terms of outdoor watering during the summer. Also, to move forward McAllen should return to implementing at least the number of BMPs it once was. By doing these things, McAllen would cultivate a culture of conservation among its citizens, greatly aiding the potential reduction of water consumption.

City of McKinney **Population** 187,802

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	0	0
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	0
8. Number of Best Management Practices (BMPs) implemented?	10	6
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	10	10

McKinney: At a Glance

The progress on water conservation by the City of McKinney that was observed and reported on in the 2016 Scorecard no longer holds true. The City's water loss rate remains high, its conservation goals are unambitious, and McKinney is now implementing fewer best management practices than it has in the past. The recommendations made in the 2016 Scorecard remain valid - McKinney could benefit from stronger restrictions on outdoor landscape watering accompanied by a strong education component for the community. Additionally, McKinney could achieve water savings by working with its commercial and institutional customers to reduce water use.

Discussion

The City of McKinney lies within the Dallas-Fort Worth Metroplex and the Region C water planning area. The City serves a population of just over 187,000 in a 63-square-mile service area. McKinney is a member city of the North Texas Municipal Water District, which provides the City with its water supply (surface water) and crafted a model water management plan that McKinney adopted.

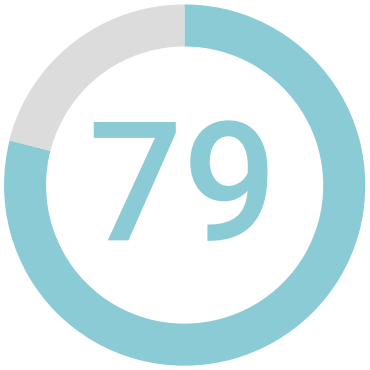
The overall water conservation score of the City of McKinney has decreased by nine points - from 63 to 54 - since the 2016 Scorecard. The City's conservation goals set for 2024 are even less ambitious than they were in the past - a zero percent reduction target - and McKinney has in fact reduced the number of implemented BMPs - from 16 to 11. Additionally, the City has not taken many proactive steps towards water conservation, and McKinney did not significantly decrease its percent water loss - which today hovers around an incredible 21.75%!

McKinney would be well served by increasing the number of implemented BMPs to previous levels, reducing its high rate of water loss, and setting strong conservation goals. Additionally, progress could be made by adopting no-more-than-once-a-week outdoor watering restrictions and setting stronger conservation pricing signals.

City of Mesquite

Population 143,949

2016 Score



2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	2
4. Total Percent (%) Water Loss	10	0
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	15	0
8. Number of Best Management Practices (BMPs) implemented?	4	2
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	15	15

Mesquite: At A Glance

The City of Mesquite appears to be going in the wrong direction on water conservation. Its conservation goal numbers are higher than its current baseline water use. Mesquite is implementing fewer best management practices than before, and its Water Loss Audit was removed by the Texas Water Development Board because of concerns about the accuracy of the audit. Mesquite needs to set a higher bar for future water conservation efforts.

Discussion

As of 2017, the City of Mesquite, which is in eastern Dallas County, estimates its current population at just over 143,000, and its water utility serves approximately 54,000 metered water connections. Mesquite is in the Region C water planning area and is a member city of the North Texas Municipal Water District (NTMWD), which is the source of the City's water. NTMWD is a regional wholesale water supplier not only for Mesquite but for 12 other member cities and 31 direct customer cities.

Overall, the City of Mesquite is performing worse than it did on the 2016 Scorecard - a decrease of 30 points from 79 to 49. Ten of those lost points were the result of Mesquite's Water Loss Audit report being removed by the Texas Water Development Board. The removal of the report resulted in a zero score for the percent water loss category since that information comes from the Audit report. In addition, Mesquite's 2024 goals are in fact higher than its past 5-year water use average - a target of 132 GPCD while the average water use reported in 2019 for the previous five years was only 109 GPCD. Finally, Mesquite reduced the number of BMPs it is implementing from seven to four.

Overall, Mesquite can be more proactive on water conservation. Though the City points out that extreme drought restrictions played a role in lowering its 5-year GPCD, that is not a reason to set a water use target higher than what the City has already achieved. Mesquite should set stronger conservation goals and take realistic steps to reach them. For example, Mesquite limits landscape watering with sprinklers or irrigation systems to no more than two days per week year-round. However, residential and other customers are able to select which two days each week they might water, which makes it difficult to enforce these restrictions. The City of Mesquite can improve its commitment to water conservation by designating specific watering days for residents and businesses, enhancing the prospects for enforcement, by extending the time-of-day restrictions to year-round, and by considering moving to a no-more-than-once-a-week outdoor watering restriction.

City of Midland Population 136,089

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	0	2
4. Total Percent (%) Water Loss	0	0
5. WCP and Conservation Info Accessibility?	3	0
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	15
8. Number of Best Management Practices (BMPs) implemented?	2	4
9. Outdoor Watering Schedule?	0	10
10. Conservation Pricing Signal?	15	15

Midland: At A Glance

Since the 2016 Scorecard, the City of Midland has started down the road of ongoing, comprehensive water conservation initiatives, appropriate to its location in arid West Texas. Progress includes adoption of outdoor watering restrictions, setting strong water conservation goals, and implementation of additional best management practices.

Discussion

The City of Midland, located in the Permian Basin, has a population over 136,000. The City's water supplies come from both surface water and groundwater sources. Midland, which is in the Region F water planning area, is a member of the Colorado River Municipal Water District (CRMWD). Approximately 60% of its water is supplied by contracts with CRMWD. The water provided by CRMWD is surface water from Lakes J.B. Thomas, J.V. Spence, and O.H. Ivie, and the remainder of the City's water is from groundwater, which is blended with surface water.

The overall water conservation score for Midland increased from 45 in the 2016 Scorecard to 66. This was a result of the City increasing its number of implemented BMPs (from five to eight), enacting no-more-than-twice-a-week outdoor watering restrictions, and setting strong conservation goals - a 1.73% annual decrease. Though Midland did submit its water loss audit, it did not receive any points for its water loss percentage since the Texas Water Development Board removed their Water Loss Audit report due to concerns about the accuracy of the Audit.

The City of Midland needs to seek assistance from and work with the TWDB on its Water Loss Audit. Further progress towards water conservation can be realized by implementing additional BMPs and by posting Midland's Water Conservation Plan and conservation information on the City's website. These actions would go a long way toward fostering a culture of conservation within the community and achieving ambitious water use reduction goals.

North Alamo WSC Population 143,325

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	0	5
3. Water Audit Report (WAR) Submitted?	0	5
4. Total Percent (%) Water Loss	0	10
5. WCP and Conservation Info Accessibility?	0	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	0	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

North Alamo WSC: At A Glance

North Alamo Water Supply Corporation (North Alamo) received higher marks in the 2020 Scorecard but there is still has ample room for improvement. North Alamo's biggest challenge appears to be reporting. As noted in the 2016 Scorecard, North Alamo at that time had not submitted its Water Loss Audit or its Annual Report. Although North Alamo is now up-to-date on those two reports, at the time this 2020 Scorecard was compiled, it had not submitted its revised Water Conservation Plan to TWDB. Failure to do so makes it impossible to do a comprehensive evaluation of North Alamo's water conservation record. Were North Alamo able to consistently provide these reports, as required by state law, that would make it possible to determine if this water utility really wants to conserve water or not.

Discussion

North Alamo WSC, with headquarters in Edinburg, serves a population of over 143,000 with water and wastewater service in eastern Hidalgo County, Willacy County, and northwestern Cameron County in the Lower Rio Grande Valley – a service area of almost 1000 square miles. North Alamo WSC is in the Region M water planning area and draws its water from the Rio Grande and from brackish groundwater recovered using reverse osmosis treatment plants.

North Alamo WSC has improved its overall score since the 2016 Scorecard - from 30 to 55 - with progress made in some categories and mistakes made in others. North Alamo's percent water loss has decreased from 16.38% in 2011 to 7.03% in 2019. Additionally, North Alamo has implemented three BMPs and has made conservation tips for residents available on its website. North Alamo also received additional points on the 2020 Scorecard for the submission of its Annual report and its Water Loss Audit but was docked for not meeting the 5-year conservation goal set in its 2014 WCP.

While North Alamo WSC has made some improvements since the 2016 Scorecard, it needs to take additional steps if it is serious about conserving water. First, North Alamo needs to implement some form of outdoor watering restrictions. Second, North Alamo needs to explore a wider array of BMPs to ensure a more comprehensive water conservation program. These efforts combined can help reduce water consumption and thus help the North Alamo set and achieve ambitious but achievable water conservation goals.

City of Odessa

Population 135,902

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	0	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	10
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	10
7. Set a Strong Conservation Goal in its current WCP?	5	0
8. Number of Best Management Practices (BMPs) implemented?	0	0
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Odessa: At A Glance

While Odessa has improved its score, there is much more the city could be doing - especially considering that it's located in such an arid region. With conservation goals that are wet higher than their current baseline GPCD, no implemented BMPs, and no outdoor watering restrictions, it will be a challenge for them to make further progress in water conservation, if that is truly an objective of theirs. Given its geographic location, where much water is lost to evaporation during the summer months, it would be especially prudent for Odessa to consider establishing some permanent limitations on outdoor landscape watering, just as many cities in North Central Texas have done.

Discussion

The City of Odessa, located in the Permian Basin and the Region F water planning area, serves a population of nearly 136,000. At present, the City gets its water supply via a contract with the Colorado River Municipal Water District (CRMWD) – primarily surface water but sometimes augmented by groundwater. The 2016 Scorecard did not provide a complete assessment of the conservation efforts by the City of Odessa as the water utility did not observe the same schedule as most utilities in revising its water conservation plan (WCP).

The City of Odessa submitted its revised WCP in 2017 and has made significant improvements to its overall water conservation score. The City did better than the 5-year water conservation goal set in its 2011 WCP, provided water conservation information on its website, submitted its annual report, and decreased the City's percent water loss - from 15.14% to 10.13%. However, Odessa has missed an opportunity by setting conservation goals that are not ambitious and are in fact higher than its GPCD baseline.

The City of Odessa could improve its water conservation record by imposing some form of outdoor watering restrictions, such as limiting the time of day or the days per week when outdoor watering may occur. Additionally, the City of Odessa should identify any implemented best management practices in its Annual Report, which would allow an assessment of what other BMPs might be adopted to boost Odessa's water conservation record.

City of Pasadena Population 150,000

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	10
5. WCP and Conservation Info Accessibility?	3	0
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	4	2
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Pasadena: At A Glance

Not much has changed in Pasadena when it comes to water conservation - its score remains locked at 57. Though the City was able to decrease its water loss percentage, from 13.49% to 10.13%, Pasadena took steps in the wrong direction by implementing fewer best management practices than before and removing water conservation information posted online. The City does maintain a low GPCD relative to other cities in Texas, but Pasadena still has many opportunities to proactively work toward water conservation and become a leader in the field.

Discussion

The City of Pasadena, located in southeastern Harris County and the Region H water planning area, serves a population of 150,000. The major source of Pasadena's water supply is surface water provided under contract with the City of Houston through the Southeast Water Purification Plant, but Pasadena also has seven groundwater wells into the Gulf Coast Aquifer. The City also serves as a small wholesale supplier to the City of Seabrook, Clear Lake Water Authority, the Port of Houston Authority, and two industrial operations.

While Pasadena has improved upon its percent water loss since the 2016 Scorecard - reporting a decrease from 13.49% to 10.13%, the City has not made much progress otherwise and in fact has regressed in ways that are not represented in the overall score. Since the last Scorecard, Pasadena is now implementing three fewer BMPs and has removed information on water conservation from its website. Pasadena appears not to have adopted any new programs or special initiatives for promoting water conservation that can be found in cities in Texas that are considered leaders in the water conservation field.

The City's relatively large water supply capacity and relatively low water use per capita seem to provide little incentive for Pasadena to make water conservation a priority for its water utility. To improve its overall score and at least meet their 2024 conservation goals, Pasadena will need to implement some form of outdoor watering restrictions and would stand to benefit from once again providing conservation tips to its customers online.

City of Pearland Population 124,000

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	0
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	5	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	2	0
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	15	15

Pearland: At A Glance

The City of Pearland continues to report a low rate of per capita water use, which has dropped from 117 GPCD in 2016 to 111 GPCD in 2019. However, the city fell just short of achieving its 5-year goal of 109 GPCD, as established in its 2014 Water Conservation Plan. As of the 2016 Scorecard, Pearland had not established an extensive water conservation program nor had the City provided a clear game plan for achieving its 5-year water use reduction goal. At this point in time, the city is considering the implementation of a outdoor watering conservation program, but it is unclear when that may come to fruition. Pearland did not submit its most recent Annual Report (on implementation of the WCP) to the Texas Water Development Board, as is required by law, which makes it difficult to assess the city's ongoing conservation efforts.

Discussion

Pearland serves a population of approximately 124,00, an increase from 91,000 in 2010 - demonstrating a significant growth rate. Most of the City of Pearland is located in Brazoria County although parts of the City extend into Fort Bend and Harris Counties. According to its 2014 Water Conservation Plan, the City of Pearland provides only retail water service. It has two main sources of supply: eleven groundwater wells that the City owns and operates and surface water purchased from the City of Houston at three connections.

The City of Pearland saw its water conservation score decrease from 57 in the 2016 Scorecard to 43 in the 2020 Scorecard - due in large part to the city not achieving its 2014 5-year GPCD goal or submitting its most recent required annual report on implementation of its previous Plan.

In its latest WCP, the city maintains the same 5-year goal of reducing per capita use to 109 GPCD by 2024. The city identifies several initiatives under consideration to help achieve this goal, including a mandatory no more than twice per week outdoor watering schedule and enhancements to its existing landscape ordinances. While this is a step in the right direction, it is still unclear what the timetable will be for moving forward with these initiatives. The city has yet to even implement a basic landscape management ordinance that prohibits wasting water, so it remains to be seen how far these efforts will go over the near- and long-term. If the City of Pearland is serious about water conservation, it needs to implement some form of mandatory year-round outdoor watering restrictions and explore a wider array of BMPs.

In addition to these issues, Pearland continues to report a high water loss percentage (14.9%) but has not identified an advanced program for proactively addressing sources of system-wide water loss.

City of Plano Population 283,700

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	5	5
8. Number of Best Management Practices (BMPs) implemented?	8	10
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	10	15

Plano: At A Glance

Despite some positive steps, the City of Plano has not made much progress on water conservation. The 2016 Scorecard noted that Plano had set per capita water use targets that were higher than historic GPCD levels the City was able to achieve. Although Plano has now rectified this problem, Plano's new water use goals are not very ambitious. However, Plano has begun implementing a large number of best management practices (relative to other cities in Texas) and has instituted a stronger conservation pricing signal in its water rates. That being said, Plano could be more proactive and effective on water conservation. For example, considering Plano's high percentage of single-family residential customers and the spike in water use from winter to summer months, adopting a no-more-than-twice-a-week (or even no-more-than-once-a-week) outdoor watering restriction would be a very immediate and direct step to bolster water conservation in the community.

Discussion

The City of Plano lies within the Dallas-Fort Worth Metroplex and the Region C water planning area. Plano is also a member of the North Texas Municipal Water District (NTMWD), which is the City's sole water supplier. As of 2019, the City of Plano estimates its current population at just over 283,000, and its water utility serves more than 84,000 metered water connections.

Plano has improved its overall water conservation score slightly by implementing an additional seven BMPs - bringing its total to an impressive 19. The City has also done well updating its water rate structure to improve the conservation pricing signal. However, Plano's water loss rose from 12.54% in 2014 to 16.55% in 2019.

There are a variety of steps that Plano could take to improve on water conservation. For example, since the 2016 Scorecard, Plano has only maintained time-of-day restrictions on outdoor watering. Plano could follow the lead of other North Texas cities and establish further restrictions on outdoor watering, such as limiting irrigation with sprinklers to a maximum of twice per week or once per week year-round. Additionally, the City would benefit from identifying the causes of its dramatic water loss, and work to reduce that percentage. Plano can also make available their WCP online to provide transparency to its citizens on how the City is managing the water supply and to contribute to a greater awareness of water conservation in the community.

City of Richardson

Population 110,140

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	0
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	0	0
8. Number of Best Management Practices (BMPs) implemented?	4	4
9. Outdoor Watering Schedule?	10	10
10. Conservation Pricing Signal?	15	15

Richardson: At A Glance

The City of Richardson has again set total per capita water use targets that are higher than the City's water use levels during the previous five years. Little else has changed from the 2016 Scorecard in terms of the City's other water conservation efforts. Moreover, Richardson has experienced a dramatic increase in water loss percentage. As a result of these factors, Richardson's water conservation score has decreased from that in the 2016 Scorecard.

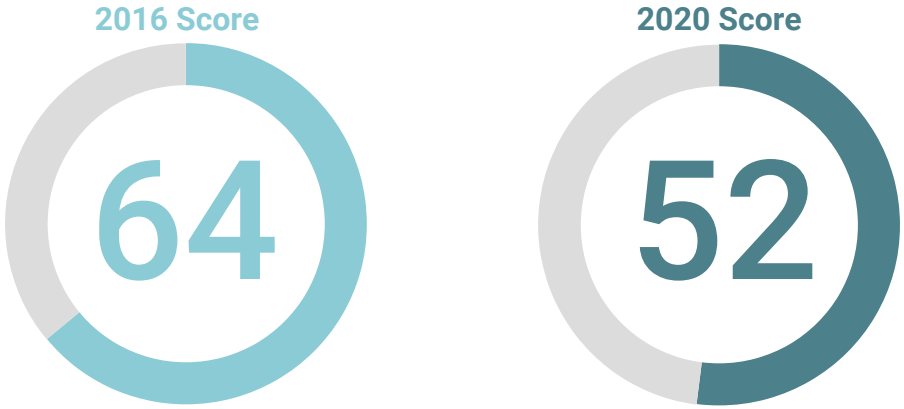
Discussion

The City of Richardson lies within the Dallas-Fort Worth Metroplex and the Region C water planning area. Richardson is also a member of the North Texas Municipal Water District and relies upon surface water from the District for its supply. As of 2018, the City of Richardson has an estimated population of 110,140 with over 34,000 active connections.

Richardson's water conservation score decreased from 67 in the 2016 Scorecard to 59 in the 2020 Scorecard. While not much has changed in terms of water conservation, this new score is representative of a few factors. Richardson has made its Water Conservation Plan available on its website this year, has implemented an additional BMP, and continues to provide excellent information about outdoor landscaping on its website. However, Richardson's overall score decreased due to an increase in the City's water loss percentage - from 8.05% to a much higher 16.05%.

The 2016 Scorecard recommended Richardson put additional focus on improving water conservation in the industrial, commercial, and institutional (ICI) sectors. However, Richardson does not appear to have established any new programs or incentives in the ICI sector. As was the case with its previous Water Conservation Plan, Richardson did not make strong 5-year conservation goals in its most recent WCP. Richardson would be well-served by increasing the number of BMPS implemented, setting stronger water use reduction goals, and advancing conservation efforts in the ICI sectors as well as reversing the trend toward higher water loss.

City of Round Rock Population 114,017



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	2
4. Total Percent (%) Water Loss	5	5
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	15	15
8. Number of Best Management Practices (BMPs) implemented?	6	10
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

Round Rock: At A Glance

The water conservation record for the City of Round Rock is a mixed bag. The City has made noteworthy strides - tallying a total of 17 implemented best management practices, maintaining strong conservation goals, and consistency in submitting Water Conservation Reports, Annual Reports, and Water Loss Audits. However, Round Rock, like many other cities across Texas, is struggling with water loss. Additionally, Round Rock is falling behind the curve by not adopting outdoor watering restrictions.

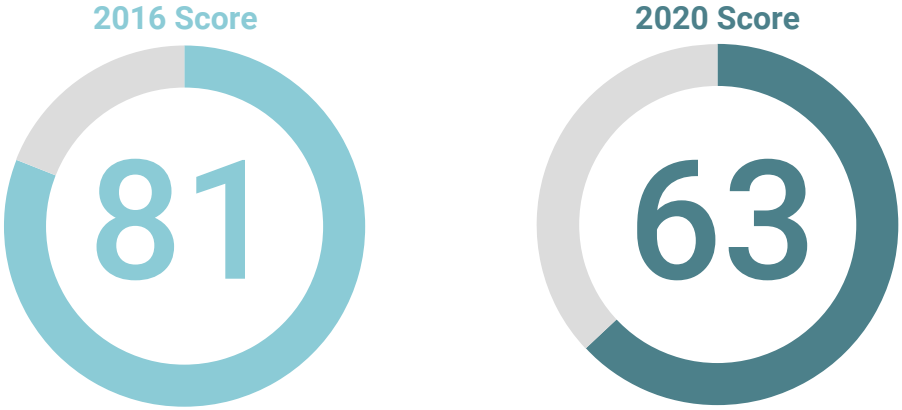
Discussion

The City of Round Rock is in Williamson County and within the Austin metropolitan area. Round Rock continues to have a rapidly growing population, estimated at just over 114,000 in 2018. For regional water planning purposes, Round Rock lies within Brazos Region G. The City of Round Rock obtains water from both groundwater (the northern segment of the Edwards Aquifer) and surface water (Lake Georgetown and Stillhouse Lake via contract with the Brazos River Authority; Lake Travis via contract with the Lower Colorado River Authority).

The overall score for the City of Round Rock has decreased since the 2016 Scorecard from 64 to 52 - for two primary reasons. Most significantly, water conservation goals for 2019 set in the City's 2014 WCP were not met. Secondly, Round Rock's Water Loss Audit was removed by the Texas Water Development Board for accuracy concerns. Thus, the Scorecard cannot assess Round Rock's record on water loss since that information comes from the Water Loss Audit. Round Rock's overall decrease in its water conservation score does overshadow some progress that has been made: Round Rock increased the number of implemented BMPs from 11 to an impressive 17, and the City has now posted its Water Conservation Plan online.

Though recommended in the 2016 Scorecard, the City of Round Rock has not adopted permanent outdoor watering limitations nor has the City revised its water rate structure to reward customers who curb outdoor water use. These factors may have contributed to the City not meeting the conservation goals for 2019 that were set in the 2014 WCP. While the City still encourages voluntary measures, Round Rock should seriously consider requiring time-of-day and days-per-week limitations on outdoor water use in order to achieve the strong conservation goals for 2024 established in the City's 2019 WCP.

City of San Angelo Population 100,119



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	15	5
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	15	0
8. Number of Best Management Practices (BMPs) implemented?	6	8
9. Outdoor Watering Schedule?	0	10
10. Conservation Pricing Signal?	15	10

San Angelo: At A Glance

The City of San Angelo may be growing in population but its ambition of being a leader in water conservation does not appear to be. The City's water conservation score has declined from that of the 2016 Scorecard for three main reasons: the City's water loss has increased rather dramatically, San Angelo's water conservation goals are in fact regressive (the per capita water use goals set in the 2019 WCP are higher than many historic 5-year averages), and the City has adjusted its conservation pricing signal so that it is weaker than in the past. Although implemented best management practices have increased, and outdoor watering restrictions are now in place, the City would benefit from setting stronger and more ambitious water conservation goals

Discussion

The City of San Angelo, located in Tom Green County and in the Region F water planning area, serves a population of just over 100,000. In addition to the use of local sources, such as Lake Nasworthy, Twin Buttes Reservoir, O.C. Fisher Reservoir, and the Concho River system, the City purchases water from the Colorado River Municipal Water District's (CRMWD's) Lake E.V. Spence and Lake O.H. Ivie. San Angelo also has groundwater rights in McCulloch, Concho, and Menard counties (collectively referred to as the Hickory Well Field.

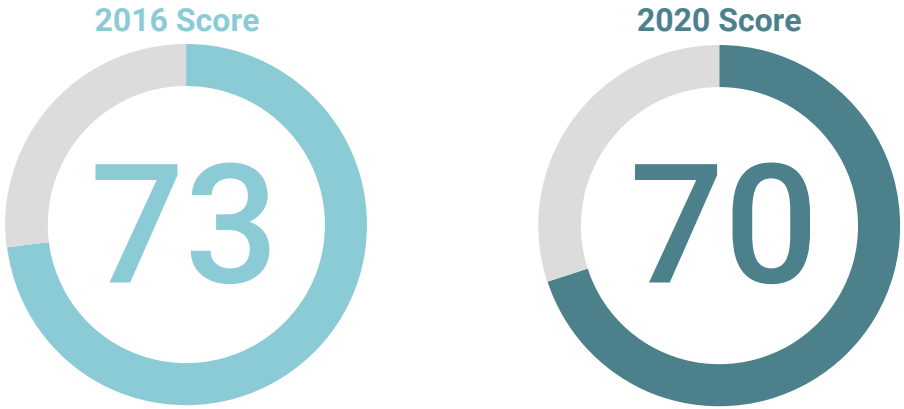
The overall water conservation score for San Angelo dropped from 81 in the 2016 Scorecard to 63 in the 2020 Scorecard. The decline was due to three predominant factors - the City's water loss percentage increased from 6.41% to 12.89%, the City's conservation goals for 2024 and 2029 are not ambitious (the GPCD baseline is lower than the future goals), and the City has weakened the conservation pricing signal in its water rates.

The City indicates that its low baseline (based on the most recent 5-year average) is a result of being calculated during years with significant drought when water consumption restrictions were in place as a drought response. This is the rationale the City uses for setting a higher GPCD goal than the baseline. However, the fact that San Angelo water customers were able to achieve such a low baseline while water loss increased and the conservation pricing signal was weakened actually indicates that there is a path forward for maintaining a low GPCD.

In the last five years San Angelo did achieve a greater water use reduction than the conservation goal for 2019 set in its 2014 WCP, it increased its number of implemented BMPs from 9 to 13, and it established a permanent no-more-than-twice-a-week outdoor watering schedule. San Angelo can build upon these achievements, address its water loss, strengthen the conservation pricing signal in its water rates, and set more ambitious goals for per capita water use, and then return to a water conservation leadership position among Texas cities.

San Antonio Water System

Population 1,857,779



Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	5	0
5. WCP and Conservation Info Accessibility?	3	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	10
7. Set a Strong Conservation Goal in its current WCP?	10	15
8. Number of Best Management Practices (BMPs) implemented?	10	10
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	15	10

San Antonio: At A Glance

As noted in the 2016 Scorecard update, the San Antonio Water System (SAWS) has struggled with water loss, and the situation has worsened since then. SAWS in many ways sets the "gold standard" for water conservation programs among major Texas cities due to its large and energetic conservation staff and wide array of creative and increasingly targeted conservation initiatives. However, water loss remains a major challenge and is problematic for many San Antonio residents who have raised concerns about major new water infrastructure projects while so much water is being lost in the existing distribution system. Moreover, SAWS does not have days-per-week outdoor watering restrictions on an ongoing basis, unlike some other major utilities such as Austin Water and Dallas Water Utilities. SAWS, however, continues to make improvements elsewhere, for example by increasing the number of conservation BMPs implemented (the most by any water utility in Texas thus far). Also, the utility has now put its Water Conservation Plan online to increase transparency and accountability to its customers and the general public.

Discussion

The City of San Antonio, located in South Central Texas and in the Region L water planning area, is currently the second largest city in Texas with a population of over 1.8 million. The city's water, wastewater, stormwater, and water reuse services are provided by the San Antonio Water System (SAWS), a consolidated agency formed in 1992.

SAWS is one of the more complex water systems in the country. The complexity stems in part from the dissolution of the Bexar Metropolitan Water District (BexarMet), which had served part of Bexar County and small portions of two other counties, and the transfer of the BexarMet system to SAWS in 2012. According to the 2019 WCP, the territory covered by SAWS encompasses 930 sq. miles and 775,399 total connections. Although for decades the Edwards Aquifer was the sole source of water for San Antonio, SAWS now has a variety of additional water sources, including an aquifer storage and recovery (ASR) project, a brackish groundwater desalination plant, and a new pipeline currently nearing construction (at the time of this writing) that will import groundwater from two Central Texas counties.

The overall water conservation score for SAWS decreased by three points since the 2016 Scorecard due to slight variations in different categories. The City received zero points in the 2020 Scorecard for its percentage water loss due the increase in total water loss from 14.87% to 17.38%. Additionally, SAWS received fewer points on the conservation pricing signal than it did in 2016 due to a change to the City's water rate structure resulting from the cost of new water infrastructure projects. One of those projects, the Vista Ridge pipeline, has been a very controversial project due to its cost, concerns that the need to sell additional water will dampen SAWS commitment to water conservation, and the juxtaposition of water loss in the SAWS system while a new groundwater pipeline is being built.

On the other side of the ledger, while water loss dampened the water conservation score for SAWS, the utility did post its Water Conservation Plan online in recent years, aiding public scrutiny of the WCP, and SAWS has achieved a GPCD of less than 125.

SAWS could improve its water conservation program by implementing permanent no-more-than-once-a-week outdoor watering restrictions on an ongoing basis, not just as a stage in its drought response plan. Also, SAWS needs to take effective steps to curb its high water loss rate and explore ways to return to a water rate structure that sends a stronger conservation pricing signal. While SAWS has developed and implemented an extensive set of water conservation programs, the utility cannot afford to ignore the fundamental issues that may dampen the ultimate success of its water conservation efforts.

City of Tyler Population 103,700

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	0
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	10	10
8. Number of Best Management Practices (BMPs) implemented?	0	4
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	5	15

Tyler: At A Glance

The City of Tyler has made minimal progress on water conservation since the 2016 Scorecard. Tyler has begun to implement best management practices (six now, up from zero), and the City has adopted a stronger water conservation pricing signal in its water rate structure. However, this incremental progress on a couple of measures was overshadowed by a dramatic increase in water loss percentage, from 9.99% to 17.1%. Furthermore, Tyler continues to have an incredibly high rate of per capita water use (a five-year historic average of 230 GPCD), especially for a city in an area of Texas with relatively high average rainfall. The conservation goals in Tyler's 2019 WCP are strong, given the City's high average GPCD, but the 2024 target is an incredibly large 217 GPCD. The City of Tyler could build on its initial steps on BMPs and conservation pricing by focusing on curbing its water loss and tackling the issue of outdoor watering.

Discussion

The City of Tyler lies within Smith County in Northeast Texas and the Region I water planning area. Tyler serves a population of just over 103,000 within a service area of 57 miles and provides wholesale water to Walnut Grove WSC, City of Whitehouse, and Community Water. The City's water supply is obtained from a deep water well located in the Carrizo and Wilcox Aquifers, and surface water from surrounding lakes (Lake Tyler, Lake Tyler East, and Lake Palestine).

The overall water conservation score for the City of Tyler improved minimally from its score in the 2016 Scorecard. Tyler has set strong conservation goals for 2024, started to implement several BMPs (6 total), and has changed its water rate structure to improve the conservation pricing signal. Tyler would have received more credit for these efforts if the City had not experienced such a dramatic increase in its water loss percentage, rising from 9.99% to 17.1%.

Addressing Tyler's high percentage water loss should be a priority. Another way for the City to enhance its water conservation efforts would be to focus on reducing outdoor watering by implementing year- round time-of-day and days-per-week restrictions. Such outdoor watering restrictions would help the City of Tyler achieve the conservation goals established in its 2019 WCP and begin to reduce its per capita water use to a level comparable to what other Texas cities have been able to reach.

City of Waco Population 137,801

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	10	10
5. WCP and Conservation Info Accessibility?	5	5
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	0	0
7. Set a Strong Conservation Goal in its current WCP?	5	15
8. Number of Best Management Practices (BMPs) implemented?	2	4
9. Outdoor Watering Schedule?	0	0
10. Conservation Pricing Signal?	10	10

Waco: At A Glance

The City of Waco has made incremental progress on water conservation since the 2016 Scorecard. Waco was not able to meet its water use reduction goals from its previous Water Conservation Plan, but the City has set much more ambitious water use reduction goals going forward in its latest Plan. Whether Waco will be able to meet those goals remains to be seen. The City will probably have to adopt additional conservation best management practices, including time-of-day and days-per-week outdoor watering restrictions, to achieve its per capita water use goals and continue to progress on water conservation.

Discussion

The City of Waco in McLennan County, mid-way between Dallas and Austin, is located along the Brazos River in the Region G water planning area. According to the 2019 WCP, the City provides retail water service to a population of 137,801 and wholesale water service to a few small cities. Waco's primary water supply is Lake Waco with additional supplies from the Trinity Aquifer and the Brazos River. Lake Waco is in the city limits and is formed by an impoundment on the Bosque River, a tributary of the Brazos River.

The overall water conservation score for the City of Waco has improved since the 2016 Scorecard. Waco has set strong conservation goals for 2024 in its 2019 WCP and slightly increased the number of BMPs implemented (by two). While the City is making efforts to progress on water conservation, Waco did not meet the water conservation goals set for 2019 in its previous WCP nor has the City tackled the outdoor watering issue by setting time-of-day or days-of-the-week watering restrictions. Relative to many other Texas cities, however, Waco has been more successful in controlling water loss (7.26% as of its most recent Water Loss Audit).

The City of Waco can better its chances of reaching its strong conservation goals for 2024 by tackling the outdoor watering issue, as cities such as Austin, Dallas, Fort Worth, and others have. This can be done by adopting and implementing the year-round outdoor watering restrictions common in those cities.

City of Wichita Falls Population 104,000

2016 Score

2020 Score

Questions	2016 Points	2020 Points
1. WCP or Water Conservation Information Submitted?	5	5
2. Annual Report (AR) Submitted?	5	5
3. Water Audit Report (WAR) Submitted?	5	5
4. Total Percent (%) Water Loss	0	5
5. WCP and Conservation Info Accessibility?	3	3
6. Achieved 5-Yr Conservation Goal Set in prior WCP?	10	0
7. Set a Strong Conservation Goal in its current WCP?	0	15
8. Number of Best Management Practices (BMPs) implemented?	6	10
9. Outdoor Watering Schedule?	5	5
10. Conservation Pricing Signal?	10	10

Wichita Falls: At A Glance

The City of Wichita Falls is moving in the right direction on water conservation. The City has set quite strong conservation goals for 2024 and 2029. In order to meet those goals, Wichita Falls is implementing a relatively high number of best management practices, relative to other Texas cities, and the City has improved its water auditing to reflect a lower water loss percentage than was reported in the 2016 Scorecard . However, the City's water loss rate is relatively high and should be a focus of attention. Moreover, Wichita Falls should consider additional steps such as strengthening the conservation pricing signal in its water rate structure and implementing days-per-week outdoor watering restrictions on an ongoing basis to help assure that the City is able to meet its strong water conservation goals for future years.

Discussion

The City of Wichita Falls is in North Texas near the Red River, the border with Oklahoma, in the Region B water planning area. Wichita Falls provides retail water service to a population of 104,000, as well as wholesale water to other retail providers in the region. The City's primary sources of drinking water are Lakes Arrowhead and Kickapoo. Wichita Falls constructed and put into service an Indirect Potable Reuse project to discharge wastewater effluent into Lake Arrowhead in January 2018.

The overall score for the City of Wichita Falls has improved significantly since the 2016 Scorecard. Wichita Falls corrected its previous erroneously reported water loss percentage - 28.1% (a result of errors in the City's most recent water audit report at the time). The water loss percentage reported by Wichita Falls in the most recent Water Loss Audit available for the 2020 Scorecard is 13.29% . Wichita Falls has set strong conservation goals for 2024 in its 2019 WCP, and the City reports that it has increased its number of implemented BMPs from 10 to 15. However, Wichita Falls did not meet the 2019 conservation goals it set in its 2014 WCP, nor has the City strengthened its outdoor watering restrictions beyond time-of-day limitations.

The City of Wichita Falls can continue to improve its water conservation record by expanding the current outdoor watering restrictions to include days-per-week limitations. This step, as well as reducing water loss, would help the City of Wichita Falls achieve its water conservation goals for the future.

Appendix B - Score by Criteria - Large and Medium Utilities

The following table shows the points assigned to each large and medium-size utility on each of the *ten* criteria used to compute the utility's overall score on water conservation efforts. A large-size retail water utility is here defined as one that serves a population of greater than 100,000, while a medium-size retail water utility is here defined as one that serves a population of at least 25,000 but less than 100,000. At the top of the table is the maximum number of points that could be assigned to a utility based on each of the ten criteria. *Total possible score for any medium-size utility is 100 points.*

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)

UTILITY NAME	POPULATION	1. Water Conservation Plan Submitted	2. Annual Report Submitted	3. Water Audit Report Submitted	4. Total Percent Water Loss	5. WCP and/or Conservation Info Accessible Online	6. Achieved 5-year Conservation Goal Set in the 2009 WCP	7. Set a Strong Conservation Goal in the 2014 WCP	8. BMPs Implemented	9. Outdoor Watering Schedule	10. Conservation Pricing Signal	TOTAL SCORE (out of 100)
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	5 POINTS	10 POINTS	15 POINTS	10 POINTS	15 POINTS	15 POINTS	
Agua SUD	64,401	5	5	5	10	5	10	15	2	0	10	67
Amarillo Municipal Water System	199,826	5	5	2	0	5	0	15	2	0	10	44
Aqua WSC	64,002	5	5	5	0	3	10	15	6	0	10	59
Bethesda WSC	31,206	5	5	2	0	3	0	0	2	10	10	37
Brownsville Public Utilities Board	200,179	5	5	5	0	3	10	15	2	0	10	55
City of Abilene	122,955	5	5	2	0	5	0	10	4	5	15	51
City of Allen	103,272	5	5	5	10	5	10	5	8	10	10	73
City of Arlington	375,337	5	5	5	10	5	10	10	6	5	10	71
City of Austin	999,960	5	5	5	0	5	10	10	10	15	15	80
City of Baytown	87,787	5	5	5	0	3	10	15	4	0	15	62
City of Beaumont	119,114	5	5	5	0	0	10	15	2	0	15	57
City of Bedford	49,526	5	0	2	0	0	10	10	0	5	10	42
City of Big Spring	27,905	5	5	2	0	5	10	0	2	0	10	39
City of Bryan	85,840	5	5	5	10	0	10	10	4	0	10	59
City of Burleson	47,475	5	5	2	0	5	10	15	2	10	10	64
City of Carrollton	132,330	5	5	5	10	5	10	5	6	5	15	71
City of Cedar Hill	50,000	5	5	5	0	3	10	15	0	5	15	63
City of Cedar Park	79,036	5	5	5	0	3	10	10	8	10	10	66
City of Cleburne	30,879	5	5	5	5	0	0	15	2	0	10	47

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)												
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**5. WCP and/or Conservation Info Accessible Online** 5 POINTS	**6. Achieved 5-year Conservation Goal Set in the 2009 WCP** 10 POINTS	**7. Set a Strong Conservation Goal in the 2014 WCP** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**9. Outdoor Watering Schedule** 15 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 100)**
City of College Station	97,500	5	5	5	10	3	5	10	6	5	10	64
City of Colleyville	26,674	5	5	2	0	0	10	5	2	0	10	39
City of Conroe	84,378	5	5	2	0	3	10	10	2	10	15	62
City of Converse	27,207	5	5	2	0	3	10	15	2	5	10	57
City of Coppell	41,940	5	0	2	0	3	0	5	0	5	10	30
City of Copperas Cove	34,787	5	5	5	0	0	10	15	4	0	10	54
City of Corpus Christi	325,605	5	5	2	0	5	0	15	6	5	15	58
City of Corsicana	26,317	5	5	5	0	3	0	10	2	0	10	40
City of Deer Park	32,964	0	0	5	0	3	0	0	0	0	15	23
City of Denton	130,990	5	5	5	10	3	10	0	6	5	10	59
City of Desoto	52,000	5	5	5	0	3	10	10	2	0	10	50
City of Duncanville	39,240	5	5	2	0	3	10	15	2	5	15	62
City of Eagle Pass	65,158	5	5	5	5	5	0	10	2	0	10	47
City of Edinburg	72,783	5	5	5	5	3	0	15	4	0	15	57
City of Euless	55,170	5	5	2	0	3	5	15	8	5	15	63
City of Farmers Branch	31,590	5	5	5	0	3	10	5	6	0	15	54
City of Fort Worth	829,560	5	5	5	0	5	10	15	8	10	15	78
City of Friendswood	41,705	5	5	5	15	3	10	15	2	0	15	75
City of Frisco	183,173	5	5	5	10	5	10	0	4	15	10	69
City of Galveston	50,944	5	5	5	0	5	0	15	2	0	15	52
City of Garland	238,293	5	5	5	0	5	0	15	10	10	10	65
City of Georgetown	106,813	5	5	5	5	5	0	15	4	10	10	64
City of Grand Prairie	189,430	5	5	5	0	5	0	10	6	10	10	56
City of Grapevine	48,751	5	5	2	0	3	0	15	0	5	15	50

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)												
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**5. WCP and/or Conservation Info Accessible Online** 5 POINTS	**6. Achieved 5-year Conservation Goal Set in the 2009 WCP** 10 POINTS	**7. Set a Strong Conservation Goal in the 2014 WCP** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**9. Outdoor Watering Schedule** 15 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 100)**
City of Greenville	27,443	5	5	5	5	0	0	10	2	0	15	47
City of Haltom City	44,134	0	0	5	5	3	0	0	0	10	15	38
City of Harker Heights	30,785	5	5	5	5	3	5	0	2	0	10	40
City of Houston		5	5	5	0	3	10	10	4	0	15	57
City of Huntsville	41,277	5	5	2	0	5	10	0	2	0	15	44
City of Hurst	39,051	5	5	5	15	5	10	10	4	10	15	84
City of Irving	237,490	5	5	5	10	5	10	0	8	10	15	73
City of Keller	44,620	5	5	5	15	5	10	0	0	10	15	70
City of Killeen	144,000	5	5	5	0	3	10	15	6	0	15	64
City of Kingsville	26,213	5	5	2	0	0	0	10	2	0	10	34
City of Kyle	28,497	5	5	5	5	3	10	15	4	0	10	62
City of La Porte	34,733	5	5	5	0	3	0	15	4	0	15	52
City of Lake Jackson	28,100	5	5	5	5	3	0	10	2	0	15	50
City of Lancaster	38,071	5	5	5	15	3	0	10	2	5	10	60
City of Laredo	260,654	5	5	5	10	3	5	10	6	0	10	59
City of League City	106,415	5	5	5	10	3	10	15	6	0	15	74
City of Leander	63,780	5	5	5	10	3	0	10	6	0	10	54
City of Lewisville	104,780	5	5	5	5	5	5	10	4	10	10	64
City of Longview	80,455	5	5	2	0	3	0	5	2	0	15	37
City of Lufkin	47,754	5	5	5	0	3	10	5	2	0	15	50
City of Mansfield	71,134	5	5	5	15	5	10	0	2	5	10	62
City of McKinney	187,802	5	5	5	0	3	10	0	6	10	10	54
City of Mesquite	143,949	5	5	2	0	5	10	0	2	5	15	49
City of Midland	136,089	5	5	2	0	0	10	15	4	10	15	66

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)												
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**5. WCP and/or Conservation Info Accessible Online** 5 POINTS	**6. Achieved 5-year Conservation Goal Set in the 2009 WCP** 10 POINTS	**7. Set a Strong Conservation Goal in the 2014 WCP** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**9. Outdoor Watering Schedule** 15 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 100)**
City of Mission	88,017	5	5	5	5	0	0	5	4	0	10	39
City of Nacogdoches	37,000	5	5	5	0	0	10	0	4	0	15	44
City of North Richland Hills	70,148	5	5	2	0	3	10	10	4	10	15	64
City of Odessa	135,902	5	5	5	10	5	10	0	0	0	15	55
City of Paris	25,171	5	5	5	15	0	0	0	4	0	15	49
City of Pasadena	150,000	5	5	5	10	0	0	15	2	0	15	57
City of Pearland	124,000	5	0	5	0	3	0	15	0	0	15	43
City of Pflugerville	29,679	5	5	2	0	3	10	15	8	0	10	58
City of Pharr	79,487	5	5	5	0	3	10	15	2	5	10	60
City of Plano	283,700	5	5	5	0	3	10	5	10	5	15	63
City of Port Arthur	53,818	5	5	2	0	0	5	0	6	0	15	38
City of Richardson	110,140	5	5	5	0	5	10	0	4	10	15	59
City of Rockwall	43,750	5	5	5	0	0	10	10	4	5	10	54
City of Rosenberg	38,868	5	5	5	10	5	10	15	2	0	15	72
City of Round Rock	114,071	5	5	2	0	5	0	15	10	0	10	52
City of Rowlett	58,830	5	5	5	10	5	10	15	2	0	10	67
City of Sachse	27,360	5	5	2	0	5	10	15	4	10	10	66
City of San Angelo	100,119	5	5	5	5	5	10	0	8	10	10	63
City of San Juan	30,000	5	5	2	0	0	0	15	2	0	10	39
City of San Marcos	71,153	5	5	2	0	3	5	15	8	5	15	63
City of Schertz	40,092	5	5	5	5	0	10	15	2	5	5	57
City of Seguin	28,614	5	5	5	15	3	10	0	6	0	10	59
City of Sherman	41,917	5	5	5	0	3	0	15	4	0	10	47
City of Southlake	29,000	5	5	2	0	5	10	15	6	10	10	68

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)												
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**5. WCP and/or Conservation Info Accessible Online** 5 POINTS	**6. Achieved 5-year Conservation Goal Set in the 2009 WCP** 10 POINTS	**7. Set a Strong Conservation Goal in the 2014 WCP** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**9. Outdoor Watering Schedule** 15 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 100)**
City of Sugar Land	85,384	5	5	5	5	3	10	5	6	0	10	54
City of Temple	84,041	5	5	5	0	5	0	10	6	0	15	51
City of Texarkana	67,592	5	5	2	0	0	10	0	6	0	15	43
City of Texas City	48,500	5	5	5	0	0	10	15	2	0	15	57
City of The Colony	42,090	5	5	5	10	0	10	15	4	0	15	69
City of Tyler	103,700	5	5	5	0	3	0	10	4	0	15	47
City of Victoria	67,574	5	5	5	5	3	0	10	4	0	10	47
City of Waco	137,801	5	5	5	10	5	0	15	4	0	10	59
City of Waxahachie	37,286	5	5	5	10	0	0	5	4	0	15	49
City of Weatherford	27,900	5	5	2	0	3	10	10	8	10	10	63
City of Weslaco	40,000	5	5	5	0	0	10	10	2	0	10	47
City of Wichita Falls	104,000	5	5	5	5	3	0	15	10	5	10	63
City of Wylie	44,418	5	5	2	0	5	10	15	8	10	15	75
Clear Lake City WA	85,392	5	5	5	15	0	10	15	2	0	10	67
Dallas County WCID 6	25,500	5	5	2	0	0	0	15	2	0	15	44
Dallas Water Utility		5	5	5	0	5	10	10	10	10	15	75
Del Rio Utilities Commission	37,788	5	5	5	0	0	0	0	2	0	10	27
El Paso Water Utilities	759,004	5	5	5	5	5	10	10	10	5	10	70
Fort Bend County WCID 2	39,723	5	5	5	15	0	10	0	4	0	10	54
Galveston County WCID 1	25,000	5	5	5	5	5	0	15	4	0	15	59
Goforth SUD	25,000	5	5	5	0	3	10	15	4	10	10	67
Green Valley SUD	38,657	5	5	5	0	3	0	15	6	0	10	49
Harlingen Water Works System	65,436	5	5	5	0	0	0	5	4	0	10	34
Horizon Regional MUD	31,569	5	5	0	0	3	0	15	6	5	15	54

TEXAS WATER CONSERVATION Scorecard: LARGE/MEDIUM-SIZE UTILITIES (POPULATION GREATER THAN 25,000)												
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**5. WCP and/or Conservation Info Accessible Online** 5 POINTS	**6. Achieved 5-year Conservation Goal Set in the 2009 WCP** 10 POINTS	**7. Set a Strong Conservation Goal in the 2014 WCP** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**9. Outdoor Watering Schedule** 15 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 100)**
Johnson County SUD	43,435	5	5	5	0	5	10	15	4	0	10	59
Lower Valley WD	54,336	5	5	2	0	0	0	15	2	0	15	44
Lubbock Public Water System	261,946	5	5	5	10	3	10	5	10	10	15	78
Lumberton MUD	27,822	5	5	2	0	0	10	15	2	0	15	54
Manville WSC	29,991	5	5	5	0	3	5	15	0	5	10	53
McAllen Public Utility	145,249	5	5	5	5	3	10	5	2	0	10	50
Montgomery County MUD 47	26,193	5	0	5	10	3	10	5	0	0	15	53
New Braunfels Utilities	84,200	5	5	5	0	5	10	5	10	10	10	65
North Alamo WSC	143,325	5	5	5	10	3	0	15	2	0	10	55
Rockett SUD	37,728	5	5	5	0	3	10	15	2	0	10	55
San Antonio Water System		5	5	5	0	5	10	15	10	5	10	70
Sharyland WSC	81,190	5	5	2	0	3	10	15	2	0	10	52
Southern Utilities	59,898	5	5	5	0	0	10	10	4	0	10	49
Town of Flower Mound	73,130	5	5	2	0	3	10	15	4	0	10	54
Town of Little Elm	40,132	5	5	5	10	3	10	0	2	10	15	65
Travis County WCID 17	43,632	5	5	5	10	5	0	5	8	0	10	53
Walnut Creek SUD	25,692	5	0	5	10	3	10	15	0	5	10	63

Appendix C - Score by Criteria - Small Utilities

The following table shows the points assigned to each small utility on each of the *six* criteria used to compute the utility's overall score on water conservation efforts. A small retail water utility is here defined as one that has at least 3300 connections but serves a population of less than 25,000. At the top of the table is the maximum number of points that could be assigned to a small utility based on each of the six criteria. *Total possible score for any small utility is 55 points.*

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)

UTILITY NAME	POPULATION	1. Water Conservation Plan Submitted	2. Annual Report Submitted	3. Water Audit Report Submitted	4. Total Percent Water Loss	8. BMPs Implemented	10. Conservation Pricing Signal	TOTAL SCORE (out of 55)
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	10 POINTS	15 POINTS	
Acton MUD	18,720	5	5	2	0	4	10	26
Atascosa Rural WSC	14,600	5	5	5	5	2	10	32
Benbrook WA	22,760	5	5	5	5	4	15	39
Benton City WSC	18,594	5	5	5	0	2	10	27
Bi County WSC # 1	10,247	0	0	5	0	0	10	15
Bolivar Peninsula SUD	17,775	5	5	5	0	2	5	22
Bolivar WSC	10,164	5	0	5	0	0	10	20
Borger Municipal Water System	13,259	5	5	5	15	2	10	42
Bridgestone MUD	22,752	5	5	5	0	2	10	27
Brookesmith SUD	9,941	5	5	5	0	2	10	27
Brushy Creek MUD	19,250	5	5	5	15	2	10	42
Caddo Basin SUD	10,848	5	0	5	0	0	10	20
Canyon Municipal Water System	14,500	5	5	5	10	2	10	37
Cash SUD	18,818	5	5	5	5	4	10	34
City of Alamo	18,353	5	5	5	5	4	5	29
City of Alamo Heights	7,031	0	0	5	5	0	15	25
City of Alice	18,949	5	5	5	0	2	10	27
City of Alvin	24,560	5	5	2	0	2	15	29
City of Andrews	13,000	5	5	2	0	0	5	17

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted**	**2. Annual Report Submitted**	**3. Water Audit Report Submitted**	**4. Total Percent Water Loss**	**8. BMPs Implemented**	**10. Conservation Pricing Signal**	**TOTAL SCORE (out of 55)**
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	10 POINTS	15 POINTS	
City of Angleton	19,544	5	5	2	0	2	15	29
City of Anna	15,000	5	0	5	0	0	15	25
City of Aransas Pass	8,448	5	5	2	0	0	15	27
City of Athens	12,792	5	5	5	5	2	10	32
City of Azle	12,790	5	5	2	0	4	10	26
City of Bastrop	8,508	5	5	5	0	2	10	27
City of Bay City	17,614	5	5	5	0	2	10	27
City of Beeville	16,029	0	0	2	0	0	10	12
City of Bellaire	18,797	5	5	5	10	6	15	46
City of Bellmead	10,052	5	5	5	0	2	10	27
City of Belton	22,078	5	5	5	5	4	10	34
City of Boerne	15,820	5	5	5	0	4	10	29
City of Bonham	10,193	5	5	5	0	2	10	27
City of Brenham	16,951	5	5	5	15	2	15	47
City of Bridge City	8,900	5	5	2	0	2	15	29
City of Brownfield	10,000	5	5	5	5	2	10	32
City of Brownwood	18,831	5	5	2	0	2	10	24
City of Buda	11,530	5	0	2	0	0	15	22
City of Burkburnett	10,811	5	5	5	0	6	15	36
City of Carthage	6,581	5	5	5	5	2	10	32
City of Celina	18,000	5	5	5	0	4	10	29
City of Cibolo	19,394	0	0	5	5	0	15	25
City of Clute	11,211	5	5	5	10	4	15	44
City of Corinth	21,030	5	5	5	5	2	5	27

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 55)**
City of Crowley	15,389	5	5	5	0	4	15	34
City of Denison	22,682	5	5	5	0	6	10	31
City of Donna	16,176	0	0	5	0	0	15	20
City of Dumas	14,785	5	5	5	0	2	10	27
City of El Campo	11,602	5	5	5	5	2	15	37
City of Elgin	9,323	5	0	5	0	0	10	20
City of Ennis	19,300	5	5	5	10	2	10	37
City of Fate	16,157	0	0	5	5	0	15	25
City of Forest Hill	13,045	5	5	2	0	2	15	29
City of Forney	20,336	5	5	5	10	2	10	37
City of Fort Stockton	12,502	5	0	2	0	0	10	17
City of Fredericksburg	11,321	5	5	2	0	4	15	31
City of Freeport	12,153	0	0	5	10	0	15	30
City of Gainesville	16,500	5	5	2	0	2	10	24
City of Galena Park	10,989	5	5	5	0	2	15	32
City of Glenn Heights	17,323	5	0	0	0	0	10	15
City of Gonzales	9,487	5	5	5	0	2	10	27
City of Graham	8,655	5	5	5	0	4	10	29
City of Granbury	13,339	5	5	2	0	6	15	33
City of Groves	17,346	5	5	2	0	2	15	29
City of Henderson	13,700	0	5	5	5	0	10	25
City of Hereford	15,370	0	0	2	0	0	15	17
City of Hewitt	16,648	5	5	2	0	4	10	26
City of Hidalgo	12,500	0	0	5	0	0	10	15

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 55)**
City of Highland Park	8,520	5	5	0	0	8	10	28
City of Highland Village	16,662	5	5	2	0	8	10	30
City of Hillsboro	8,534	5	0	5	0	0	5	15
City of Hondo	9,071	5	5	5	5	2	10	32
City of Horseshoe Bay	10,725	5	5	5	0	6	15	36
City of Humble	15,616	5	0	5	5	0	10	25
City of Hutto	19,000	5	5	5	0	2	10	27
City of Ingleside	10,302	5	0	5	10	0	10	30
City of Jacinto City	10,600	0	0	0	0	0	15	15
City of Jacksonville	14,544	5	5	5	5	2	10	32
City of Jasper	10,352	5	5	5	0	2	10	27
City of Jersey Village	4,723	0	5	2	0	2	15	24
City of Katy	18,502	5	5	5	15	4	15	49
City of Kenedy	8,557	5	0	2	0	0	15	22
City of Kennedale	6,763	5	0	5	0	0	15	25
City of Kerrville	24,796	5	5	5	0	4	15	34
City of Kilgore	14,862	5	0	2	0	0	10	17
City of La Marque	3,300	5	0	5	0	0	15	25
City of Lago Vista	12,048	0	0	2	0	0	10	12
City of Lamesa	9,422	5	5	2	0	2	10	24
City of Levelland	13,929	5	5	5	5	0	10	30
City of Livingston	9,296	5	5	5	0	2	10	27
City of Lockhart	13,788	5	5	5	0	2	10	27
City of Mabank	11,961	5	5	5	0	2	10	27

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted**	**2. Annual Report Submitted**	**3. Water Audit Report Submitted**	**4. Total Percent Water Loss**	**8. BMPs Implemented**	**10. Conservation Pricing Signal**	**TOTAL SCORE (out of 55)**
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	10 POINTS	15 POINTS	
City of Marshall	24,316	5	5	5	10	2	15	42
City of Mercedes	16,734	5	0	5	10	0	10	30
City of Midlothian	18,048	5	5	5	10	4	10	39
City of Mineral Wells	14,900	5	5	5	0	4	15	34
City of Mount Pleasant	16,000	5	5	2	0	2	10	24
City of Murphy	20,361	5	5	2	0	4	10	26
City of Nederland	17,545	5	5	5	0	2	15	32
City of Orange	18,643	5	5	5	0	2	10	27
City of Palestine	17,484	5	5	2	0	2	15	29
City of Pampa	17,994	5	5	5	10	2	10	37
City of Pecos	9,398	5	5	5	0	2	15	32
City of Pleasanton	13,321	5	5	5	10	2	10	37
City of Port Lavaca	12,346	5	5	5	0	2	15	32
City of Port Neches	13,040	5	5	5	5	2	15	37
City of Portland	21,600	5	5	2	0	2	10	24
City of Princeton	17,000	5	0	2	0	0	10	17
City of Richmond	14,253	5	5	5	15	2	10	42
City of Rio Grande City	17,778	5	5	2	0	0	15	27
City of Robinson	12,950	5	5	2	0	2	10	24
City of Rockport	21,677	5	0	5	0	0	15	25
City of Roma	20,371	5	5	5	0	2	15	32
City of Royse City	14,212	5	0	5	5	0	15	30
City of Saginaw	21,730	5	5	5	10	2	15	42
City of San Benito	24,528	5	5	5	0	2	10	27

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 55)**
City of Seabrook	13,000	5	5	2	0	2	15	29
City of Seagoville	15,900	5	0	2	0	0	10	17
City of Silsbee	9,960	5	5	5	0	2	10	27
City of Snyder	11,202	5	5	2	0	2	10	24
City of South Houston	17,397	5	5	5	0	2	10	27
City of Stephenville	20,797	5	5	2	0	2	10	24
City of Sulphur Springs	15,449	5	5	5	10	2	15	42
City of Sweetwater	12,148	5	5	5	0	6	15	36
City of Taylor	18,256	5	5	5	0	2	10	27
City of Terrell	17,500	5	5	5	10	4	15	44
City of Tomball	12,633	5	5	5	0	2	10	27
City of Universal City	19,986	5	5	5	10	6	10	41
City of University Park	22,890	5	5	2	0	6	15	33
City of Uvalde	17,450	0	5	5	0	2	10	22
City of Vernon	11,002	5	5	2	0	4	10	26
City of Watauga	24,882	5	5	2	0	4	15	31
City of Webster	10,400	5	0	2	0	0	15	22
City of West University Place	15,016	5	0	2	0	0	15	22
City of Wharton	8,756	5	5	2	0	2	10	24
City of White Settlement	17,204	5	5	5	0	4	15	34
City of Woodway	8,825	5	5	5	0	8	10	33
Clear Brook City MUD	17,070	0	0	5	10	0	5	20
CLWSC Canyon Lake Shores	22,626	5	5	5	0	4	10	29
CLWSC Triple Peak Plant	22,569	5	5	5	0	4	10	29

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted**	**2. Annual Report Submitted**	**3. Water Audit Report Submitted**	**4. Total Percent Water Loss**	**8. BMPs Implemented**	**10. Conservation Pricing Signal**	**TOTAL SCORE (out of 55)**
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	10 POINTS	15 POINTS	
CNP Utility District	13,687	5	5	2	0	2	15	29
Crystal Clear SUD	18,665	5	5	5	0	4	5	24
Cypress Hill MUD 1	10,638	5	5	5	15	2	10	42
Cypress Springs SUD	11,999	5	5	5	0	2	10	27
Dalhart Municipal Water System	9,200	5	5	2	0	2	15	29
Denton County FWSD 1-A Castle Hills	14,640	0	5	5	15	2	10	37
Denton County FWSD 7 Lantana	11,500	5	0	2	0	0	10	17
East Cedar Creek FWSD - Brookshire	12,336	5	5	2	0	2	10	24
East Central SUD	15,657	5	5	5	0	2	10	27
East Fork SUD	14,697	5	5	2	0	2	15	29
East Rio Hondo WSC	21,984	5	5	5	5	2	10	32
Ector County UD	16,203	5	0	5	5	0	10	25
Fort Bend County MUD 23	12,631	5	5	2	0	2	5	19
Fort Bend County MUD 25	16,191	5	5	5	10	4	10	39
Harris County FWSD 51	20,000	0	0	2	0	0	15	17
Harris County FWSD 61	20,000	5	5	5	5	2	15	37
Harris County MUD 102	9,721	5	5	2	0	2	15	29
Harris County MUD 120	12,800	5	5	2	0	2	5	19
Harris County MUD 157	11,140	5	5	5	10	2	10	37
Harris County MUD 165	22,404	5	5	5	10	4	15	44
Harris County MUD 167	12,969	5	0	2	0	0	10	17
Harris County MUD 168	12,870	5	5	5	5	2	10	32
Harris County MUD 200	14,082	5	5	5	10	2	0	27

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 55)**
Harris County MUD 24	11,454	5	0	2	0	0	15	22
Harris County MUD 26	15,879	5	5	2	0	2	10	24
Harris County MUD 368	11,505	5	5	5	15	2	10	42
Harris County MUD 53	20,000	0	0	2	0	0	15	17
Harris County MUD 55 Heritage Park	16,257	5	5	5	5	2	5	27
Harris County MUD 71	12,726	5	5	2	0	2	5	19
Harris County MUD 81	10,282	5	5	5	10	2	10	37
Harris County WCID 36	11,410	5	5	2	0	2	15	29
Harris Montgomery County MUD 386	14,559	5	5	2	0	2	15	29
Hudson WSC	11,700	0	0	5	0	0	15	20
Jonah Water SUD	23,061	0	5	5	0	2	5	17
Kempner WSC	16,377	5	5	5	0	2	5	22
Laguna Madre WD	17,877	5	5	5	15	2	15	47
Lake Cities MUA	16,500	5	5	2	0	2	10	24
Lakeway MUD	10,765	5	5	5	0	6	5	26
Lamar County WSD	23,544	5	5	5	0	2	10	27
Langham Creek UD	10,062	5	5	5	10	4	15	44
Lee County WSC	12,177	5	5	5	5	0	10	30
Lindale Rural WSC	10,386	5	0	5	0	0	10	20
Mauriceville MUD	10,287	5	0	2	0	0	10	17
Memorial Villages WA	9,882	5	5	5	5	6	10	36
MILITARY HWY WSC LAS RUSIAS	22,130	5	0	2	0	0	10	17
Montgomery County MUD 46	18,321	5	0	5	10	0	15	35

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted** 5 POINTS	**2. Annual Report Submitted** 5 POINTS	**3. Water Audit Report Submitted** 5 POINTS	**4. Total Percent Water Loss** 15 POINTS	**8. BMPs Implemented** 10 POINTS	**10. Conservation Pricing Signal** 15 POINTS	**TOTAL SCORE (out of 55)**
Montgomery County MUD 60	11,870	5	0	5	10	0	15	35
Montgomery County MUD 7	12,291	5	0	5	10	0	15	35
Montgomery Trace WS	15,735	5	5	2	0	6	10	28
Mountain Peak SUD	5,528	5	5	5	0	4	10	29
Mustang SUD	24,609	5	5	5	0	2	15	32
New Caney MUD	15,207	5	5	5	0	6	15	36
Newport MUD	11,373	5	0	5	10	0	10	30
North Austin MUD 1	8,974	5	5	2	0	2	10	24
Northtown MUD	11,358	5	5	2	0	4	10	26
Northwest Harris County MUD 5	19,630	5	5	5	10	2	10	37
Northwest Park MUD	18,000	5	5	5	5	4	10	34
Nueces County WCID 3	21,700	5	0	5	0	0	10	20
Nueces County WCID 4	3,480	5	0	2	0	0	15	22
Orange County WCID 1	14,832	5	5	5	0	2	10	27
Pecan Grove MUD	15,312	5	0	2	0	0	10	17
Perryton Municipal Water System	8,802	5	5	5	0	2	15	32
Plainview Municipal Water System	22,194	5	5	5	5	2	5	27
Porter SUD	18,992	5	5	5	10	4	10	39
Quail Valley UD	14,040	5	5	5	10	4	10	39
Rayford Road MUD	10,965	5	5	2	0	2	10	24
Remington MUD 1	13,374	5	5	5	10	2	10	37
S S WSC	17,367	5	5	2	0	2	10	24
Sardis Lone Elm WSC	18,750	0	0	5	0	0	10	15

TEXAS WATER CONSERVATION Scorecard: SMALL-SIZE UTILITIES (POPULATION BELOW 25,000)								
UTILITY NAME	**POPULATION**	**1. Water Conservation Plan Submitted**	**2. Annual Report Submitted**	**3. Water Audit Report Submitted**	**4. Total Percent Water Loss**	**8. BMPs Implemented**	**10. Conservation Pricing Signal**	**TOTAL SCORE (out of 55)**
		5 POINTS	5 POINTS	5 POINTS	15 POINTS	10 POINTS	15 POINTS	
Southern Montgomery County MUD	10,906	5	5	5	15	2	0	32
Spring Creek UD	10,524	5	5	2	0	2	10	24
Springs Hill WSC	24,420	5	5	5	0	2	10	27
The Woodlands MUD 1	7,108	0	0	2	0	0	15	17
Timberlane UD	19,944	5	0	0	0	0	10	15
Town of Addison	15,458	5	5	5	15	2	15	47
Town of Fairview	9,110	5	5	5	0	2	15	32
Town of Prosper	22,650	5	0	5	10	0	10	30
Tri SUD	15,000	5	5	5	0	2	10	27
Wellborn SUD	21,750	5	5	2	0	2	10	24
Wells Branch MUD	19,344	5	5	2	0	6	15	33
West Cedar Creek MUD	21,000	0	0	5	15	0	5	25
West Travis County Regional WS	23,319	5	5	5	0	0	10	25
Wickson Creek SUD	14,400	0	0	5	0	0	10	15
Windermere Community	20,091	5	5	5	0	2	15	32
Zapata County Waterworks SWTP	12,063	5	0	5	5	0	10	25

Appendix D - Summary of State Statutory Requirements

Summary of Selected State Statutory Requirements on Water Conservation Planning and Reporting

Excerpted from Guidance and Methodology for Reporting on Water Conservation and Water Use – developed by Texas Water Development Board and Texas Commission on Environmental Quality in consultation with Water Conservation Advisory Council (December 2012) - [Note: an additional statutory requirement enacted by the Texas Legislature in 2013 after publication of this guidance document is shown below in blue.]:

Chapter 1: Texas Water Development Board Required Documents and Reports for Conservation and Water Use

The following documents and reports are required by statute and/or Texas Water Development Board rules to be submitted to the Board.

WATER CONSERVATION PLAN
Texas Water Code: 13.146; 17.125(b); 17.277(b)
Texas Administrative Code: 31 Texas Administrative Code Chapter 363, Subchapter A, Rule 363.15
Who is required to submit:

- Entities applying for Board financial assistance greater than $500,000
- Entities with 3,300 connections or greater
- A non-irrigation surface water right greater than 1,000 acre-feet/year
- An irrigation surface water right greater than 10,000 acre-feet/year

Report goes to: All required plans should be submitted to the Board.
When to submit: Submit a water conservation plan along with the utility profile once every five years or whenever a revision to the plan is needed.
Purpose and Function: The purpose of a water conservation plan is to establish a strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, and for increasing the recycling and reuse of water. The water conservation plan contains the utility profile which is the foundation of water conservation plan development and ensures that important information and data are considered when establishing targets and goals. The plan should establish a schedule for achieving 5- and 10-year targets and goals for water use and water loss and a method for tracking progress in meeting the targets and goals.

UTILITY PROFILE
Texas Administrative Code: 31 Texas Administrative Code Chapter 363, Subchapter A, Rule 363.15(b)(1)(A)
Who is required to submit:

- Entities applying for Board financial assistance greater than $500,000
- Entities with 3,300 connections or greater

Report goes to: All required utility profiles should be submitted to the Board.
When to submit: Submit a utility profile along with the water conservation plan once every five years or when a plan is revised as necessary.
Purpose and Function: The utility profile is the foundation of water conservation plan development and ensures that important information and data be considered when establishing 5- and 10-year targets and goals for water use and water loss.

WATER CONSERVATION PLAN ANNUAL REPORT
Texas Water Code: 16.402(b)
Texas Administrative Code: 31 Texas Administrative Code Chapter 363, Subchapter A, Rule 363.15

Who is required to submit: Entities currently required to have a water conservation plan on file with the Board or the Commission are required to submit a conservation plan annual report.

Report goes to: The water conservation plan annual report should be submitted to the Board.

When to submit: The water conservation plan annual report should be submitted every year by May 1.

Purpose and Function: The purpose of a conservation plan annual report is for a utility to internally collect and track key water use and water loss data as well as measure and evaluate their conservation program and activities. The water conservation plan annual report shall detail progress toward implementing each of the minimum requirements in the water conservation plan. As the report form is completed, an entity should review their water conservation plan to see if they are making progress towards meeting stated goals.

WATER LOSS AUDIT

Texas Water Code: 16.0121
Texas Administrative Code: 31 Texas Administrative Code Chapter 358, Subchapter B, Rule 358.6

Who is required to submit: All retail public utilities providing potable water are required to submit a water loss audit once every five years.

Report goes to: The water loss audit should be submitted to the Board.

When to submit: Water loss audits should be submitted once every five years by May 1. The next due date is May 1, 2016. **Note: Any public utility that receives financial assistance from the Board in an amount greater than $500,000 is required to submit a water loss audit annually by May 1**. Any retail public utility with greater than 3300 connections providing potable water is required to submit a water loss audit annually.

Purpose and Function: The purpose of a water loss audit is to enable an entity to identify significant losses in their system. This allows the entity to determine long-term infrastructure needs and save money by establishing an efficient repair and maintenance program. Water loss audits conserve the state's water resources by reducing water losses from the systems of drinking water utilities.

For more information regarding the Water Conservation Plan, the Water Conservation Annual Report, and the Water Loss Audit, please contact the Board's Water Conservation Division at 512-463-7988 or wcpteam@twdb.texas.gov.

Texas Living Waters Project

www.texaswaterconservationScorecard.org
www.texaslivingwaters.org

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