Draft Recommendations for the 2020 WCAC Report

Continue funding for the Texas Alliance for Water Conservation.

The Council recommends that, subject to available state revenue for the 2022–2023 biennium, the Texas Legislature fund this agricultural demonstration and education project promoting water conservation through best management practices and new technologies at $475,000 per year, through general revenue appropriations deposited to the Agricultural Water Conservation Fund and distributed through the TWDB's Agricultural Water Conservation Grants Program, and establish this level of annual funding through baseline general revenue appropriations to the TWDB in future years.

Background:

The Texas Alliance for Water Conservation (TAWC) is a state-supported, agricultural producer demonstration and education project promoting water conservation through best management practices and technologies to improve sustainability and profitability in the Texas Southern High Plains.

This project began in 2004, following the passage of Senate Bill 1053, which provided the Texas Water Development Board with the ability to provide grant funding to state agencies and political subdivisions, including the state university systems, for conservation projects and programs. The project initially received $6.2 million in grant funding for an 8-year period (2005-2012, extended to 2013). In 2014, the Texas Legislature appropriated an additional $3.6 million out of the Agricultural Water Conservation Fund for a 5-year period (2014-2019). Current funding has been extended to December 31, 2020 with a contract expiration date of August 31, 2021.

The TAWC Project sites represent an array of monoculture, multi-crop, and forage-livestock systems using conventional, pastureland, and various conservation tillage systems. Irrigation systems include furrow, center pivot, precision mobile drip irrigation, and subsurface drip technologies. Crops include cotton, sorghum, corn, grass seed and various specialty crops as well as perennial grass, livestock, and alfalfa. Production information and economic analyses have been used to educate producers on technologies and management strategies through demonstrations, field days, education, and outreach events across the Texas High Plains. Much of TAWC's education and demonstration efforts have focused on conservation of the Ogallala Aquifer and the technologies that supply only what the crop needs at specific stages of development, thus creating significant water savings to real farm scenarios.

Over the last 15 years, TAWC has established its identity and facilitated relationships between producers, industry, government agencies, commodities, retailers, and academia. Partnerships have been created with the Texas Tech West Texas Mesonet and Plains Cotton Growers to

develop free web-based water management tools and a Heat Unit iOS phone app for tracking cotton heat units. Relationships with cotton, corn, and sorghum commodity groups, as well as Texas and Southwestern Cattle Raisers Association have been built and strengthened.

TAWC has received over $3.2 million in supplementary grants and participated in over 500 multi-state presentations and 7 international presentations. Receiving the 2012 Blue Legacy Award, 2013 AWRA Integrated Water Resources Management Award, 2014 Texas Environmental Excellence Award in Agriculture, 2016 National Water & Energy Conservation Award, among others. Field days, field walks, the annual Water College, radio spots, e-newsletters, and social media reach at least 10,000 people per year. TAWC directs its messaging at water-use decision-makers among producers, ag consultants, and policymakers. TAWC contributes to the formal education of university students via an undergraduate ag water certificate and graduate studies in the areas of agronomy, soil management, irrigation technology, economics, and communications.

Renewed funding will allow TAWC to continue promoting water conservation and launch new thrusts to include 1) field-scale demonstrations of minimum tillage and multi-species cover crops to enhance soil water retention, and 2) options and guidelines for conversion from irrigated to rainfed cropping systems. TAWC will also communicate options in contract cattle grazing of cover crops and rainfed forages to enhance the value of land retired from irrigation. TAWC will employ its key strength in economics by analyzing the profitability and ease of management of cover crops, crop rotation, value-added crops, reduced irrigation, and rainfed systems.

New investment in TAWC will expand the impact of technology transfer for water savings through tighter linkage with soil health and value-added land management. TAWC is requesting $475,000 per year to support the core operations and personnel to carry on administration, producer relations, education, event programing, and demonstrations. Supplementary grants will be obtained to support specific outreach objectives.

Restore funding for the Texas Ag Water Efficiency Education and Demonstration Project facility.

The Council recommends that, subject to available state revenue for the 2022–2023 biennium, the Texas Legislature fund this project for the education, research and development of agricultural water conservation initiatives at $200,000 per year, through general revenue appropriations deposited and distributed through the TWDB's Agricultural Water Conservation Grants Program, and establish this level of annual funding through baseline general revenue appropriations to the TWDB in future years.

Background:

From 2004 to 2015 the Texas Water Development Board's Agricultural Water Conservation Grants Program funded a project known as the Texas Project for Ag Water Efficiency (AWE). This project demonstrated the various types of irrigation on farms in the Lower Rio Grande Valley. The project assisted farmers in implementing conservation measures that would conserve water and maintain the economic viability of their farming practices. Out of these demonstrations, a number of operations were converted to more efficient irrigation practices both by the farmers and the districts.

A component of the project was the construction of a meter calibration and educational center named the Texas Center for Ag Water Efficiency. Its purpose is the demonstration, education and research of agricultural water conservation measures, tools and technologies. This million-dollar facility is the only one of its kind in Texas and one of only a handful nationwide. Water managers and employees from across the state utilized these facilities to educate personnel on the refinement of agricultural water measurement and delivery.

Multiple developments resulted from the work at the facility and have been adopted by several Rio Grande Valley irrigation districts as well as El Paso County Water Improvement District #1 and the Lower Colorado River Authority. An overview of these developments are as follows:

> **Gate development:** Efficient low-cost canal gates for controlling water delivery were developed. These gates were designed to operate in open canal systems using solar or wind generated power, a necessity as many sites were without a power source.
>
> **Automation:** Prototypes of these gates were designed and perfected to be utilized with a Supervisory Control and Data Acquisition (SCADA) system also developed at the facility. The SCADA development allowed for the automation of multiple gates throughout the district's delivery system to maximize the efficient delivery of water to farmers and cities served by the district. The facility being equipped with these auto-gates provides a vehicle for the demonstration of a fully automated and efficient district delivery system.

Telemetry: This system was developed to meet the unique needs of monitoring and operation of delivery systems that are common for the surface water irrigation systems of Texas. New telemetry hardware and software is constantly being developed but not necessarily targeting irrigation needs. The AWE facility is ideal for demonstrating and testing the viability of these systems for utilization in the agricultural irrigation industry.

Meter calibration: The AWE facility was designed to enable meter calibration for various types of metering devices used in irrigation. One of the major benefits that developed out of this facility was the ability to demonstrate each of the many devices in typical raw water conditions. Many meters simply will not function properly in raw water conditions as trash and hydrophilic vegetation fouls the mechanical components of standard meters. This facility allows for the demonstration of new devices to determine if in fact they will withstand the harsh raw water conditions typical to water diverters across the state.

Irrigation practices: Educational programs are a must to develop and encourage the use of improved irrigation practices. This facility is ideal for not only demonstration of different practices but in the education and presentation of new developments in surface water irrigation. We have partnered with the Texas A&M AgriLife Extension Service, Texas State Soil and Water Conservation Districts and the United States Department of Agriculture Natural Resource Conservation Service to present programs important to the promotion of water conservation and practical methods of best management practices.

Additional educational programs: New telemetry hardware and software is constantly being developed but not necessarily targeting irrigation needs. The AWE facility is ideal for demonstrating and testing the viability of these systems for utilization in the agricultural irrigation industry. The facility is setup to educate the users on the best options for their needs but also could be used to demonstrate and educate the engineering community. This would better enable them to keep up to speed on the ever-changing systems available and to incorporate the new systems into their designs.

The facility is ideal and necessary for the development, research and education in new conservation and water management systems that will apply to the vast amount of unique conditions in Texas irrigation. The use of off-the-shelf products and programs are expensive and many times not economically feasible. They often fail to meet the needs of Texas irrigators and are subsequently rejected by them. This facility can help to build confidence and demonstrate the feasibility of new water conservation technologies. An additional plus for the developments from this project is the availability of the data. The gate programming and construction plans, and all demonstration data is available at no cost to entities across the state as they were all developed with public funds.

During the active project period, the Harlingen Irrigation District hosted more than 20 workshops, seminars, and other such training events at the Rio Grande Center for Ag Water

Efficiency. These educational opportunities allowed for water providers and agricultural producers to not only gain knowledge on developing technology and conservation strategies but also established a dialogue between the producers and water providers to further innovations. Four of the Council's Blue Legacy Awards for agriculture have been awarded to recipients related to this project.

As surface water is still the largest user of water in several areas of the state, this facility has the potential to play a significant role in the education, research and development of water conservation initiatives for irrigated agriculture. Despite initial investment, this facility is no longer being used to its full potential.

Restored funding will enable the maintenance, improvement and expansion of the mechanical and technological components of the facility; which in turn, will allow for the growth of educational and research opportunities. As innovative water conservation technologies continue to evolve, the vision for the Rio Grande Center for Ag Water Efficiency is to use the facility as a hub to demonstrate the relationship between effective on-farm and district delivery systems and educate both agricultural producers, water providers and project developers on proven water conservation technologies that are available to modernize their operations.

Maintain funding for TWDB's Agricultural Water Conservation Grant program.

The Council recommends that, subject to available state revenue for the 2022–2023 biennium, the Texas Legislature maintain the current level of $1,200,000 per year for Texas Water Development Board's Agricultural Water Conservation Grant Program, in addition to any funds appropriated specifically for the Texas Alliance for Water Conservation and the Texas Project for Ag Water Efficiency.

Background:

During the 86th Legislative Session, the appropriations act increased authorized dispersals through the Agricultural Water Conservation Grant Program from $600,000 to $1,200,000 per fiscal year.

The Agricultural Water Conservation Program promotes water conservation programs and projects throughout the state by supporting the implementation of water conservation water management strategies identified in the state and regional water plans. Previously funded activities include demonstrations of conservation practices, educational outreach, purchase and installation of water use monitoring equipment, and irrigation-efficiency improvements. Funding recipients must report improvements in water use efficiency or water savings. Over the past five years, grant and loan recipients have reported approximately 350,000 acre-feet of water savings through the program.

The grant program offers funding through a competitive process at least once a year to state agencies and political subdivisions for agricultural water conservation programs and projects. Grant topics vary from year to year to address current issues in agricultural water conservation. Projects awarded funding must further water conservation in the state and support the implementation of water conservation management strategies in the state water plan. Specific evaluation criteria are listed in the request for applications.

The success of the program is quantified through annual water savings estimates reported by grant and loan recipients for five years after equipment installation and/or construction completion.

The program has collectively saved:

- 496,000-acre feet of water reported through 74 grant projects over the past 10 years.
- 79,000-acre feet of water reported through 10 loan projects over the past 10 years.

Examples of successful projects that implement irrigation conservation strategies include:

- Irrigation scheduling via the use of real-time soil moisture monitoring, remote system shutoff devices and other conservation tools in Regions A and O.
- Irrigation conservation demonstrations and outreach through the Texas Alliance for Water Conservation project, identified as a strategy in the Region O plan.
- Irrigation system improvements such as canal lining, canal-to-pipeline projects, SCADA systems, and automated canal gates in Region E, Region K, and Region M.
- Irrigation water use measurement throughout the state.

Advancing Use of Data to Understand Trends in Water Use.

Request $25,000 in funding to be made available through TWDB to advance the understanding of municipal water use trends using available annual reporting data

Objective:

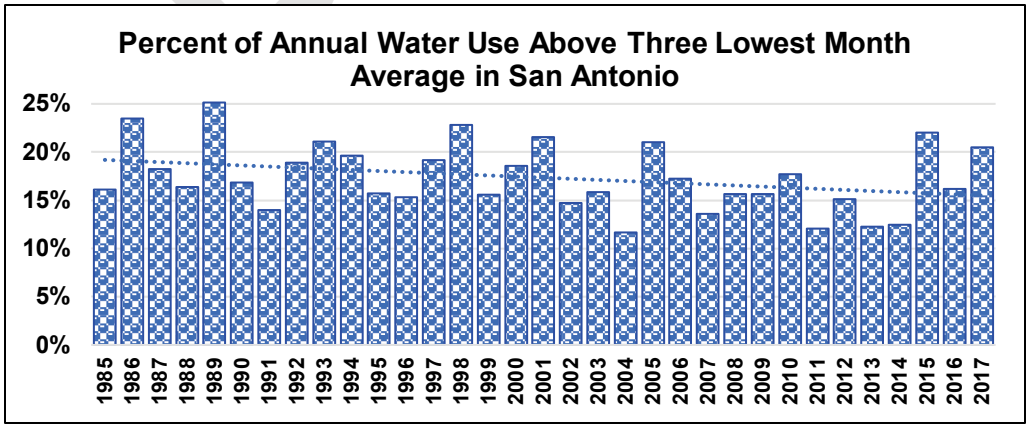
The objective is to use data reported by municipal providers to better understand seasonal as well as indoor and outdoor water use trends over time. The project would set up analytics that could be easily updated each year as new reports make new information available. An annual report on seasonal and indoor/outdoor water use patterns across regions and by water providers could be made available to help assess progress and update strategies.

Background:

The Texas Water Conservation Advisory Council is charged with determining the effectiveness of water conservation in Texas and reporting its findings to the Texas Legislature and Governor. The Texas Water Development Board, as the State's water resource planning agency, collects many types of water use data and uses the data to provide input for the Regional Water Planning Groups to use in the five year Texas water planning cycle. The TWDB data and other data sources can be used to develop statistical methods to determine the impact that conservation is having on water use in Texas in the municipal and industrial environment.

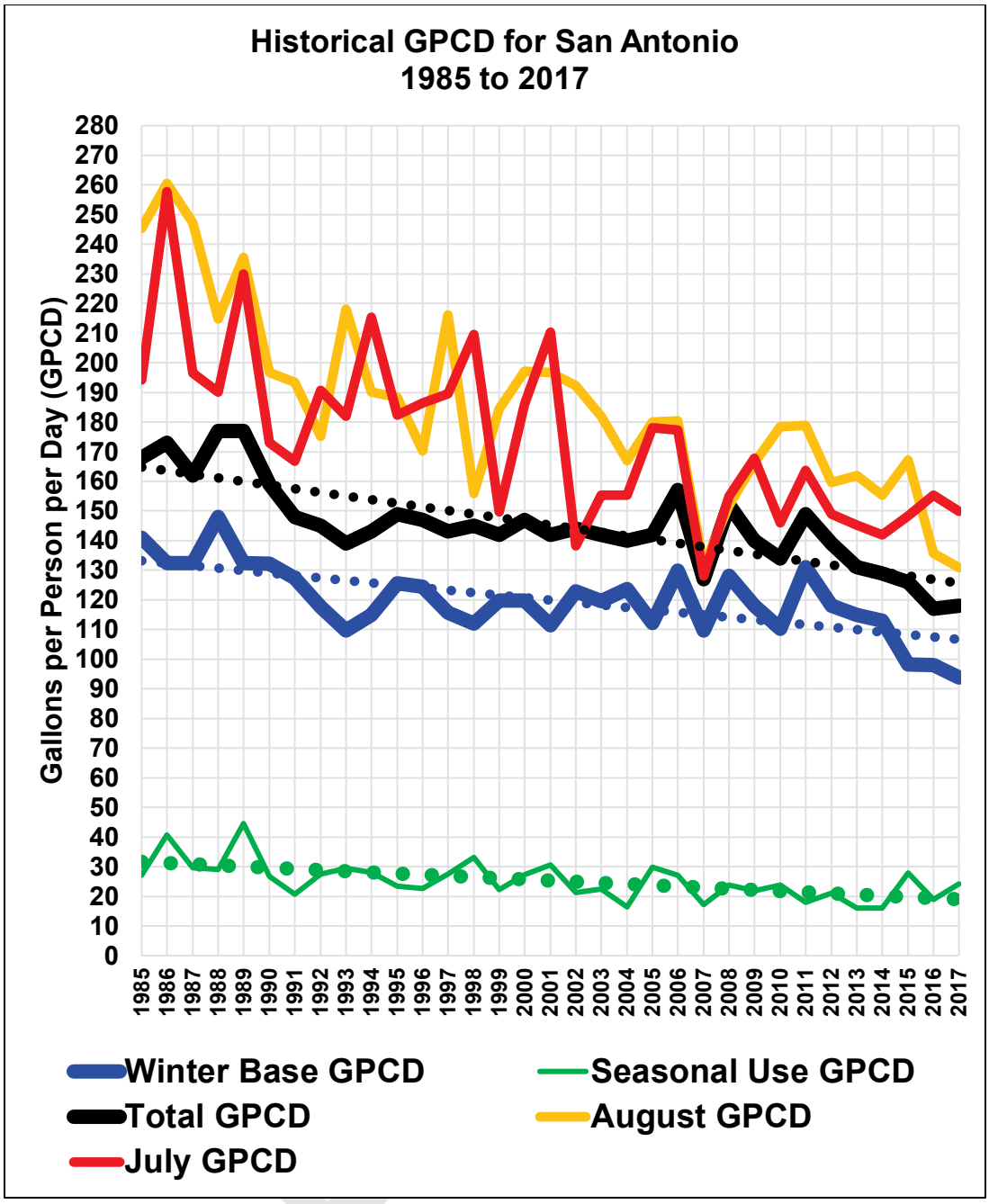
Example: Trends in seasonal use:

This would identify how successful outdoor water use programs are. San Antonio is used as an example. Seasonal use is usually defined as the amount of water a system uses above its average of the three lowest months per year. I have attached an example for San Antonio based on TWDB data. Please note that the lowest months are not always December, January and February. Highest months are July and August. (See table and graph on next two page). The percent of water used above the three lowest month is shown below.



Per Capita Monthly Water Use in San Antonio													
Year	Month												Annual
	1	2	3	4	5	6	7	8	9	10	11	12	
1985	153	148	146	161	172	175	194	245	186	156	142	135	168
1986	128	135	166	182	166	166	258	261	179	154	142	134	173
1987	135	132	141	155	150	156	197	247	177	174	145	131	162
1988	145	150	155	176	197	203	190	215	197	180	164	150	177
1989	128	124	145	172	199	196	230	236	209	181	145	153	177
1990	135	136	126	131	167	248	173	197	160	154	138	141	159
1991	129	130	145	140	146	172	167	193	140	157	130	123	148
1992	112	119	122	131	134	146	191	175	175	176	134	122	145
1993	107	109	113	125	124	130	182	218	177	146	118	114	139
1994	121	118	107	136	138	162	215	190	144	135	125	120	143
1995	127	125	125	140	153	156	182	188	169	156	133	130	149
1996	128	144	137	160	160	168	186	170	126	136	127	119	147
1997	117	111	119	126	127	129	189	216	178	144	129	125	143
1998	116	114	119	156	187	191	210	156	137	129	111	112	145
1999	114	123	129	134	137	151	150	184	171	151	135	123	142
2000	118	122	128	140	147	174	186	197	158	144	129	120	147
2001	114	112	118	135	146	185	210	197	134	127	114	108	142
2002	123	125	141	130	155	186	138	192	151	133	131	121	144
2003	115	115	129	140	172	164	155	182	137	133	128	130	142
2004	124	123	124	126	139	152	155	167	151	143	138	137	140
2005	116	108	112	138	138	155	178	180	170	144	142	120	142
2006	132	135	122	152	155	166	177	180	176	171	167	147	157
2007	109	122	98	123	128	130	128	131	133	148	143	130	127
2008	133	141	130	145	177	208	155	152	156	159	145	122	152
2009	114	118	128	142	143	159	168	166	138	142	137	122	140
2010	111	103	116	119	128	140	146	178	128	146	142	145	134
2011	132	135	143	150	152	166	164	179	166	136	137	126	149
2012	130	115	121	149	136	164	149	160	143	150	132	117	139
2013	110	114	125	121	121	131	145	162	140	131	135	134	131
2014	112	112	115	129	130	129	142	155	138	135	120	128	129
2015	100	96	100	106	115	122	148	167	154	149	129	123	126
2016	107	116	113	115	107	127	155	136	117	123	98	89	117
2017	91	91	99	114	125	133	150	131	130	120	119	110	118
Blue = Low Month, Yellow = Two Next Lowest Months, Light Orange = High Month													

As this table shows, December, January and February are not necessarily the lowest water use months. For this analysis, total monthly use was divided by the number of days in that month to determine daily use. Remember that February has either 28 or 29 days depending on leap year.



This type of analysis would show how the trends in seasonal and base use are for each city. The analysis is solely based on TWDB data that already exists.

LOCKHART				ALAMO HEIGHTS			
Year	Population	Use	GPCD	Year	Population	Use	GPCD
1980	7,953	1,428	160	1980	6,252	2,742	392
1984	9,178	1,427	139	1984	6,583	3,609	489
1985	9,628	1,356	126	1985	6,908	2,251	291
1986	10,100	1,453	128	1986	7,250	2,603	321
1987	9,929	1,407	127	1987	7,433	2,135	256
1988	9,760	1,407	129	1988	7,620	2,796	328
1989	9,071	1,499	148	1989	6,477	2,567	354
1990	9,205	1,816	176	1990	6,502	2,210	303
1991	9,265	1,448	140	1991	6,726	2,071	275
1992	9,262	1,549	149	1992	6,990	1,928	246
1993	9,415	1,659	157	1993	7,146	2,058	257
1994	9,403	1,737	165	1994	7,135	1,982	248
1995	9,441	1,707	161	1995	7,213	2,074	257
1996	9,769	2,033	186	1996	7,201	2,185	271
1997	10,144	1,697	149	1997	7,294	2,034	249
1998	10,619	1,844	155	1998	7,309	2,170	265
1999	11,152	1,786	143	1999	7,147	2,234	279
2000	11,615	1,795	138	2000	7,319	2,000	244
2001	12,350	1,804	130	2001	7,318	2,072	253
2002	12,361	2,188	158	2002	7,327	2,011	245
2003	12,651	1,908	135	2003	7,340	1,951	237
2004	13,249	1,908	129	2004	7,342	1,795	218
2005	13,065	1,888	129	2005	7,294	1,781	218
2006	13,228	No Return	No Return	2006	7,546	2,144	254
2007	13,508	No Return	No Return	2007	7,537	1,793	212
2008	13,880	1,703	110	2008	7,699	2,179	253
2009	14,124	1,777	112	2009	7,818	2,066	236
2010	12,698	1,644	116	2010	7,031	2,066	262
2011	12,781	1,980	138	2011	7,136	2,053	257
2012	12,811	1,810	126	2012	7,168	2,053	256
2013	13,004	1,628	112	2013	7,434	1,888	227
2014	13,095	1,732	118	2014	7,518	1,894	225
2015	13,283	1,645	111	2015	7,692	1,608	187
2016	13,091	1648	112	2016	6,736	1,608	213
2017	13,248	1,683	113	2017	6,911	1,821	235

HOUSTON				DALLAS			
Year	Population	Use	GPCD	Year	Population	Use	GPCD
1980	1,595,157	354,159	198	1980	904078	227,669	225
1984	1,725,964	339,039	175	1984	981352	253,200	230
1985	1,727,437	356,859	184	1985	992370	265,417	239
1986	1,728,910	361,279	187	1986	1003511	244,701	218
1987	1,713,424	322,704	168	1987	995396	245,874	221
1988	1,698,090	286,409	151	1988	987361	280,445	254
1989	1,629,225	272,680	149	1989	988144	262,452	237
1990	1,630,553	286,550	157	1990	1006877	267,753	237
1991	1,657,504	317,871	171	1991	1016106	253,613	223
1992	1,679,421	316,443	168	1992	1026381	264,690	230
1993	1,700,672	319,712	168	1993	1036309	272,859	235
1994	1,721,225	287,073	149	1994	1047215	243,633	208
1995	1,741,257	245,968	126	1995	1048882	269,735	230
1996	1,761,754	355,064	180	1996	1062218	273,411	230
1997	1,828,544	285,185	139	1997	1077606	274,559	227
1998	1,861,705	314,892	151	1998	1082947	317,821	262
1999	1,887,772	348,905	165	1999	1087380	369,061	303
2000	1,953,631	347,947	159	2000	1188580	351,484	264
2001	1,972,083	353,443	160	2001	1196825	334,905	250
2002	2,006,963	361,942	161	2002	1209784	332,007	245
2003	2,024,532	371,914	164	2003	1210606	322,248	238
2004	2,040,645	377,160	165	2004	1213627	326,265	240
2005	2,071,162	385,120	166	2005	1221162	333,762	244
2006	2,112,671	346,393	146	2006	1233970	311,901	226
2007	2,139,408	317,408	132	2007	1243287	328,202	236
2008	2,215,947	295,808	119	2008	1268533	302,313	213
2009	2,255,158	336,512	133	2009	1290989	251,775	174
2010	2,099,451	321,460	137	2010	1197816	266,169	198
2011	2,135,186	490,708	205	2011	1216203	267,928	197
2012	2,164,735	368,309	152	2012	1235699	268,037	194
2013	2,189,925	361,946	148	2013	1244789	264,775	190
2014	2,247,167	306,023	122	2014	1277995	270,549	189
2015	2,303,228	361,202	140	2015	1291938	285,447	197
2016	2,264,724	435,574	171	2016	1252388	257,849	183
2017	2,282,842	313,234	122	2017	1270170	250,663	176

LUBBOCK				SAN ANTONIO			
Year	Population	Use	GPCD	Year	Population	Use	GPCD
1980	173979	34,679	178	1980	785880	183,204	208
1984	182265	33,354	163	1984	855075	186,831	195
1985	184321	33,048	160	1985	884216	166,890	168
1986	186400	32,093	154	1986	914350	177,213	173
1987	187243	33,583	160	1987	927653	168,114	162
1988	188090	33,958	161	1988	941150	186,110	177
1989	185318	36,424	175	1989	922860	183,007	177
1990	186206	36,655	176	1990	935933	166,615	159
1991	188789	33,841	160	1991	958273	158,893	148
1992	191523	32,320	151	1992	972641	157,499	145
1993	193194	35,320	163	1993	991861	153,885	139
1994	194286	38,840	178	1994	1034498	165,696	143
1995	194349	41,065	189	1995	1065384	177,763	149
1996	194188	40,225	185	1996	1098642	180,998	147
1997	193266	37,355	173	1997	1111250	177,797	143
1998	194262	45,479	209	1998	1125056	182,733	145
1999	193741	38,846	179	1999	1148436	182,671	142
2000	199564	40,461	181	2000	1144646	188,479	147
2001	201179	41,477	184	2001	1172055	186,443	142
2002	203157	40,507	178	2002	1195742	192,455	144
2003	204943	43,867	191	2003	1217540	193,662	142
2004	206362	42,764	185	2004	1238983	194,297	140
2005	208848	40,004	171	2005	1262861	200,871	142
2006	210622	41,095	174	2006	1296265	227,386	157
2007	215729	31,192	129	2007	1320060	187,332	127
2008	220688	33,901	137	2008	1348539	229,682	152
2009	226104	33,734	133	2009	1373546	215,843	140
2010	229573	33,652	131	2010	1327407	198,814	134
2011	233318	43,926	168	2011	1358646	226,276	149
2012	237243	38,123	143	2012	1382056	215,037	139
2013	241740	38,597	143	2013	1407188	206,811	131
2014	244712	36,395	133	2014	1428340	207,113	129
2015	248640	33,744	121	2015	1451413	204,644	126
2016	246963	35,757	129	2016	1747333	230,239	117
2017	254565	34,614	121	2017	1780836	237,065	118

AMARILLO			
Year	Population	Use	GPCD
1980	149,230	33,034	198
1984	164,141	36,010	196
1985	164,994	34,036	184
1986	165,850	35,518	191
1987	165,889	35,759	192
1988	166,010	34,806	187
1989	156,701	34,956	199
1990	157,615	41,310	234
1991	160,288	41,588	232
1992	161,781	41,708	230
1993	163,569	39,820	217
1994	165,919	42,056	226
1995	167,548	41,788	223
1996	171,891	44,334	230
1997	172,147	39,890	207
1998	173,727	25,103	129
1999	173,133	23,078	119
2000	173,627	49,789	256
2001	175,203	42,460	216
2002	177,767	38,033	191
2003	179,447	48,415	241
2004	181,531	44,938	221
2005	184,365	52,661	255
2006	185,911	47,846	230
2007	188,518	36,349	172
2008	190,016	40,248	189
2009	191,201	37,560	175
2010	190,695	38,440	180
2011	194,590	46,402	213
2012	197,570	43,127	195
2013	199,454	39,105	175
2014	200,708	37,739	168
2015	201,158	31,721	141
2016	208,847	41,265	176
2017	210,191	38,331	162

Establish Level 1 Validation program for Water Loss Audits.

The Council recommends that, subject to available state revenue for the 2022–2023 biennium, the Texas Legislature appropriate $605,000 for the biennium to the TWDB to establish a program building on a water audit validation study being conducted by the TWDB. Under the guidance of the TWDB, level 1 validations would be conducted of water loss audits submitted by a group of 50 utilities volunteering to participate, establish a methodology for conducting level 1 validations, and establish a training program to certify validators. Preference for participation would be given to those utilities with a financial obligation to the State requiring that they complete a water loss audit.

Background:

Level 1 validation of water loss audits is crucial if those audits are to be used to make water loss funding decisions, both by the State and by utilities. Level 1 validation ensures that proper processes are being conducted per industry best practice guidance, increasing the efficacy of spending on reducing water loss and helping ensure that cost effective water loss measures are targeted.

When California implemented Level 1 validation of water loss audits, the percentage of submitted audits that did not contain unrealistic results raised by over ten percent and reported data validity scores dropped by a median number of 13 points. Thus, the data accuracy improved, while overconfidence in the results of those audits decreased.
Level 1 validation would require training of on proper validation methodology according to the TWDB validation scoring matrix and would be separate from the training that the TWDB currently requires for submission of water loss audits. The validator cannot be the same person who completes the audit to prevent bias and to minimize unintentional omissions. For this recommendation, validation would be conducted by third party contractors. This funding would establish a framework for an ongoing validation effort.

Budget Justification:

Task	Cost
Program Announcement/Recruitment	**$20,000**
Provide on-going management of the program, including the development of a program management plan and associated schedule, marketing and outreach plan, regular team coordination calls for program management and documentation, internal progress tracking, internal task assignments and accountability, program management plan amendments, and course corrections as warranted.	
Development of a recruitment and retention plan, development of all communication materials in support of the recruitment plan.	
Manage water system recruitment and retention for the program.	
Level 1 Validation Process	**$175,000**
Receipt and review of supporting documentation	
Level 1 Validation session	
Utility-specific documentation	
Compilation and reporting of validation results	**$40,000**
Validation Certification	**$250,000**
Texas specific Level 1 Validation certification criteria	
Scheduling and administration of certification workshops	
Certification workshops	
Proctor/examinations/compilation of results	
Participation notification and reporting	
Training of TWDB staff for follow-on certification training	**$20,000**
Conduct "train the trainer" classes with TWDB staff	
TWDB staffing during validation and certification process	**$100,000**
On-going administration of the Program including ongoing management for training and technical assistance, subject matter experts, and regular progress reporting.	
Kickoff call to begin the process of Validation Training Program design.	
Host a webinar to prepare attendees for Level 1 Validation Process.	
Provide direct outreach to training participants to ensure they will bring appropriate representation of utility staff to events.	
Total	**$605,000**

Supporting a statewide water awareness campaign.

The council recommends that the Texas Legislature support the implementation of a statewide water awareness campaign. A campaign would be a continuation of the efforts initiated by the statewide water conservation public awareness program that was created by the Texas Legislature in 2007 with the passage of Senate Bill 3 and House Bill 4.

Background:

[Excerpt from 2018 WCAC Report]

Charge 3. Monitor the effectiveness of the statewide water conservation public awareness program and associated local involvement in implementation of the program

Water conservation is the most cost-effective water management strategy to meet the state's water needs, and regional water planners often identify public awareness and education as a key component of that strategy. Municipal water conservation as recommended in the 2017 State Water Plan accounts for approximately 10 percent of the state's recommended water management strategy supply volumes in 2070 (Figure 3) (TWDB, 2016).

In monitoring water conservation programs and public awareness efforts, the Council found that consistent messaging supported by research and data enhances the effectiveness of these activities. Research in Texas in 2004 and 2014[1] indicated that people are more likely to conserve water when they know the source of their water supply. That theme is an essential component of the current statewide water conservation public awareness brand, "Water IQ: Know Your Water".

Nearly 100 entities have become Water IQ partners with the TWDB, but without legislative appropriations the program has not become a statewide effort. Due to the divergent geography and water sources in Texas, some water providers have dedicated resources to develop awareness campaigns specific to their needs. The TWDB and the Meadows Center for Water and the Environment are currently researching other statewide "umbrella" messages that can be tailored to meet the needs of local and regional water providers. The Council continues to believe that a statewide conservation message should be supported with state-level funding.

[1] Find the 2014 "Texas Statewide Water Conservation Survey" by Baselice & Associates and enviromedia at: http://www.texaswater.org/wp-content/uploads/2014/09/Texas-Statewide-Water-Conservation-Survey.pdf.