
IMPROVE VIABILITY OF SMALL PUBLIC WATER SYSTEMS

A public water system provides potable water for public use. This designation applies broadly and can include cities, residential subdivisions, private businesses, or governmental entities. The Texas Commission on Environmental Quality is the primary agency responsible for ensuring that the state complies with the federal Safe Drinking Water Act, which requires a system to provide adequate drinking supplies to the public.

As water infrastructure ages, a small system that serves 3,300 people or less is more likely than a larger system to face challenges in its ability to maintain adequate water supplies. This likelihood is due to constraints on financial, managerial, and technical capabilities as a result of having a smaller rate base. This finding is consistent across the U.S. and leads to thousands of systems being in noncompliance with federal standards every year. States employ various tactics to address these issues. In Texas, the Texas Commission on Environmental Quality and the Public Utility Commission, through a contract with the Texas Rural Water Association, provide multiple services, including technical assistance to public water systems to encourage them to comply with standards. The Texas Water Development Board also offers financial assistance to these entities. However, additional efforts by the state, in the forms of increased oversight, financial assistance, and the ability to promote system consolidation or regionalization, would help improve the viability of small, struggling systems.

FACTS AND FINDINGS

- ◆ As of fiscal year 2017, Texas had approximately 6,977 public water systems, 4,159 of which serve populations of 500 or less.
- ◆ Approximately 95.0 percent of water supplied and tested from public water systems meets federal drinking water standards. Of the 5.0 percent that does not, the majority of that water is supplied by small systems.
- ◆ In a 2014 letter to the Texas Commission on Environmental Quality, the U.S. Environmental Protection Agency noted that Texas had more than 300 systems with severe drinking water violations, which represented approximately 4.0 percent of all

systems in the state, the highest relative percentage in the U.S.

CONCERNS

- ◆ The Texas Commission on Environmental Quality is not authorized by state law to institute a collections and late payment policy for systems that do not adhere to water system testing requirements.
- ◆ The Texas Commission on Environmental Quality issued 21,890 violations to systems during the 2016–17 biennium. The majority of violations were for systems that do not employ minimally acceptable operating practices for water quality testing, for water quality violations for lead and copper, and for failure to provide public notification in a timely manner. Approximately one-third of all violations are attributed to water systems improperly monitoring 102 separate water quality indicators, of which the majority are federally prescribed, and notifying the public regarding violations.
- ◆ Governmental entities with responsibilities to license and regulate restaurants, childcare facilities, or other businesses do not have a formalized process to receive and integrate water quality violations as they arise.
- ◆ Multiple state agencies and independent school districts have incurred water quality-related violations during the last five fiscal years, some of which are still outstanding.
- ◆ According to Texas Commission on Environmental Quality and Texas Water Development Board staff, financial constraints are a significant factor in preventing small public water systems from addressing violations. Additional financial vetting of water system applicants, combined with increased financial monitoring requirements for existing systems with repeat violations, could assist in addressing this issue.
- ◆ Other states use additional funding opportunities, such as grant programs for water systems. This supports compliance with federal drinking water requirements and incentivizes additional regionalization with other high-functioning water systems. Texas Commission

on Environmental Quality staff consider this practice as an additional mechanism to improve water system performance.

OPTIONS

- ◆ **Option 1:** Amend statute to authorize the Texas Commission on Environmental Quality additional cost-recovery abilities for systems that refuse to test their water supplies or perform other required functions.
- ◆ **Option 2:** Amend statute to require the Texas Commission on Environmental Quality to establish notification standards, which would include an automated reminder system, to increase water system compliance with reporting rules.
- ◆ **Option 3:** Amend statute to require the Texas Commission on Environmental Quality to notify local health departments, the Department of State Health Services, and the Health and Human Services Commission, as applicable, when health-based violations are identified at entities that operate water systems when those entities are subject to such agencies' inspection and certification.
- ◆ **Option 4:** Amend statute to require state entities to consider applying for Drinking Water State Revolving Fund financial assistance to address water system deficiencies. An agency with a health-based violation that does not apply for financial assistance would be required to notify the Legislative Budget Board providing a rationale for this decision, and a school district would provide similar notification to the Texas Education Agency.
- ◆ **Option 5:** Amend statute to require the Texas Commission on Environmental Quality and Public Utility Commission of Texas to periodically review and adjust financial accountability standards for new and existing, at-risk water systems and to determine the feasibility of consolidation or regionalization of new applicants with existing systems.
- ◆ **Option 6:** Amend statute to authorize the Texas Commission on Environmental Quality, Public Utility Commission, or an individual administering an existing system under receivership to apply for financial assistance on behalf of the owner of that system. Additionally, the Texas Commission on

Environmental Quality, in consultation with the Texas Water Development Board, before authorizing a new water system, would verify if any state funding is available that would increase the economic feasibility of connecting to an existing water system rather than developing a new water system.

- ◆ **Option 7:** Amend statute to authorize the Texas Commission on Environmental Quality and the Public Utility Commission to adopt thresholds that would initiate the required regionalization, consolidation, or closure of systems that incur significant health-based violations during a period, and institute a public petition process that also would initiate this review.
- ◆ **Option 8:** Amend statute to establish a drinking water supply assistance grant program at the Texas Commission on Environmental Quality to provide additional financial assistance to improve the viability of struggling public water systems.

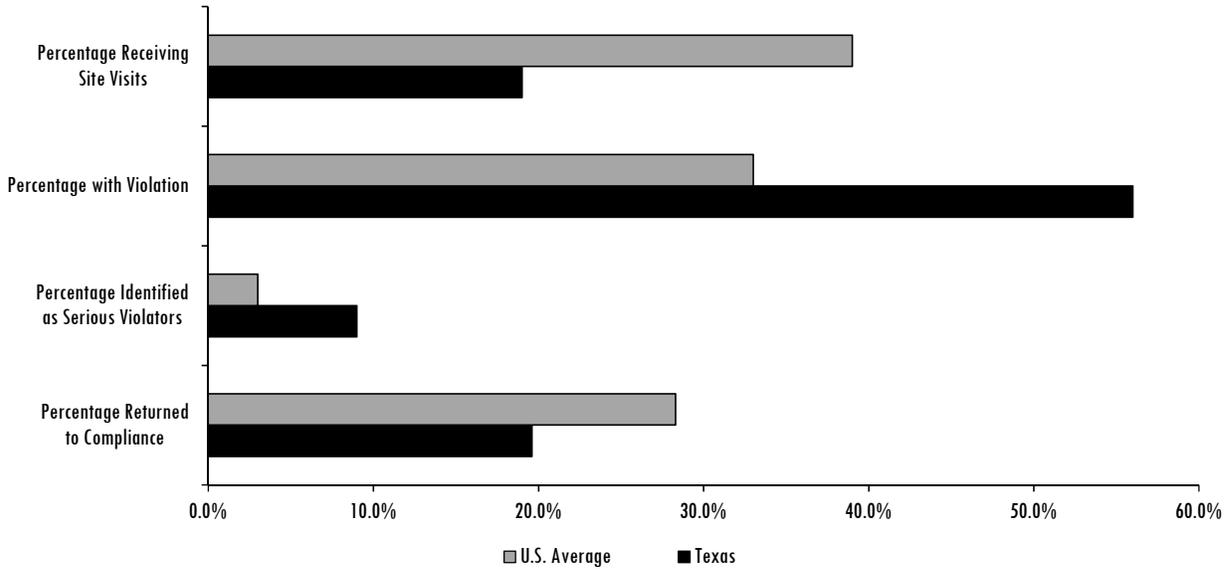
DISCUSSION

A public water system provides water to the public for human consumption. The U.S. Environmental Protection Agency (EPA) defines a public water system as having at least 15 service connections or serving at least 25 individuals for at least 60 days out of the year. The term public refers to the people drinking the water, and not necessarily the ownership of the system. According to Texas Commission on Environmental Quality (TCEQ) staff, the term utility differs from public water systems as utilities are more frequently associated with the business and billing aspect of providing retail service and can also provide sewer utility services. The term public water system relates more directly to the operational aspect of supplying drinking water. A utility can be made up of multiple water systems linked together that supply water to a particular customer base.

TEXAS PUBLIC WATER SYSTEM PERFORMANCE

In a 2014 letter to TCEQ, EPA noted that Texas had more than 300 systems with drinking water violations, which represented approximately 4.0 percent of all systems in the state. According to EPA, this number represented the highest percentage in the U.S. *The Texas Tribune* reported that EPA cited dozens of Texas systems for having been out of compliance with federal law for almost five years. Studies performed by several entities during calendar years 2016 and 2018 found that thousands of Texans drink water that

FIGURE 1
PERFORMANCE OF VERY SMALL TEXAS PUBLIC WATER SYSTEMS COMPARED TO NATIONAL AVERAGES
CALENDAR YEAR 2017

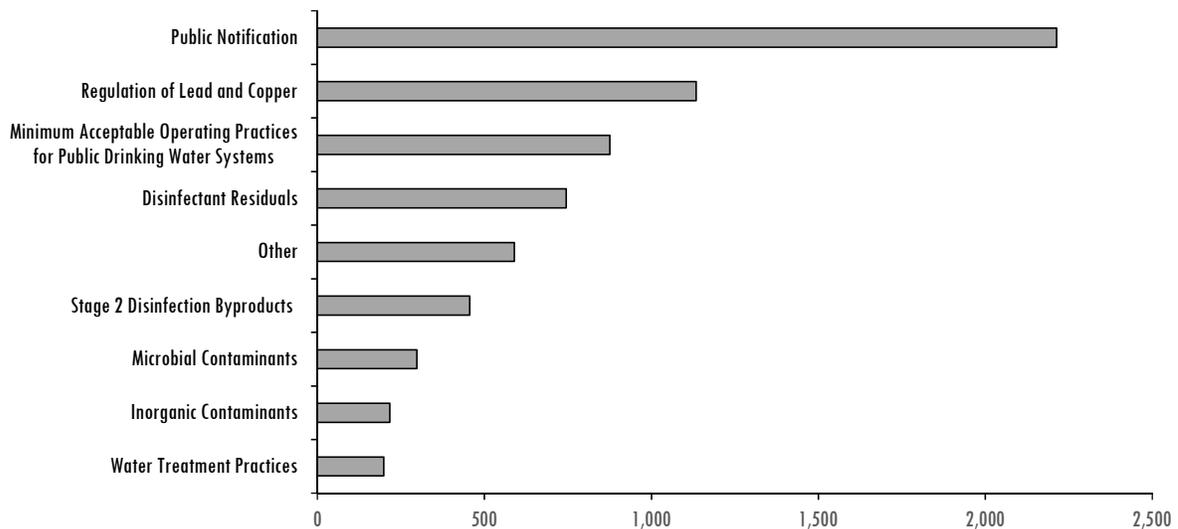


SOURCE: U.S. Environmental Protection Agency, Enforcement and Compliance History Online.

contains hazardous constituents, such as arsenic, radium, and lead, that exceed federal standards. Research performed by the federal Centers for Disease Control and Prevention (CDC) found that, nationwide, systems in rural areas are more likely to contain harmful contaminants. **Figure 1** shows U.S. and Texas statistics related to the monitoring and

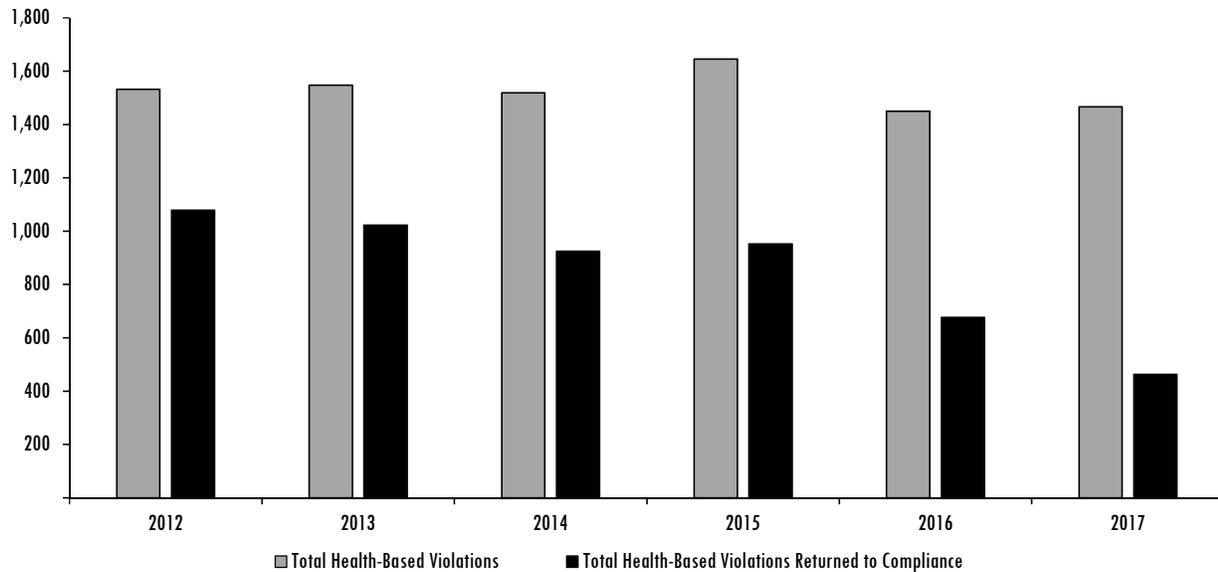
enforcement of very small systems, which are those that serve populations of 500 or less. Texas conducts fewer site visits, has a greater number of violators, and has a smaller proportion of those violators that return to compliance. **Figure 2** shows types of violations cited by TCEQ field operation staff during the 2016–17 biennium. According to TCEQ staff, a Notice

FIGURE 2
TEXAS PUBLIC WATER SYSTEM VIOLATIONS CITED BY TEXAS COMMISSION ON ENVIRONMENTAL QUALITY FIELD OPERATION STAFF, 2016–17 BIENNIUM



SOURCES: Legislative Budget Board; Texas Commission on Environmental Quality.

FIGURE 3
TEXAS PUBLIC WATER SYSTEMS' HEALTH-BASED VIOLATIONS INCURRED AND RETURNED TO COMPLIANCE
FISCAL YEARS 2012 TO 2017



SOURCES: Legislative Budget Board; Texas Commission on Environmental Quality.

of Violation from the agency to a system can contain multiple violations, and a single violation can contain multiple citations.

According to Legislative Budget Board (LBB) staff analysis of TCEQ data from fiscal years 2012 to 2017, on average, systems commit approximately 10,250 violations each year, of which 85.1 percent, on average, are violations of reporting or notification requirements. The remainder are for health-based violations. Contaminants that contribute to violations of health-based standards include lead, copper, trihalomethanes, arsenic, and haloacetic acid. Health effects of these contaminants, if ingested in significant doses throughout a certain period, can include cancers, heart disease, brain disease, and adverse reproductive outcomes. Failure to comply with reporting or notification requirements violations and health-based violations can be related, meaning that a health-based violation may not be communicated to the public in a timely manner or at all. As shown in **Figure 3**, the number of health-based violations has remained relatively constant at approximately 1,526 occurring per year. The number of health-based violations addressed and returned to compliance has decreased by 57.1 percent from fiscal years 2012 to 2017. From fiscal years 2012 to 2017, systems in King, Dawson, Jim Hogg, Mason, and McCulloch counties had the lowest rates of returning to

compliance after being cited for violations. Harris, Brazoria, Lubbock, Montgomery, and Midland counties had the most violations, including health and nonhealth-based violations, during this period.

According to EPA research, water systems, particularly those with limited resources, often face significant challenges to provide safe, reliable drinking water to their customers at a reasonable cost. These systems may lack financial, managerial, or technical capacity or a combination of these elements that would help them meet their public health protection goals. Other factors, such as aging infrastructure, a decreasing customer base throughout which to disperse costs, or a lack of qualified or knowledgeable operators can add to the challenges. Systems that rely on a single source of water and communities that use private domestic wells may have more relatively significant water reliability problems. Research performed by the University of North Carolina in 2007 estimates the average ongoing infrastructure needs per residential connection at \$19,734 for a system with less than 100 connections, compared to \$2,503 for systems with greater than 10,000 connections. According to a TCEQ staff presentation made to the 2018 Western States Water Council, these challenges can increase as operations and maintenance needs increase and can cause owners to abandon very small systems.

FIGURE 4
TEXAS PUBLIC WATER SYSTEM CATEGORIES, FISCAL YEAR 2018

CATEGORY	DESCRIPTION	EXAMPLES
Community Water System	Has a potential to serve at least 15 residential service connections year-round, or serves at least 25 residents year-round.	A residential subdivision, municipal water system
Nontransient, Noncommunity	Not a community system and regularly serves at least 25 of the same individuals at least six months per year.	Manufacturing plant, business, school, or day-care center
Transient Noncommunity	Not a community system; serves at least 25 persons at least 60 days per year, but by its characteristics does not meet the definition of a nontransient, noncommunity water system. These systems do not serve the same people daily.	Highway rest stop, restaurant

SOURCE: U.S. Environmental Protection Agency, Texas Commission on Environmental Quality

FIGURE 5
ACTIVE PUBLIC WATER SYSTEMS IN TEXAS, FISCAL YEARS 2008 AND 2017

SYSTEM	2008	2017	PERCENTAGE CHANGE	2017 POPULATION SERVED
Community Water System	4,682	4,660	(0.5%)	26,980,771
Nontransient, Noncommunity	874	882	0.9%	506,129
Transient Noncommunity	1,276	1,435	12.5%	281,550
Total active Public Water Systems	6,832	6,977	1.9%	27,768,450

SOURCE: Texas Commission on Environmental Quality, Reports to the Governor: Public Water System Capacity Development Program.

FIGURE 6
TEXAS PUBLIC WATER SYSTEM CLASSIFICATIONS AND POPULATIONS, FISCAL YEAR 2017

EPA CLASSIFICATION	POPULATION RANGE	SYSTEMS	POPULATION SERVED
Very Small	25 to 500	4,159	673,567
Small	501 to 3,300	1,767	2,563,835
Medium	3,301 to 10,000	693	3,907,752
Large	10,001 to 100,000	303	7,871,304
Very Large	More than 100,000	37	12,751,992
Total		6,977	27,768,450

NOTE: EPA=U.S. Environmental Protection Agency.

SOURCE: Texas Commission on Environmental Quality.

TYPES OF PUBLIC WATER SYSTEMS

A system can receive its water from various sources. According to TCEQ data from 2017, 79.2 percent of all water used by systems was from groundwater sources, and the remaining 20.8 percent was from surface water sources. TCEQ rules require that all systems develop monitoring plans. The plans are system-specific documents that demonstrate that the system's monitoring of water quality is representative of the water distributed to consumers and is consistent with regulatory requirements. All systems must disinfect water properly before it is distributed to customers. Systems

typically are classified into three categories, as shown in **Figure 4**.

Figure 5 shows the number of each type of water system in Texas and the size of the population served in fiscal year 2017. The number of community and nontransient, noncommunity systems remained relatively unchanged from fiscal years 2008 to 2017. The number of transient noncommunity systems increased by 12.5 percent during that period. **Figure 6** shows the number of systems by size and the populations that receive their water from those sources.

**FIGURE 7
TEXAS PUBLIC WATER SYSTEM SUPERVISION PROGRAM ACTIVITIES AND TYPICAL ANNUAL WORKLOAD
FISCAL YEAR 2017**

ACTIVITIES	VOLUME
Monitoring and assistance	
Compliance samples collected	56,903
System plans and specifications reviewed	2,038
Financial, managerial, and technical assistance activities conducted	590
Exception requests and alternative capacity requirements reviewed	1,150
Investigations and Enforcement	
Onsite investigations of systems	2,600
Onsite investigations conducted as a result of complaints received from the public	600
Notices of Violation issued	1,200
Referrals for formal enforcement	810

SOURCE: Texas Commission on Environmental Quality.

From fiscal year 2015 to August 2018, TCEQ designated 410 new systems; 391 of these systems serve populations of less than 500. As of July 2018, an additional 574 systems are being considered. According to TCEQ staff, approximately 80.0 percent of newly designated public water systems are noncommunity systems, intended to serve water supply needs of businesses. Some of the 20.0 percent of community systems are new public water systems to serve new developments for existing retail public utilities. A system can be owned by a public or private entity.

OVERVIEW OF STATE AGENCY ROLES AND FUNDING SOURCES

TCEQ is the state’s primary environmental regulatory agency. Its mission is to protect human and natural resources consistent with sustainable economic development. TCEQ is responsible for protecting the quality and safety of drinking water through primary and secondary drinking water standards as adopted by the EPA. In accordance with the federal Safe Drinking Water Act (SDWA) and state law and regulations, primary drinking water standards protect public health by limiting the levels of certain contaminants, and secondary drinking water quality standards address taste, color, and odor. Texas, like other states, has a primacy agreement with the EPA, meaning that the state is required to implement and oversee the requirements of the SDWA. State statutes governing these activities are primarily in the Texas Health and Safety Code, Chapter 341, and TCEQ rules.

PUBLIC WATER SYSTEM SUPERVISION PROGRAM

TCEQ operates the Public Water System Supervision Program, which regulates and assists public drinking water systems. The goal of the program is to ensure that public water systems are supplying safe and adequate quantities of public drinking water to all users. Program staff conduct inspections of community water systems at least once every three years and of noncommunity systems every five years. Systems that TCEQ identifies as at risk of becoming out of compliance or that have been having performance issues receive more frequent visits. **Figure 7** shows program activities and volume, as reported by TCEQ staff.

Through this program, TCEQ also provides several forms of technical assistance for public water systems. The agency offers guidance and training to help system administrators understand federal rules. According to TCEQ, newer federal regulations, such as EPA’s Revised Total Coliform Rule, are considerably more complex and challenging to implement for TCEQ and systems than previous regulations. TCEQ staff expect this assistance to continue and potentially increase, because the EPA is seeking changes to the SDWA and is revising guidelines for implementing those programs. TCEQ also collaborates with public water systems to address challenges that threaten their sustainability, such as turnover among facility operators, lack of training opportunities, and operator occupational licensing. According to TCEQ, the agency’s ability to integrate services with EPA platforms is limited by deficiencies in information technology, which require independent development of databases and data tools to implement requirements. TCEQ indicated that more staff

resources would be required to support the transitions for unknown costs.

The Public Water System Supervision Program in Texas is funded through multiple methods of finance, as shown in **Figure 8**. Appropriations for the program include Federal Funds, General Revenue Funds, and General Revenue–Dedicated Funds from Account No. 153, Water Resource Management (Account No. 153).

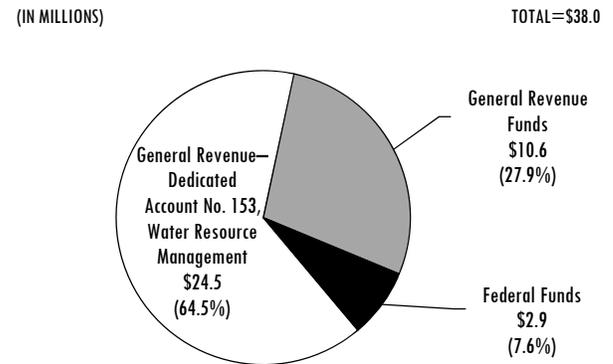
GENERAL REVENUE–DEDICATED ACCOUNT NO. 153, WATER RESOURCE MANAGEMENT

Account No. 153 provides the majority of state funding for TCEQ water programs and also contributes funding for activities at the Public Utility Commission of Texas and the Office of Public Utility Counsel. Account No. 153 receives collections from fees related to waste treatment inspection, cost recovery from protecting water resources, water supply system owner fees, assessments on public utilities, certification of boat sewage disposal devices, used oil registration and the sale of automotive oil revenue, and other application and permit fees and penalties. Account No. 153 has the following allowable uses:

- inspecting waste treatment facilities;
- enforcing the laws related to waste discharge and waste treatment facilities;
- water quality management and water resource management programs;
- registration of used oil collection centers, used oil transporters, used oil marketers, and used oil recyclers; and
- grants and public education related to used oil recycling.

Fee revenue deposited into Account No. 153 that is allocated to the Public Water System Supervision Program is derived from the Water Utility Regulatory Assessment Fee (RAF). The Seventy-second Legislature, Regular Session, 1991, established the RAF. From fiscal years 2012 to 2016, the fee collected \$9.0 million per year among 2,222 fee payers, on average. The RAF is collected by public utilities, water supply service corporations, and water districts. The fee is 1.0 percent of the charge for retail water or sewer service for public utilities, and 0.5 percent for districts and water supply or sewer service corporations.

FIGURE 8
METHODS OF FINANCE FOR THE PUBLIC WATER SYSTEM SUPERVISION PROGRAM, FISCAL YEAR 2016



SOURCE: Texas Commission on Environmental Quality.

ROLE OF THE PUBLIC UTILITY COMMISSION

As part of a recommendation made by the Sunset Advisory Commission, House Bill 1600, Eighty-third Legislature, Regular Session, 2013, transferred the water and wastewater utility regulatory program from TCEQ to the Public Utility Commission of Texas (PUC). TCEQ remains the primary authority for public drinking water programs. The authority transferred to PUC includes water and wastewater utility rate-making, wastewater utility submetering, certificates of convenience and necessity (CCN), shared responsibilities in financial, managerial, or technical (FMT) practices, and other duties. A CCN grants the holder exclusive rights to provide retail water or sewer utility service to an identified geographic area. As of August 2018, 180 CCNs were active in the state.

PUC is responsible for determining whether utilities have the financial and managerial capability to provide continuous and adequate water or sewer service to the public. PUC assists consumers and provides oversight of submetering and allocated utility billing practices. If the public water system becomes part of a utility or is issued a CCN, it would be subject to these separate regulatory processes.

STATE CAPACITY DEVELOPMENT PROGRAM

TCEQ's Capacity Development Program assists in maintaining the viability of systems by developing their FMT capacity to meet drinking water regulations. Federal law requires states to update their capacity development reports every three years, and EPA may withhold associated federal Drinking Water State Revolving Fund (DWSRF) funds for states that do not have an established capacity

development program. The DWSRF program provides loan funds for water system improvements through the Texas Water Development Board (TWDB). Set-asides from the DWSRF help support the Texas drinking water program at TCEQ, which includes capacity development. The Capacity Development Program includes the following main objectives and efforts:

- ensure that new systems are viable and assess and improve the viability of existing systems;
- provide onsite FMT assistance by contractors and TCEQ staff;
- monitor and assist systems affected by drought; and
- implement system restructuring and regionalization projects.

The state contracts with the Texas Rural Water Association (TRWA) to provide additional FMT assistance to assess and assist public water systems. TRWA provides FMT capacity assessments and onsite assistance, drinking water operator training, and consolidation assessments. FMT capacity assessments are required for water systems applying for certain types of funding from TWDB. The Texas Water Infrastructure Coordination Committee (TWICC) is also a resource for systems to obtain information regarding the various sources of loans and grants. TWICC consists of federal and state governmental entities and nonprofit groups such as TRWA. TWICC's goals are to provide Texas communities with funding and other assistance to develop, improve, and maintain compliant and sustainable water and wastewater systems.

DRINKING WATER STATE REVOLVING FUND

DWSRF financing is made available through an annual federal capitalization grant appropriated by the U.S. Congress. DWSRF provides financing to help public drinking water systems meet or maintain compliance with SDWA regulations. DWSRF funding addresses public health protection, maintains and brings systems into compliance, and supports affordable and sustainable drinking water pursuant to SDWA. DWSRF funding also may be used for staff augmentation, such as hiring temporary staff to oversee the construction of a project or handle the documentation requirements associated with federal financial assistance. DWSRF may not fund ongoing operations and maintenance for systems.

TWDB and TCEQ collectively administer the state's DWSRF program, and TWDB is responsible for reviewing and issuing financial assistance. The state must prepare an Intended Use Plan each year that describes how it intends to prioritize and use DWSRF program funds. TWDB committed approximately \$222.1 million per year, on average, in DWSRF funds from calendar years 2013 to 2017. Loan terms are variable, depending on the project. In 2017, 15 projects entered into repayment terms of 20 years or greater. According to the 2018 Intended Use Plan, for fiscal year 2018, \$250.0 million was available through DWSRF for financing options. Of this amount, \$229.0 million was made available at interest rates of less than the market rate. The remaining \$21.0 million was used for principal forgiveness of loans issued. DWSRF can forgive loans to very small systems of up to \$300,000 per project, and the plan allocated \$3.0 million for this purpose. Projects that are classified as urgent need were provided \$7.0 million for 2018, and could receive an additional \$500,000 in individual project forgiveness. Urgent need projects would address a supply shortage, natural disaster, or immediate water quality-related health threat. DWSRF funding also can issue zero percent interest loans up to approximately \$25.0 million.

State and federal laws require that the level of principal forgiveness TWDB chooses does not affect the DWSRF program negatively into perpetuity. The level of principal forgiveness that TWDB may offer is from 20.0 percent to 50.0 percent of the total capitalization grant. The 2019 DWSRF allocates 34.0 percent of the capitalization grant to principal forgiveness. Increasing this allocation to 50.0 percent would not affect program's viability, but it could result in increased borrowing costs (i.e., bond issuance) to the program or affect the amount of financial assistance available.

As required by the federal SDWA, systems proposing to solve the most serious water quality and quantity problems are given highest priority to use the fund. TCEQ ranks projects to receive DWSRF, which TWDB incorporates to determine eligibility for funding in accordance with the DWSRF loan program. Project ranking is based on health and compliance factors such as low pressure, low-disinfectant residuals, and maximum contaminant-level violations. A system with health-related violations that is interested in obtaining DWSRF for a project will receive a higher ranking than a system of similar size without violations. According to TCEQ staff, the DWSRF assistance provided to systems with populations of less than 1,000 has been instrumental in

FIGURE 9
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ENFORCEMENT PROCESS, FISCAL YEAR 2018

PROCESS	ACTION
1. Documenting violations	A Notice of Violation documents the violations discovered during the inspection and specifies a period to respond.
2. Initiating enforcement action	Most enforcement cases are handled through the administrative order, which are Texas Commission on Environmental Quality (TCEQ) orders enforcing or directing compliance with specified provisions.
3. Penalty calculation	The penalty included in an enforcement action is calculated by the enforcement coordinator according to TCEQ's Penalty Policy, which considers factors including compliance history, efforts to comply, and the relative severity of the violation.
4. Reaching an agreement	If the respondent agrees with the terms of the agreed order and the penalty amount, the case is set for approval by the TCEQ commissioners.
5. Contesting an enforcement action	If the respondent contests the enforcement action, an agency attorney is assigned, who drafts an Executive Director's Preliminary Report and Petition. The respondent may request an administrative hearing, which is held in front of an administrative law judge with the State Office of Administrative Hearings.
6. Default actions	If the respondent does not file a timely answer to the Executive Director's Petition, TCEQ commissioners may issue a default order. If the respondent fails to comply with the default order, then the executive director may refer the case to the Office of the Attorney General for civil enforcement. This enforcement could lead to the system being put into receivership with another managing entity, if a third-party entity is willing to take on this responsibility and the underlying issue has not been resolved.

SOURCES: Legislative Budget Board; Texas Commission on Environmental Quality.

resolving several small-system water-quality violations. To provide assistance in navigating the state financial assistance process, from fiscal years 2015 to 2017, TCEQ and TWDB staff researched and prepared reports regarding 35 DWSRF applicants per year, on average. However, funding availability is dependent on the public water system having sufficient FMT capabilities to apply for and demonstrate sufficient resources to pay back a loan. Resources may be for the principal and interest or interest only, if the system applies to receive a principal forgiveness award.

ENFORCEMENT STRUCTURE

Public water systems retain liability for providing safe drinking water by adhering to SDWA provisions. TCEQ has a graduated process to enforce and address violations of systems, as shown in **Figure 9**.

ENSURE WATER QUALITY-TESTING ACCOUNTABILITY

TCEQ oversees the monitoring of 102 constituents in drinking water for public water systems to ensure that all regulatory requirements are met. Constituents represent how water quality is determined, and include pollutants such as pesticides, metals, bacteria, or dissolved oxygen that naturally occur in water but also can be influenced by human effects. Constituents are categorized into major groups, such as microorganisms, disinfectants, chemicals, and radionuclides,

and have distinct sample collection procedures and monitoring schedule requirements. All sample collection, analysis, and data reporting for compliance must adhere to federal and state data quality requirements. Systems are responsible for monitoring certain other drinking water constituents, including microbial contaminants, additional disinfectant residuals, lead, and copper.

According to TCEQ staff, systems sometimes fail to conduct monitoring, or do not submit required samples to accredited laboratories. Failure to submit a portion or all of the valid analytical data limits TCEQ's ability to verify compliance with drinking water standards. Therefore, the system receives a violation. Lab results are not released to TCEQ until the system pays the lab fees, unless chemical sample results exceed the associated maximum contaminant level. For the protection of public health, all maximum contaminant-level exceedances are reported to TCEQ regardless of fee payment, as part of the agreement between TCEQ and compliance laboratories.

According to TCEQ staff, 152 systems failed to pay for laboratory analytical fees during fiscal year 2017. TCEQ will issue monitoring and reporting violations for water systems that refuse collection or fail to pay laboratory fees. Continued noncompliance can result in enforcement actions and referral

to the Office of the Attorney General (OAG). Labs have their own individual collections procedures for nonpayment of fees when a sample has been submitted. However, eight systems refused to submit to chemical sample collection during fiscal year 2017. When systems refuse to collect and submit samples for analysis, TCEQ expends its resources to collect the samples. The Texas Water Code, Section 5.701, authorizes TCEQ to charge and collect fees prescribed by law. However, according to TCEQ staff, the agency only institutes a collections process on fees that are listed specifically in statute. Option 1 would amend the Texas Water Code to authorize TCEQ to engage in cost recovery for sample collection and lab analysis costs, through the collection of penalties, application of delinquent fee protocol, and charging of interest for late payments.

IMPROVE TIMELINESS OF PUBLIC NOTIFICATION

As shown in **Figure 2**, approximately one-third of all system violations during the 2016–17 biennium resulted from failure to properly notify the public. Small system administrators may find it difficult to understand and properly complete all required drinking water monitoring, including for 102 constituents and federal requirements. Among all Texas systems, 18.0 percent had monitoring or reporting violations during fiscal year 2016. The leading causes of violations related to monitoring disinfectant residuals, monitoring lead and copper, and providing adequate public notice. EPA, through the SDWA, prescribes the timing and format of notices that systems are required to issue to the public when drinking water violations occur. The timing requirements range from within 24 hours of discovering a situation that can harm human health to one year if a violation occurs but would not have direct, negative health effects. An example of this violation is if a system does not collect a sample in a timely manner. Systems can be understaffed and have a large workload regarding the monitoring and notification of various SDWA requirements. Option 2 would amend statute to require TCEQ to establish notification standards, which would include an automated service to remind systems of their various reporting obligations. Improving the responsiveness of systems to monitor, test, and report this information to the state and the public would improve overall system performance and decrease the number of systems that TCEQ staff must address. This approach also may prove beneficial with systems whose workforce changes to ensure continuity during staff transitions.

INTEGRATE ENFORCEMENT WITH STATE AND LOCAL GOVERNMENT INSPECTIONS

In addition to the TCEQ and PUC, other state agencies may oversee the performance of an entity that also operates a water system. The Health and Human Services Commission (HHSC) regulates all child-care operations and child-placing agencies in Texas to protect the health and safety of children in care. This regulation includes permitting and monitoring compliance with state licensing standards, rules, and laws every two years. The published minimum standards for child-care centers include a basic requirement that a supply of drinking water is always available. If a center is using its own water supply, it must maintain a safe and sanitary supply and records indicating that the water meets TCEQ standards. In examining TCEQ data for systems that have incurred multiple violations from fiscal years 2012 to 2017, three day-care facilities are included. According to HHSC staff, if TCEQ staff found any violations during the two-year HHSC inspection period, HHSC would not be aware of the findings unless TCEQ contacted HHSC. HHSC staff communicated that they were aware of one instance in which TCEQ contacted HHSC for this purpose.

The Texas Department of State Health Services (DSHS) and local municipalities or health departments are responsible for the monitoring and regulation of commercial establishments, including restaurants, within their territory. According to DSHS staff, the agency may consider water quality under certain circumstances, such as the inspection of restaurants. DSHS conducts risk assessments based on the type of food processed and how foods should be handled and maintained to ensure public safety, and inspects based on risk. The inspection schedule varies based on risk level: high-risk operations at least annually, medium-risk operations at least every 18 months, and low-risk operations at least once every 24 months. DSHS rules require that water used for the processing of food must come from approved source(s); therefore, DSHS or local jurisdictions may cite an operation for use of water from an unapproved source, including one that is not meeting standards. When a community water system has water that does not meet standards, a boil water notice may be issued, which would be communicated to the applicable health department or municipality for their knowledge and potential additional regulatory activity. However, DSHS staff did not indicate an equivalent requirement or process to inform local entities or non-TCEQ state agencies for non-community systems.

According to TCEQ staff, affected agencies are responsible for integrating a public water system's adherence to TCEQ requirements into agency monitoring practices. However, staff from agencies such as HHSC and DSHS have not indicated a consistent process to monitor the water quality status for entities within their purview that operate their water systems. Option 3 would amend the Texas Health and Safety Code, Chapter 341, to require TCEQ to notify local health departments, DSHS, and HHSC, as applicable, when health-based violations are identified at entities that operate water systems when those entities are subject to such agencies' inspection or certification. Additional health-based violation information communicated from TCEQ may also assist in informing future inspection schedules and risk designations determined by HHSC and DSHS, and would provide the opportunity for these agencies to take action as violations are discovered, outside of the regular inspection cycle.

INCREASE GOVERNMENT PARTICIPATION IN OBTAINING FINANCIAL ASSISTANCE

TCEQ data shows that the Texas Department of Criminal Justice and Texas Juvenile Justice Department have established and operated their own water supply systems. From fiscal years 2012 to 2017, these agencies combined incurred 99 violations for facilities across the state. Although the agencies have been able to return these facilities to compliance, 26.3 percent of these violations were health-based and posed potential adverse health effects on consumers. The majority of the health-based violations were for arsenic; the other incidents were predominately for monitoring and notification violations.

Similarly, HHSC incurred 21 violations from fiscal years 2012 to 2017 at four state supported living centers (SSLC) located in Brenham, Lufkin, Mexia, and San Angelo. Of these violations, 19 have returned to compliance. However, the SSLC in Lufkin has had two open violations since fiscal year 2014. These violations were related to nonhealth-based *escherichia coli* levels and are due to not collecting sufficient groundwater samples for monitoring purposes.

Independent school districts (ISD) in Texas also have incurred significant water quality violations. According to TCEQ data, as of August 2018, 142 ISD violations have not returned to compliance. Of these violations, 78.2 percent are health-based violations, some of which date to fiscal year 2012, and are for a variety of constituents, including lead, copper, arsenic, uranium, and nitrate. According to TCEQ data, violations that have not returned to compliance involve

14 ISDs. Klondike ISD in Dawson County has incurred 67.6 percent of the total number of violations among ISDs and 19.0 percent of total violations from fiscal years 2012 to 2017.

According to TWDB staff, governmental entities that are not federal are eligible recipients of DWSRF. However, government entities rarely apply for assistance. Option 4 would amend statute to direct any agency or school district that receives a Notice of Violation or other enforcement action from TCEQ to consider applying for DWSRF funds if the violation can be addressed through financial assistance. An agency with a relevant health-based violation that has been active for greater than one year that does not apply for financial assistance would be required to notify the Legislative Budget Board and provide a rationale for this decision. Independent school districts would provide this notification to the Texas Education Agency.

INCREASE FINANCIAL ACCOUNTABILITY STANDARDS FOR NEW AND DEFICIENT SYSTEMS

According to TCEQ staff and University of North Carolina research commissioned by EPA, management of finances is one of the most significant challenges that small drinking water systems face. A comprehensive understanding of a water system's financial health can help ensure that rates are set optimally. Optimal rates help enable small systems to finance projects while providing safe drinking water to their customers. According to the Environmental Finance Center at the University of North Carolina at Chapel Hill, key financial indicators for systems include the operating ratio, current ratio, debt service coverage ratio (cash flow available to pay current debt obligations, including principal interest and lease payments), days of cash on hand, and asset depreciation.

The Texas Health and Safety Code, Sections 341.035 and 341.0355, establishes requirements for business plans and financial assurance in certain instances for new system applicants. TCEQ's financial requirements are based on system type rather than size. The Texas Administrative Code, Title 30, Section 290.39(f), requires a new or proposed privately owned public water system to submit a business plan or acceptable financial information to TCEQ. TCEQ assesses the system's financial, managerial, and technical ability to ensure its ongoing operation in accordance with applicable laws. Business plan requirements vary based on the type of system that is proposed. Systems that are being constructed or are assuming new ownership also may be

required to provide financial assurance to ensure adequate drinking water. The amount of assurance is based on the cost to complete construction of the water system or to ensure the facility's continued operations during an ownership transfer. For noncommunity water systems, the financial requirement is that an applicant provides a signed and notarized Demonstration of Adequate Financial Ability form. This submission indicates that the financially responsible individual or company has funds available to operate the proposed public water system for at least one year.

Systems that charge directly for water, such as community water systems, must obtain approval for their tariff. Tariffs are a collection of rates that are used to calculate the ultimate cost of service that includes service charges, time of use, and consumption tiers from PUC. Although TCEQ consults with PUC through monthly coordination meetings, agency staff indicated that no formalized process is used to review whether system rates conform with PUC's adopted rates. PUC does not track or verify whether systems have rates set at less than their tariffs. According to PUC and TCEQ staff, the agencies have encountered this issue periodically in smaller systems.

Option 5 would amend statute to increase financial accountability standards for new and struggling systems. TCEQ, PUC, and its contracted partner, TRWA, would be required to periodically revisit financial criteria submitted by systems for potential amendment, to ensure adequate vetting of applicants and their abilities to maintain public water systems. TCEQ and PUC would be required to collaborate and examine trends in financial deficiencies by size and type when systems have incurred multiple violations. This examination is intended to determine whether financial information submitted through business plan or financial assurance documents should be revised. PUC is responsible for water rate-related activity. Therefore, the agency should be in a formal position to provide input and suggest revisions to practices when reviewing and vetting financial targets imposed on system applicants. TCEQ and PUC do not capture certain key financial indicators of water systems' ongoing fiscal health, as described by the Environmental Finance Center at the University of North Carolina. As applicable, TCEQ, PUC, or TRWA should examine incorporating these indicators for systems whose rates are less than the maximum allotment. TCEQ also should examine these financial indicators as part of its inspection of system facilities, which occurs every three years for community

water systems and every five years for noncommunity water systems.

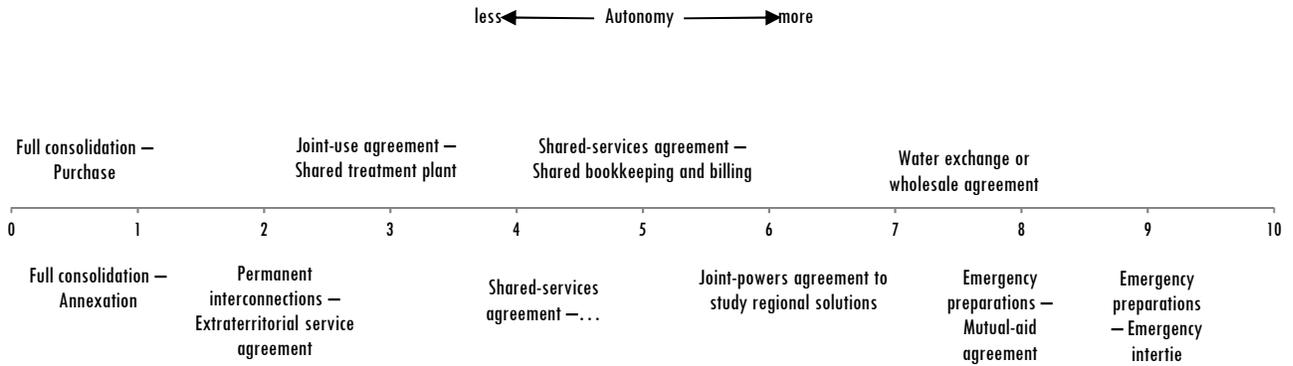
TCEQ has discretion in determining penalties for systems that have violated state or federal drinking water standards. Penalty amounts can be less than the maximum allowable value for various reasons, including compliance history, efforts to comply, and the relative severity of the violation. Penalty amounts also can be offset by being applied to Supplemental Environmental Projects, which a violator agrees to undertake in settlement of an enforcement action. Money directed to TCEQ-approved projects may be used to offset assessed penalties in enforcement actions. However, considering that some systems levy water rates at less than the PUC-determined threshold, the rationale to grant leniency in those cases is decreased. According to TCEQ, data from fiscal years 2015 to 2017, of the \$1.3 million in penalties assessed to systems during that period, 15.9 percent, or \$0.2 million, was deferred or applied to an offsetting project from the final penalty amount assessed. Option 5 would require that TCEQ, with the assistance of PUC, verifies whether a system has its rates set in accordance with PUC-determined thresholds as part of enforcement review. Setting rates at less than the threshold decreases the system's ability to maintain financial solvency and may be a contributing factor to the initial incurrence of the violation. As part of Option 5, TCEQ may consider whether a system has water rates set below the prescribed value, when determining appropriate penalty amounts.

REGIONALIZATION PARTNERSHIPS

TCEQ defines regionalization to mean the combining of certain aspects of two or more water and wastewater systems' operations or physical plants. The goal of regionalization is to achieve the best service at reasonable rates that will ensure that the system is maintained. Regionalization might involve water partnerships, including joint ventures and formal agreements that do not undertake the degree of integration typically associated with a full consolidation. According to TCEQ staff, regionalization has great potential to help systems become more stable.

Figure 10 shows examples of regionalization. A regionalization partnership can be as simple and informal as two or more water systems agreeing to share equipment or buy treatment chemicals together to achieve savings from bulk purchases. A more formal partnership could include contractual assistance or establishing a joint power agency to share operators; building an emergency interconnection; or

FIGURE 10
EXAMPLES OF DEGREES OF REGIONALIZATION FOR WATER SYSTEMS, FISCAL YEAR 2018



SOURCE: University of California, Berkeley, School of Law, Center for Law, Energy, and the Environment.

engaging in regional water planning with nearby water systems. Complex partnerships include ownership transfer, where two or more systems combine to form one system, or where the ownership of a system is transferred to another entity, also called full consolidation.

The number of public water systems in Texas, from fiscal years 2011 to 2017, has remained relatively the same with a decrease of 0.1 percent. In comparison, the number of systems throughout the U.S. decreased from federal fiscal years 2011 to 2017 by 3.5 percent. States that have undertaken significant numbers of consolidations, such as Alabama, have observed a significant decrease of noncompliance issues relating to water quality. The decrease in the number of nonviable water systems has not curtailed the expansion of water service. According to EPA and research performed by other entities, having existing viable systems extend service to new areas, rather than constructing new systems, eases the regulatory burden on the state. This practice also increases public health protection through improved system reliability and more stable rate structures to communities.

FEASIBILITY OF REGIONALIZATION FOR NEW SYSTEM APPLICANTS IN TEXAS

From fiscal years 2012 to 2017, 340 system consolidations have occurred statewide. Of these consolidations, TCEQ has assisted with approximately 114 successful full consolidations, through either the FMT assistance contract, staff assistance, or enforcement processes. Most deficient systems were consolidated into municipalities or other larger, more stable systems. None of the consolidations has resulted in nonviable

systems. TCEQ also has collaborated with 94 systems at risk of abandonment during this period. From fiscal years 2012 to 2017, approximately 50.0 percent of systems with violations that have been identified for consolidation are still active. According to TCEQ staff, the percentage of the remaining systems that have economically feasible options for consolidation is not known.

According to TCEQ staff, all new public water systems must evaluate the feasibility of regionalization before submitting plans, specifications, and business plans to TCEQ. TCEQ’s policy is that regionalization is feasible unless one of the following three exceptions applies:

- no public water systems are located within 0.5 miles;
- service has been requested from a neighboring utility but denied; or
- the nearby system approved the request for service, but an exception should be granted based on costs, affordable rates, and FMT capabilities of the proposed system.

TCEQ compares the costs of constructing a new stand alone system and connecting to an existing provider when a proposed privately owned system does not want to connect to an existing provider within 0.5 miles that is willing to extend service. As part of the cost comparison, annual operating and purchased water expenses are evaluated for a five-year period. The costs for connecting to the existing provider are amortized and spread across the system’s useful life, which is approximately 20 years to 30 years. Existing

utilities do not have any requirement or incentive to provide service to these entities.

When TCEQ staff evaluate whether new applicants should engage in regionalization before formation, staff do not require a technical report that compares the costs associated with the proposed new public water system to the costs associated with providing water through an existing public water system. As part of Option 5, TCEQ, in consultation with PUC and TRWA, would further examine and update requirements for new applicants to submit information necessary to analyze the cost and benefit of a new, independent system, versus one that engaged in regionalization. Updates to these requirements may involve reconsidering the public water system radius threshold of 0.5 miles TCEQ has established in the Texas Administrative Code. The states of Alaska and Georgia require applicants to consider interconnection to systems within 1.0 mile. Indiana requires applicants to notify all systems within a 10.0-mile radius of the proposal to develop a new system. Increasing TCEQ's radius could increase the number of nearby systems that would be asked to provide service, increasing the possibility of identifying a willing provider.

EFFORTS TO ASSIST EXISTING DEFICIENT SYSTEMS IN TEXAS

TCEQ, TRWA, and PUC use various methods to encourage poorly performing systems to restructure including:

- making referrals to TRWA for consolidation assessments and other assistance to facilitate restructuring, including looking for buyers or neighbors to merge with and helping the customers form a new entity;
- collaborating with the legal and enforcement departments at TCEQ and OAG to require certain nonviable systems that have serious issues to appoint temporary managers or receivers; and
- collaborating with funding agencies and members of TWICC to set up workshops and meetings to discuss restructuring ideas and funding sources.

According to TCEQ staff, water systems may resist regionalization because of concerns about loss of control, property, and funds. For example, according to TCEQ staff, a system identified as exceeding maximum contaminant levels for radionuclides was in the planning and design phase for consolidation as of August 2018. The system was identified as being able to feasibly connect to a nearby city,

which agreed to extend a pipeline to this service area. However, because the city would have required this system to transfer title of some of its property, the system refused to consolidate. Another small town might have compliance issues that would be corrected if it purchased water from a neighboring town, but the noncompliant system might rely on water sales revenue for budgetary purposes. Other poorly performing systems might not know the options available to them. Additionally, stronger-performing systems lack incentives or requirements to take on the potentially costly problems of poorly performing systems.

DRINKING WATER STATE REVOLVING FUNDS APPLIED TO DEFICIENT SYSTEMS

In Texas, priority scoring for DWSRF assigns additional points for projects that are consolidating or regionalizing with other public water systems. A project can receive ranking points if it is intended to solve deficiencies within the system. TWDB made 283 DWSRF awards from fiscal years 2013 to 2018. The majority of these awards, 56.9 percent, were distributed to entities with populations of 3,300 or less. In comparison to TCEQ data of the number of systems that had received multiple administrative orders from fiscal years 2012 to 2017, 20 of the 390 systems, 5.1 percent, had received assistance from either DWSRF or the federal Clean Water State Revolving Fund (CWSRF). CWSRF is used primarily for wastewater and not drinking water systems. These 20 entities received 8,197 violations during this period. In accordance with the DWSRF program, a project that will address a TCEQ violation receives a higher score. However, according to TWDB staff, the agency does not receive projects that would accomplish these goals often. It is the responsibility of the system, which might not have significant FMT expertise, to submit project information and a formal funding request to TWDB. According to TWDB staff, working with small systems is challenging because those systems often are understaffed and are difficult to communicate with and assist. Staff at PUC and TCEQ identified similar challenges.

Option 6 would amend statute to authorize TCEQ, PUC, its contracted entities (e.g., TRWA) or court appointed receiver to apply for funding on behalf of a public water system if staff determine that DWSRF would be an appropriate method to address a system deficiency. Any funding awarded by the state to the system could be accepted by the temporary manager or receiver. According to TCEQ staff, community systems have the ability to pursue a temporary or emergency change to their rate structure to help accommodate for

FIGURE 11
MANAGEMENT AND RECEIVERSHIP ACTIVITY FOR TEXAS PUBLIC WATER SYSTEMS, FISCAL YEARS 2015 TO 2018

YEAR	ACTIVITY
2015	Texas Commission on Environmental Quality (TCEQ) staff worked with the Public Utility Commission of Texas (PUC) to appoint one temporary manager and monitored 23 active cases of receivership and temporary management.
2016	TCEQ staff worked with PUC to appoint one temporary manager and monitored 15 active cases of receivership and temporary management
2017	TCEQ appointed or reappointed four temporary managers and monitored 15 active cases of receivership and temporary management
2018	TCEQ monitored nine public water systems in receivership, and seven systems that had temporary management

SOURCES: Legislative Budget Board; Texas Commission on Environmental Quality.

expected loan repayment obligations. This change would enable a more proactive response by the state to address chronic system deficiencies that could be addressed through DWSRF assistance. Improving the infrastructure of a particular system also may improve efforts to consolidate it within a more viable system. Option 6 also would amend statute to require TCEQ consult with TWDB and nearby systems before establishing a new system that is not undertaking regionalization. The purpose of this consultation would be to evaluate whether any financial resources at TCEQ or TWDB could be used to promote the economic feasibility of regionalization. This would help prevent new, unsustainable, small systems from being established, thereby decreasing needs for future consolidations.

AUTHORIZE MANDATORY REGIONALIZATION OR CONSOLIDATION

According to TCEQ staff, some situations in at-risk systems have been serious enough that technical assistance and voluntary consolidation assessments did not work. In those cases, more formal restructuring through enforcement and the appointment of temporary managers or receivers have been required. TCEQ or PUC may appoint a voluntary, temporary manager to operate a system that has discontinued or abandoned operations, or which has been referred to OAG for the appointment of a receiver. A temporary manager appointed by either agency has the powers and duties necessary to ensure continuous and adequate services to customers. A temporary manager is appointed for an initial term of 180 days and can be renewed for an additional 180 days. According to TCEQ staff, if the underlying issue is not resolved, at the request of either TCEQ or PUC, OAG would bring a lawsuit for the appointment of a receiver to collect the assets and carry on the business of a system. According to TCEQ staff, a receiver has greater authority over the finances of a system, potentially either selling the system or making permanent rate adjustments. This action can occur in relation

to various circumstances, primarily related to the abandonment of a system or violation of an order given by TCEQ or PUC. The receiver is obligated to execute a performance bond to ensure that duties are performed properly until a court dissolves the receivership, and assets and control of the system are returned to the owner. **Figure 11** shows the volume and type of management or receivership actions that have occurred since fiscal year 2015.

According to TCEQ staff, the agency does not track whether systems with significant violations were placed in receivership. The agency also does not track whether a system identified as a candidate for consolidation was required to submit a business plan or proof of financial assurance when it initially applied to become a system. As of August 2018, of the nine systems in receivership, one system had not had a business plan review.

According to data provided by TCEQ, 9,158 systems incurred health-based violations from fiscal years 2012 to 2017, and 55.9 percent of those systems have been brought back into compliance. These violations are frequently for hazardous levels of arsenic, radium, and other contaminants tested in the public drinking supply. Of the 2,621 systems that received violations during fiscal year 2017, TCEQ appointed or reappointed four temporary managers and tracked 15 active cases, 0.7 percent, of receivership and temporary management. Some systems that have temporary management or receivership incur violations again after the temporary assignment ends and have had to repeat this process.

Other states have additional options to require regionalization or consolidation when necessary, as shown in **Figure 12**.

Option 7 would amend statute to authorize TCEQ and PUC to establish a review process that could mandate the partial consolidation, full consolidation, or closure of a

**FIGURE 12
STATES WITH ABILITY TO REQUIRE REGIONALIZATION OR CONSOLIDATION OF WATER SYSTEM SERVICES
AUGUST 2017**

STATE	AUTHORIZATION
Alaska	The state can order public systems with conduits, pipes, pipelines, mains, or other distribution or transmission facilities to provide other public systems access to use these facilities when public convenience and necessity require it. The user must pay for any necessary modifications or additions and may be required to pay reasonable compensation for use of the facilities.
Arizona	The state can order a system to add, improve, or change an existing plant and to construct new structures, including interconnections to other systems. If any ordered changes require joint action by two or more systems, the systems must share the cost of those changes after notice from the state. If the systems cannot agree upon an apportionment of the costs, the state can order the systems to pay at a proportion determined by the state.
California	The state has the authority to order consolidation of a small water system within a disadvantaged community that has a receiving water system. Liability relief is provided for a "consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system." Since the law passed in 2015, one mandatory consolidation has been completed, and 15 mandatory consolidations are pending.
Connecticut	Restructuring and connecting nonsustainable systems can occur through formal enforcement actions, direct acquisition by another water system, or ordered acquisition approved by the state. In certain circumstances, entities can petition the court for attachment of the system's assets and to place the system in receivership. When the state orders consolidation of a system, the acquiring entity can recover associated costs through rates and can impose a rate surcharge to recover the current costs of the acquisition and necessary improvements.
Kentucky	Upon completion of a study to determine the merging of water systems, and after a public hearing, the state can order the merging of multiple systems into a single water district and make additional orders in connection with rates and charges.
Maryland	The state has the authority to require noncompliant water systems to install new water or sewage systems or to alter the system to another system.
New Hampshire	The state has the authority to require improvements, including consolidation or extension of water supplies. If the state determines that an extension of water service from an existing system is the most feasible and cost-effective alternative, that the extension is consistent with certain municipal rules, and that adequate capacity is available, the state can order an existing system to initiate the connection.
New Jersey	Through an administrative hearing process, the state can take multiple actions, including acquisitions. The state also can require expenditures, including acquisition costs, to make necessary improvements at small water systems that are in noncompliance with water quality regulations or that have failed to comply with a state order.

SOURCE: U.S. Environmental Protection Agency.

habitually poorly performing system. This process could be applied to a system that previously has been through a temporary management or receivership process, has continued to violate SDWA provisions, or poses a significant health risk to the public. TCEQ and PUC would engage in joint rule-making to prescribe specific thresholds that must be achieved to warrant this activity. A comparison could examine the cost of bringing the small system into compliance through consolidation versus what it would cost to bring the system into compliance alone during a multiyear period. To provide sufficient safeguards to the public, in case a voluntary manager or receiver cannot be applied, a community petition process also could request that the state pursues this review.

Water system partnerships would help small water systems achieve and maintain FMT capacity, and could decrease the oversight and resources necessary for these systems. DWSRF funding can finance legal fees and most fees associated with purchasing the system and assuming the system's water rights.

ESTABLISH A DRINKING WATER SUPPLY ASSISTANCE PROGRAM

The demand for state financial assistance to systems exceeds what is provided. According to TWDB staff, requests for funding included in the 2019 DWSRF Intended Use Plan included \$44.6 million for 47 TWDB-defined very small

system projects, serving populations of less than 1,000, and \$253.1 million for 59 small systems projects, serving populations of less than 10,000. In comparison, the DWSRF allocated \$3.0 million for very small system assistance, of which an individual system is eligible to receive up to \$300,000 in principal forgiveness. To assist small systems to meet federal SDWA-related health and safety requirements, additional resources could provide direct assistance to systems with violations and incentivize additional regional partnerships from more stable, established systems.

Other states, such as Kansas, provide an equal cost-share to study the feasibility of developing regional public water supply systems. Eligible projects must evaluate consolidation of two or more systems. Similarly, Maine's Capacity Development Program uses DWSRF set-aside money for grants to help systems prepare capital improvement plans, management review studies, system consolidation studies, and other reports to enhance system capacity. South Dakota provides grants to small systems for rate analysis, including technical assistance.

According to TCEQ staff, greater availability of grant funds could be effective in promoting additional consolidations. Option 8 would amend the Texas Health and Safety Code to establish a drinking water supply assistance program to be administered by TCEQ staff, with assistance from PUC and TWDB. The program's mission would be to provide funding to at-risk systems or local governments to address water supply-related health problems and to meet federal standards. This could be accomplished through various tactics, determined by TCEQ staff, in consultation with PUC and TRWA, including the acquisition, construction, improvement, or regionalization of systems. According to TCEQ staff, temporary managers do not have a source of financing available to assist in addressing system shortfalls, which could also be addressed through establishment of this grant program.

In lieu of additional appropriations of General Revenue Funds, an increase to a revenue source that is deposited to General Revenue–Dedicated Account No. 153 could be used to finance this grant program. The Texas Health and Safety Code, Chapter 341, authorizes TCEQ to apply fees to public water systems. The *Texas State Government Effectiveness and Efficiency Report*, "Revenue Enhancement Options for the Water Resource Management Account," LBB, 2015, includes additional information regarding fee revenues deposited into Account No. 153.

One of these fees, the Public Health Service Fee, is intended to support the testing and certification of drinking water supplies and to protect the state's water resources. The fee applies to a system of any type and encompasses approximately 9.0 million water service connections. TCEQ sets the fee rates and assesses it on all systems based on the number of retail connections that the system serves. TCEQ periodically has increased the fee, and the last increase was in June 2016. Systems with fewer than 25 connections pay \$125 per year; those with 25 to 160 connections pay \$200 per year; and systems with 161 connections or more pay \$2.45 per retail connection. The fee generated approximately \$24.3 million in revenue for fiscal year 2018. If the current \$2.45 rate per connection on systems with 161 or more connections was increased, additional revenue could be generated. TCEQ estimates, for example, that increasing the rate to approximately \$2.77—an additional \$0.32 per connection per year—for relatively larger systems would yield an additional \$3.0 million per fiscal year. This amount could be allocated to TCEQ to support increasing the viability of struggling water systems. Option 8 would direct TCEQ to increase the amount of the Public Health Service Fee to generate an additional \$6.1 million for the 2020–21 biennium. This amount is the equivalent of the amount of principal forgiveness provided to small systems through DWSRF. TCEQ would retain the authority to adjust Public Health Service Fee levels, if the agency deems additional funding for this assistance as a priority.

FISCAL IMPACT OF THE OPTIONS

Option 1 would amend statute to codify the ability for TCEQ to recover costs for performing functions on behalf of systems, including to assess penalties and late payments on a public water system for sampling and laboratory analysis costs. An indeterminate, but not significant, revenue gain to the state in General Revenue–Dedicated Account No. 153 is anticipated as a result of this option.

Option 2 would require TCEQ to establish notification standards, which would include an automated notification service to assist systems in meeting their reporting and notification requirements. LBB staff identified a company that advertised the cost of automated phone banking for 5,000 calls at \$105.00. Another company advertised monthly plans for calling up to 2,000 numbers at \$280.99 per month. Integrating a system to provide periodic calls or texts to system owners may require a certain degree of customization to integrate with existing TCEQ databases; however, total costs to the agency to implement Option 2 are not anticipated

FIGURE 13
FIVE-YEAR FISCAL IMPACT OF OPTION 8, FISCAL YEARS 2020 TO 2024

YEAR	PROBABLE SAVINGS/(COST) IN GENERAL REVENUE—DEDICATED ACCOUNT NO. 153 FUNDS	PROBABLE REVENUE GAIN/(LOSS) IN GENERAL REVENUE—DEDICATED ACCOUNT NO. 153 FUNDS	PROBABLE ADDITION/ (REDUCTION) OF FULL-TIME-EQUIVALENT POSITIONS
2020	(\$3,036,387)	\$3,036,387	1.0
2021	(\$3,036,387)	\$3,036,387	1.0
2022	(\$3,036,387)	\$3,036,387	1.0
2023	(\$3,036,387)	\$3,036,387	1.0
2024	(\$3,036,387)	\$3,036,387	1.0

NOTE: The fiscal impact assumes that the Texas Commission on Environmental Quality increases the Public Health Service Fee from \$2.45 per year per applicable connection to approximately \$2.77 per year per connection.

SOURCES: Legislative Budget Board; Texas Commission on Environmental Quality.

to be significant and could be absorbed within existing resources.

Option 3 would require TCEQ to notify local health departments, DSHS, and HHSC, as applicable, when health-based violations are identified at entities that operate water systems when those entities are subject to such agencies’ inspection and certification. No significant fiscal impact is anticipated.

Option 4 would require any agency or school district that incurs drinking water-related violations to consider applying for DWSRF assistance to remediate the underlying issue. No significant fiscal impact is anticipated.

Option 5 would require TCEQ, PUC, and TRWA to examine financial processes related to the formation and monitoring of certain systems. It is assumed that additional responsibilities of the affected agencies and TRWA can be absorbed within existing resources. However, if additional expenditures are required, TCEQ is authorized to increase the Public Health Service Fee.

Option 6 would integrate state financial assistance from TWDB into TCEQ’s review of new system applicants, to assist in determining whether additional regionalization is possible. It is assumed that this review can be accomplished using existing resources at TCEQ and TWDB, and no significant fiscal impact is anticipated.

Option 7 would authorize TCEQ and PUC to adopt thresholds that would initiate mandatory regionalization, consolidation, or closure for systems with a history of health-based compliance issues. The state of California enacted similar legislation in 2015 that would initiate mandatory consolidation activity. According to California State Water Resources Control Board staff, as of July 2018, one

mandatory consolidation has been completed, and associated duties have been absorbed within existing resources. It is assumed that TCEQ and PUC could implement this provision within existing resources.

Option 8 would amend statute to establish a drinking water supply assistance grant program at TCEQ to assist at-risk water systems. As shown in **Figure 13**, TCEQ would be appropriated funds for this grant program contingent on the agency increasing the Public Health Service Fee to generate approximately \$6.1 million for the 2020–21 biennium. It is assumed that the agency would require 1.0 additional full-time-equivalent position to administer the new program and work with other TCEQ staff to review, prioritize, and award grant funds.

The introduced 2020–21 General Appropriations Bill does not include any adjustments as a result of these options.