CHAPTER 2

AGENCY ACTIVITIES

This chapter summarizes the agency's fiscal 2019 and 2020 activities regarding compliance, supplemental environmental projects, compliance history, critical infrastructure, dam safety, emergency management, laboratory accreditation, and the Edwards Aquifer Program.

Enforcement

Environmental Compliance

The TCEQ enforcement process begins when a violation is discovered during investigation at a regulated entity's location, through a review of records at agency offices, or as a result of a complaint from the public that is subsequently verified by TCEQ as a violation. Enforcement actions may also be triggered after submission of citizen-collected evidence.

In a typical year, TCEQ will conduct about 107,000 routine investigations and investigate about 4,800 complaints to assess compliance with environmental laws.

When environmental laws are violated, TCEQ has the authority in administrative cases to levy penalties up to the statutory maximum—as high as $25,000 for some programs—per day, per violation. In some programs, civil judicial cases carry penalties of up to $25,000 per day, per violation.

In fiscal 2019, TCEQ issued 1,307 administrative orders, which required payments of over $7.5 million in penalties and over $2.7 million for SEPs (see "Supplemental Environmental Projects," below). The average number of days from initiation of an enforcement action to completion (order approved by the commission) was 363 days.

In fiscal 2020, TCEQ issued 1,528 administrative orders, requiring payments of over $10 million in penalties and over $4.2 million for SEPs. There was an average number of 336 days from initiation of an enforcement action to completion (order approved by the commission).

TCEQ can also refer cases to the state attorney general. In fiscal 2019, the AG's office obtained 30 judicial orders in cases referred by TCEQ or in which TCEQ was a party. These orders resulted in more than $3 million in civil penalties. In fiscal 2020, the AG's office obtained 18 judicial orders, which resulted in over $2.3 million in civil penalties.

Additional enforcement statistics can be found in TCEQ's annual enforcement report, available online at www.tceq.texas.gov/goto/aer.

Orders that have been approved by the commission and have become effective are posted on the TCEQ website, as are pending orders not yet presented to the commission.

Supplemental Environmental Projects

When TCEQ finds a violation of environmental laws, the agency and the regulated entity often enter into an agreed administrative order, which usually includes the assessment of a monetary penalty. The penalties collected do not stay at TCEQ, but instead go to state general revenue.

One option under state law, however, gives regulated entities a chance to direct some of the penalty dollars to local environmental improvement projects. By allowing penalty amounts to go toward a Supplemental Environmental Project (SEP), the violator can do something beneficial for the community in which the environmental offense occurred. Such a project must reduce or

Table 1. TCEQ Enforcement Orders

Fiscal Year	Number of Orders	Assessed Penalties	Orders with SEPs	SEP Funds
2019	1,370	$12.1 million	153	$2.7 million
2020	1,528	$17.1 million	196	$4.2 million

prevent pollution, enhance the environment, or raise public awareness of environmental concerns.

TCEQ has a list of *preapproved SEPs*, which have already received general approval from the commission. The projects—which are sponsored by both nonprofit organizations and governmental agencies—represent a wide array of activities, such as cleaning up illegal dump sites, providing first-time adequate water or sewer service for low-income families, retrofitting or replacing school buses with cleaner emission technologies, removing hazards from bays and beaches, and improving nesting conditions for colonial water birds.

A regulated entity that meets program requirements may propose its own *custom SEP* as long as the proposed project is environmentally beneficial and the party that would be performing the SEP was not already obligated or planning to perform the SEP activity before the violation occurred. Additionally, the activity covered by a SEP must go beyond what is already required by state and federal environmental laws.

The Texas Water Code gives TCEQ the discretion to allow local governments cited in enforcement actions to use SEP money to achieve compliance with environmental laws or to remediate the harm caused by the violations in the case. This is called a *compliance SEP*, which may be offered to governmental authorities such as school districts, counties, municipalities, junior-college districts, river authorities, and water districts.

Except for a compliance SEP, a SEP cannot be used to remediate a violation or any environmental harm that is caused by a violation, or to correct any illegal activity that led to an enforcement action.

Compliance History

Since 2002, TCEQ has rated the compliance history of every owner or operator of a facility that is regulated under certain state environmental laws.

An evaluation standard has been used to assign a rating to approximately 430,000 entities regulated by TCEQ that are subject to the compliance history rules. The ratings take into consideration prior enforcement orders, court judgments, consent decrees, criminal convictions, and notices of violation, as well as investigation reports, notices, and disclosures submitted in accordance with the Texas Environmental, Health, and Safety Audit Privilege Act. Agency-approved environmental management systems and participation in agency-approved voluntary pollution-reduction programs are also taken into account.

An entity's classification comes into play when TCEQ considers not only enforcement, but also permit actions, the use of unannounced investigations, and participation in innovative programs.

Each September, regulated entities are classified or reclassified to reflect the previous five years of compliance data. Ratings below 0.10 receive a classification of "high," which means those entities have an above-satisfactory compliance record with environmental regulations. Ratings from 0.10 to 55.00 merit "satisfactory," for having generally complied. Ratings greater than 55.00 result in an "unsatisfactory" classification, because these entities performed below minimal acceptable performance standards.

An entity with no compliance information for the last five years will not receive a classification and is therefore "unclassified."

Critical Infrastructure

In 2011, TCEQ created the Critical Infrastructure Division within the Office of Compliance and Enforcement. This division combines elements from the OCE that are critical to TCEQ's responsibilities under the Texas Homeland Security Strategic Plan. The division seeks to ensure that regulated critical infrastructures,

Table 2. Compliance-History Designations

	September 2019		September 2020	
Classifications	Number of Entities Subject to Compliance-History Rules	Percent	Number of Entities Subject to Compliance-History Rules	Percent
High	36,939	8.95	38,549	8.96
Satisfactory	9,419	2.28	8,429	1.96
Unsatisfactory	948	0.23	968	0.22
Unclassified	365,390	88.54	382,379	88.86
Total	**413,696**	**100**	**430,325**	**100**

essential to the state and its residents, maintain compliance with environmental regulations; and to support these critical infrastructures during disasters. This latter duty includes not only responding to disasters but also aiding in recovery from them.

The division's programs are Homeland Security, Dam Safety, Radioactive Materials Compliance and Chemical Reporting, and Emergency Management Support.

Homeland Security

The Homeland Security Program coordinates communications during disaster response with federal, state, and local partners; conducts threat assessments regarding the state's critical infrastructure; and participates in the state's counterterrorism task forces. The program provides agency representation at the State Operations Center during disasters, and reviews and provides input on statewide plans coordinated by the Texas Division of Emergency Management and the Texas Department of Public Safety.

Dam Safety

The Dam Safety Program monitors and regulates private and public dams in Texas. The program periodically inspects dams that pose a high or significant hazard and issues recommendations and reports to the dam owners to help them maintain safe facilities. The program ensures that these facilities are constructed, maintained, repaired, or removed safely.

High- or significant-hazard dams are those for which loss of life could occur if the dam should fail.

On Sept. 1, 2013, a new state law exempted dams from Dam Safety Program regulation if they met all of the following criteria:

- Are privately owned.
- Are classified either "low hazard" or "significant hazard."
- Have a maximum capacity of less than 500 acre-feet.
- Are within a county with a population of less than 350,000.
- Are outside city limits.

As a result, the law exempts a large number of dams: 3,264.

In 2020, Texas had 4,048 state-regulated dams; of those, 1,495 were high-hazard dams and 307 were significant-hazard dams. The remaining dams were classified as low hazard.

As of July 2020, 92% of all high- and significant-hazard dams had been inspected during the past five years. About 982 of the inspected dams are in either "fair" or "poor" condition. Most dam owners have begun making repairs as they are able to identify funding.

In addition to inspections, the Dam Safety Program conducts workshops concerning emergency action plans and dam maintenance. No workshops were conducted in fiscal 2020 due to the coronavirus pandemic.

Radioactive Materials Compliance and Chemical Reporting

Texas Compact Waste Facility

The Radioactive Materials Compliance Team is responsible for compliance at the disposal site for low-level radioactive waste in Andrews County. The disposal site, the Texas Compact Waste Facility, is operated by Waste Control Specialists, Inc. (radioactive-material license R04100). The waste facility was authorized to accept waste in April 2012.

The Radioactive Materials Compliance Team maintains two full-time resident inspectors at the low-level radioactive waste site to accept, survey, and approve the disposal of each shipment. Each disposal is documented in an investigation report. The following volume of shipments of low-level radioactive waste was inspected and successfully disposed of in the Texas Compact Waste Facility:

- fiscal 2019: 117 shipments
- fiscal 2020: 161 shipments

Tier II Chemical Reporting Program

The Radioactive Materials Compliance and Chemical Reporting Section also oversees the Tier II Chemical Reporting Program.

House Bill 942, 84th Legislature, transferred the Tier II Chemical Reporting Program from the Texas Department of State Health Services (DSHS) to TCEQ. The transfer from DSHS included 11 full-time-equivalent positions, equipment, and resources. Additionally, a new position was created to develop and administer a Tier II Grant Program.

The Texas Tier II Chemical Reporting Program is the state repository for annual hazardous-chemical inventories, called Texas Tier II Reports, which are required under the Emergency Planning and Community Right-to-Know Act.

Texas Tier II Reports contain detailed information on chemicals that meet or exceed specified reporting

thresholds at any time during a calendar year. The Tier II reporting system identifies facilities and owner-operators and collects detailed data on hazardous chemicals stored at reporting facilities within the state. The following volume of facility reports was received in the online reporting system:

- fiscal 2019: 8,050 reports with 84,060 facilities
- fiscal 2020: 8,314 reports with 81,709 facilities

Emergency Management Support

TCEQ's 16 regional offices form the basis of the agency's support for local jurisdictions addressing emergency and disaster situations. For that reason, during a disaster, Disaster-Response Strike Teams (DRSTs), organized in each regional office, serve as TCEQ's initial and primary responding entities within their respective regions. Team members come from various disciplines and have been trained in the National Incident Management System, Incident Command System, and TCEQ disaster-response protocols.

TCEQ's Emergency Management Support Team (EMST), based in Austin, was created to build greater disaster-response capabilities within each TCEQ region and to support the regions when necessary. The EMST joins the regional DRST during disaster responses.

The EMST is also responsible for maintaining preparedness, assisting with the development of the DRSTs in each region by providing disaster-preparedness training, and maintaining sufficiently trained personnel so that response staff can rotate during long-term emergency events.

The EMST also coordinates the BioWatch program in Texas. BioWatch is a federally funded initiative aimed at early detection of bioterrorism agents.

Accredited Laboratories

TCEQ accepts regulatory data only from laboratories accredited according to standards set by the National Environmental Laboratory Accreditation Program (NELAP) or from laboratories exempt from accreditation, such as a facility's in-house laboratory.

The analytical data produced by these laboratories are used in TCEQ decisions relating to permits, authorizations, compliance actions, enforcement actions, and corrective actions, as well as in characterizations and assessments of environmental processes or conditions.

All laboratories accredited by TCEQ are held to the same quality-control and quality-assurance standards. TCEQ laboratory accreditations are recognized by other states using NELAP standards and by some states that do not operate accreditation programs of their own.

In August 2020, there were 254 laboratories accredited by TCEQ.

Sugar Land Laboratory

The TCEQ Sugar Land Laboratory is accredited by NELAP. The laboratory supports monitoring operations for TCEQ's air, water, and waste programs, as well as river authorities and other environmental partners, by analyzing surface water, wastewater, sediments, sludge samples, and airborne particulate matter for a variety of environmental contaminants. The laboratory also supports the agency by analyzing samples collected as part of investigations conducted by TCEQ's 16 regional offices.

The laboratory develops analytical procedures and performance measures for accuracy and precision, and maintains a highly qualified team of analytical chemists, laboratory technicians, and technical support personnel.

The laboratory generates scientifically valid and legally defensible test results under its NELAP-accredited quality system. Analytical data are produced using methods approved by the U.S. Environmental Protection Agency. The standards used for these methods are traceable to national standards, from institutions such as the National Institute of Standards and Technology and the American Type Culture Collection.

With the near-instant transmission of electronic data, TCEQ can now upload results directly to program databases.

Edwards Aquifer Protection Program

As a karst aquifer, the Edwards Aquifer is one of the most permeable and productive groundwater systems in the United States. The regulated portion of the aquifer crosses eight counties in south-central Texas, serving as the primary source of drinking water for more than 2 million people in the San Antonio area. This replenishable system also supplies water for farming and ranching, manufacturing, mining, recreation, and the generation of electric power using steam.

The aquifer's pure spring water also supports a unique ecosystem of aquatic life, including several threatened and endangered species.

Because of the unusual nature of the aquifer's geology and biology—and its role as a primary water source—TCEQ requires an Edwards Aquifer protection

plan for any regulated activity proposed within the recharge, contributing, or transition zones. Regulated activities include construction, clearing, excavation, or anything that alters the surface or possibly contaminates the aquifer and its surface streams. In regulated areas, best management practices for treating stormwater are mandatory during and after construction.

Each year, TCEQ receives hundreds of plans to be reviewed by the Austin and San Antonio regional offices. Since 2012, due to increased development, TCEQ has experienced a dramatic increase in the number of plans submitted for review in both regions. TCEQ reviewed 893 plans in fiscal 2019 and 780 plans in fiscal 2020.

In addition to reviewing plans for development within the regulated areas, agency personnel conduct compliance investigations to ensure that best management practices are appropriately used and maintained. Staff also performs site assessments before the start of regulated activities to ensure that aquifer-recharge features are adequately identified for protection.

Air Quality

Changes to Standards for Criteria Pollutants

Federal clean-air standards, or the National Ambient Air Quality Standards (NAAQS), cover six criteria air pollutants: ozone, particulate matter (PM), carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide (SO_2). The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to review the standard for each criteria pollutant every five years to ensure that it achieves the required level of health and environmental protection. On March 18, 2019, EPA published its decision to retain the current NAAQS for SO_2 without revision, effective April 17, 2019. On April 30, 2020, EPA published a proposal to retain, without changes, the current NAAQS for PM for both the primary and secondary standards. On Aug. 14, 2020, EPA published a proposal to retain the current eight-hour ozone NAAQS; EPA is in the process of reviewing the current NAAQS for lead.

As TCEQ develops plans—region by region—to address air quality issues, it revises the State Implementation Plan (SIP) and submits these revisions to EPA.

Ozone Compliance Status

2008 Ozone Standard

On May 21, 2012, EPA published final designations for the 2008 eight-hour ozone standard of 0.075 parts per million (ppm). The Dallas–Fort Worth (DFW) area was designated "nonattainment," with a "moderate" classification, and the Houston-Galveston-Brazoria (HGB) area was designated "nonattainment," with a "marginal" classification. The HGB area did not attain the 2008 eight-hour ozone standard by its marginal attainment deadline and was reclassified to moderate nonattainment effective Dec. 14, 2016.

The DFW and HGB moderate nonattainment areas were required to attain the 2008 eight-hour ozone standard by July 20, 2018, with a 2017 attainment year, which is the year that the areas were required to measure attainment of the applicable standard. Because neither area attained by the end of 2017, EPA reclassified both the DFW and HGB 2008 eight-hour ozone moderate nonattainment areas to serious effective Sept. 23, 2019. The attainment date for serious nonattainment areas is July 20, 2021, with a 2020 attainment year. Serious classification attainment demonstrations and reasonable further progress SIP revisions were developed for both areas and submitted to EPA before the Aug. 3, 2020, deadline. If the areas do not attain by the end of 2020, EPA may reclassify the areas to severe nonattainment.

2015 Ozone Standard

In October 2015, EPA finalized the 2015 eight-hour ozone standard of 0.070 ppm. EPA was expected to make final designations by Oct. 1, 2017, using design values from 2014 through 2016. On Nov. 16, 2017, EPA designated a majority of Texas as attainment/unclassifiable for the

Table 3. Ozone-Compliance Status for the 2015 Eight-Hour Standard

Area of Texas	2015 Eight-Hour Ozone	Attainment Deadline
HGB (six-county area)	Marginal Nonattainment	Aug. 3, 2021
DFW (nine-county area)	Marginal Nonattainment	Aug. 3, 2021
San Antonio (Bexar County)	Marginal Nonattainment	Sept. 24, 2021
All Other Texas Counties	Attainment	Not Applicable

Note: The HGB 2015 ozone nonattainment area comprises the counties of Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery. The DFW 2015 ozone nonattainment area comprises the counties of Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise.

Types of Sources

Emissions that affect air quality can be characterized by their sources.

Point sources: examples include industrial facilities such as refineries and cement plants

Area sources: examples include dry cleaners, gasoline stations, and residential heating

On-road mobile sources: cars and trucks

Non-road mobile sources: examples include construction equipment, locomotives, and marine vessels

2015 eight-hour ozone NAAQS. On June 4, 2018, EPA published final designations for the remaining areas, except for the eight counties that compose the San Antonio area. Consistent with state designation recommendations, EPA finalized nonattainment designations for a nine-county DFW marginal nonattainment area (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Tarrant, and Wise counties) and a six-county HGB marginal nonattainment area (Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery counties). EPA designated all the remaining counties, except those in the San Antonio area, as attainment/unclassifiable. The designations are effective Aug. 3, 2018.

On July 17, 2018, EPA designated Bexar County as nonattainment, and the seven other San Antonio area counties—Atascosa, Bandera, Comal, Guadalupe, Kendall, Medina, and Wilson—as attainment/unclassifiable.

The attainment deadline for the DFW and HGB marginal nonattainment areas is Aug. 3, 2021, with a 2020 attainment year. The attainment deadline for the Bexar County marginal nonattainment area is Sept. 24, 2021, with a 2020 attainment year. If the areas do not attain by the end of 2020, EPA may reclassify them to moderate nonattainment. On June 10, 2020, the commission adopted an emissions inventory (EI) SIP revision for the 2015 eight-hour ozone NAAQS for the HGB, DFW, and Bexar County nonattainment areas. It was submitted to EPA on June 24, 2020. On July 1, 2020, the commission adopted a CAA, Section 179B, demonstration SIP revision to demonstrate that the Bexar County marginal nonattainment area would attain the 2015 eight-hour ozone standard by its attainment deadline were it not for anthropogenic emissions emanating from outside the United States. It was submitted to EPA on July 13, 2020.

In August 2018, the City of Sunland Park, New Mexico, and environmental petitioners challenged EPA's attainment/unclassifiable designation for El Paso County in the D.C. Circuit Court of Appeals (Clean Wisconsin v. EPA, No. 18-1203). On July 10, 2020, the court granted EPA's request for voluntary remand (without vacatur) for the El Paso County attainment designation to EPA, requiring EPA to issue a revised El Paso County designation as expeditiously as practicable.

Also, in August 2018, the State of Texas and TCEQ sued EPA, challenging EPA's nonattainment designation for Bexar County in the Fifth Circuit Court of Appeals. Environmental Petitioners also sued EPA for its designation of attainment/unclassifiable for the seven other San Antonio area counties—Atascosa, Bandera, Comal, Guadalupe, Kendall, Medina, and Wilson; and the litigation was consolidated in the Fifth Circuit Court of Appeals. Oral argument in the San Antonio area counties consolidated case was held Oct. 9, 2019, so a decision could be released at any time.

Redesignation for Revoked Ozone Standards

On Feb. 16, 2018, the U.S. Court of Appeals for the D.C. Circuit issued an opinion in the case *South Coast Air Quality Management District v. EPA*, 882 F.3d 1138 (D.C. Cir. 2018). The case was a challenge to EPA's final 2008 eight-hour ozone standard SIP requirements rule, which revoked the 1997 eight-hour ozone NAAQS as part of the implementation of the 2008 eight-hour ozone NAAQS. To address the potential impacts of the court's ruling, TCEQ developed and submitted a redesignation request and maintenance plan SIP revisions for four areas:

- HGB Area One-Hour and 1997 Eight-Hour Ozone NAAQS Redesignation Request and Maintenance Plan SIP Revision, submitted to EPA on Dec. 14, 2018.

- Beaumont–Port Arthur (BPA) Area One-Hour Ozone NAAQS Redesignation Request and Maintenance Plan and 1997 Eight-Hour Ozone Second 10-Year Maintenance Plan SIP Revision, submitted to EPA on Feb. 6, 2019.
- DFW Area One-Hour and 1997 Eight-Hour Ozone NAAQS Redesignation Request and Maintenance Plan SIP Revision, submitted to EPA on April 5, 2019.
- El Paso Area One-Hour Ozone NAAQS Redesignation Request and Maintenance Plan SIP Revision, submitted to EPA on May 10, 2019.

In early 2020, EPA published final actions on the HGB and DFW submittals, determining that both areas met all criteria for redesignation. The actions removed anti-backsliding requirements and approved the maintenance plans for both areas for both revoked standards. On June 8, 2020, EPA proposed to approve the BPA second 10-year maintenance plan for the 1997 eight-hour ozone standard. EPA published its final action on Sept. 2, 2020. However, EPA has taken the position that it lacks the authority to redesignate areas to attainment under revoked standards. In response to this position, TCEQ plans to withdraw the remaining portion of the BPA submittal and the El Paso submittal relating to the redesignation request and maintenance plan for the one-hour ozone standard from EPA review. EPA's final approvals have been challenged by environmental groups in the D.C. Circuit Court of Appeals and in the Fifth Circuit (protective petition). Texas has intervened in support of EPA's final actions.

2010 SO_2 Standard

EPA revised the SO_2 NAAQS in June 2010, adding a one-hour primary standard of 75 parts per billion. In July 2013, EPA designated 29 areas in 16 states, which did not include Texas, as nonattainment for the 2010 standard. On March 2, 2015, a U.S. district court order set a deadline for EPA to complete an additional three rounds of designations for the SO_2 NAAQS.

In Round 2, EPA was required to designate by July 2, 2016, any areas monitoring violations or with the largest SO_2 sources fitting specific criteria for SO_2 emissions. EPA identified 12 sources in Texas meeting these criteria for Round 2 designations. EPA designated Atascosa (San Miguel), Fort Bend (W.A. Parish), Goliad (Coleto Creek), Lamb (Tolk), Limestone (Limestone Station), McLennan (Sandy Creek), and Robertson (Twin Oaks) counties as unclassifiable/attainment and designated Potter County (Harrington) as unclassifiable, effective Sept. 12, 2016. On Dec. 13, 2016, EPA published a supplement to the Round 2 SO_2 designations for the remaining four EPA-identified Texas power plants—Big Brown, Martin Lake, Monticello, and Sandow. Effective Jan. 12, 2017, portions of Freestone and Anderson counties (Big Brown), portions of Rusk and Panola counties (Martin Lake), and a portion of Titus County (Monticello) were designated nonattainment. Milam County was designated unclassifiable.

Sources with more than 2,000 tons per year (tpy) of SO_2 emissions not designated in 2016 would be designated based on modeling by December 2017 in Round 3 or monitoring data by December 2020 in Round 4. In accordance with the August 2015 Data Requirements Rule, Texas identified 24 sources with 2014 SO_2 emissions of 2,000 tpy or more, which included the 12 sources identified in Round 2. TCEQ evaluated the Oklaunion facility in Wilbarger County through modeling submitted to EPA for designation in Round 3. EPA completed Round 3 designations for the 2010 SO_2 NAAQS, effective April 9, 2018, designating Wilbarger County as unclassifiable/attainment along with unclassifiable/attainment designations for 237 other counties or portions of counties in Texas. The areas designated unclassifiable/attainment in Anderson, Panola, Rusk, and Freestone counties are the parts of those counties not previously designated nonattainment in Round 2.

All remaining areas not designated in Rounds 2 or 3 will be designated in Round 4, including the following areas of Texas, currently being monitored: Jefferson, Hutchinson, Navarro, Bexar, Howard, Harrison, and Titus (remaining partial area) counties.

In October 2017, Luminant (Vistra Energy) filed notices with the Electric Reliability Council of Texas (ERCOT) stating its plans to retire the Monticello, Sandow, and Big Brown power generation plants. TCEQ voided permits for these three plants on March 30, 2018. Big Brown and Monticello were the primary SO_2 emissions sources of the areas designated nonattainment in Anderson, Freestone, and Titus counties. The Martin Lake plant, in the nonattainment area in Rusk and Panola counties, continues to operate.

On Aug. 22, 2019, EPA proposed error corrections to revise the designations of portions of Freestone, Anderson, Rusk, Panola, and Titus counties from nonattainment to unclassifiable. On April 27, 2020, Sierra Club filed suit against EPA regarding EPA not finding that Texas failed to submit attainment demonstrations for the three nonattainment areas. EPA published its finding of failure to submit for these three nonattainment areas on Aug. 10, 2020. On June 30, 2020, TCEQ sent a letter to EPA requesting clean data determinations for the areas surrounding the Big Brown and Monticello facilities. A clean data determination by EPA is required before the areas can be redesignated to attainment.

On June 26, 2020, TCEQ sent a letter to EPA requesting that Milam County be redesignated from unclassifiable to attainment. On Aug. 13, 2020, EPA provided notification to Gov. Abbott of its proposed designations for the remaining undesignated areas (Round 4 of the designations). EPA intends to designate Howard, Hutchinson, and Navarro counties as nonattainment; Bexar, Harrison, Jefferson, and Robertson counties, as well as the remaining undesignated portion of Titus county, as attainment/unclassifiable; and Orange county as unclassifiable. EPA must finalize the Round 4 designations by Dec. 31, 2020.

Evaluating Health Effects

TCEQ toxicologists meet their goals of identifying chemical hazards, evaluating potential exposures, assessing human health risks, and communicating risk to the general public and stakeholders in a variety of ways. Perhaps most notably, TCEQ relies on health- and welfare-protective values developed by its toxicologists to ensure that both permitted and monitored airborne concentrations of pollutants stay below levels of concern. Final values for 324 pollutants have been derived so far. Texas has received compliments about these values from numerous federal agencies and academic institutions, and many other states and countries use TCEQ's toxicity values.

TCEQ toxicologists use the health- and welfare-protective values it derives for air monitoring—called air monitoring comparison values (AMCVs)—to evaluate the public-health risk of millions of measurements of air pollutant concentrations collected from the ambient air monitoring network throughout the year.

When necessary, TCEQ also conducts health-effects research on particular chemicals with limited or conflicting information. In fiscal 2018 and 2019, specific work evaluating arsenic, particulate matter < 2.5 µm ($PM_{2.5}$), ethylene oxide, and ozone was completed. This work can inform the review and assessment of state and federal air quality regulations, of human-health risk of air, water, or soil samples collected during investigations and remediation, as well as aid in communicating health risk to the public.

Finally, toxicologists communicate risk and toxicology with state and federal legislators and their committees, EPA, other government agencies, the press, and judges during legal proceedings. This often includes input on EPA rulemaking, including the NAAQS, through written comments, meetings, and scientific publications.

Air Pollutant Watch List

TCEQ toxicologists oversee the Air Pollutant Watch List activities that result when ambient pollutant concentrations exceed these protective levels. TCEQ routinely reviews and conducts health-effects evaluations of

ambient air monitoring data from across the state by comparing air toxic concentrations to their respective AMCVs or state standards. TCEQ evaluates areas for inclusion on the Air Pollutant Watch List where monitored concentrations of air toxics are persistently measured above AMCVs or state standards.

The purpose of the watch list is to reduce air toxic concentrations below levels of concern by focusing TCEQ resources and heightening awareness of interested parties in areas of concern.

TCEQ also uses the watch list to identify companies with the potential for contributing to elevated ambient air toxic concentrations and to then develop strategic actions to reduce emissions. An area's inclusion on the watch list results in more stringent permitting, priority in investigations, and in some cases increased monitoring.

Four areas of the state are currently on the watch list, which is available at www.tceq.texas.gov/toxicology/apwl. TCEQ continues to evaluate the current APWL areas to determine whether improvements in air quality have occurred. TCEQ has also identified areas in other parts of the state with monitoring data close or slightly above AMCVs and worked proactively with nearby companies to reduce air toxic concentrations, obviating the need for listing these areas on the APWL.

Oil and Gas: Boom of Shale Plays

The early activities associated with the Barnett Shale formation in the Dallas–Fort Worth area presented an unusual challenge for TCEQ, considering that this was the first time that a significant number of natural gas production and storage facilities were built and operated in Texas within heavily populated areas. In response, TCEQ initiated improved collection of emissions data from oil and gas production areas.

TCEQ conducts in-depth measurements at all shale formations to evaluate the potential effects. TCEQ continues to conduct surveys and investigations at oil and gas sites using optical gas imaging camera (OGIC) technology and other monitoring instruments.

The monitoring, on-site investigations, and enforcement activities in the shale areas also complement increased air-permitting activities. The additional field activities include additional stationary monitors, increased collections of ambient air canister samples, flyovers using OGIC imaging, targeted mobile monitoring, and investigations (routine and complaint-driven).

A shale play is a defined geographic area containing an organic-rich, fine-grained sedimentary rock with specific characteristics. The shale forms from the compaction of silt and clay-size mineral particles commonly called "mud."

One vital aspect in responding to shale-play activities is the need for abundant and timely communications with all interested parties. TCEQ has relied on community open houses, meetings with the public, county judges and other elected officials, workshops for local governments and industry, town-hall meetings, legislative briefings, and guidance documents. For example, the agency recently issued a new publication, *Flaring at Oil and Natural Gas Production Sites* (TCEQ GI-457). This brochure is designed to provide a helpful starting point for discussions with citizens; TCEQ staff can then provide more details as needed with each person. The agency also maintains a multimedia website, www.TexasOilandGasHelp.org, with links to rules, monitoring data, environmental-complaint procedures, regulatory guidance, and frequently asked questions.

TCEQ continues to evaluate its statewide network for air quality monitoring and will expand those operations when needed. Fifteen automatic-gas-chromatograph monitors operate in the Barnett Shale area, along with numerous other instruments that monitor for criteria pollutants. In addition, 16 VOC canister samplers (taking samples every sixth day) are located throughout TCEQ Region 3 (Abilene) and Region 4 (Dallas–Fort Worth).

In South Texas, the agency has established a precursor ozone monitoring station in Floresville (Wilson County), north of the Eagle Ford Shale; the station began operating on July 18, 2013. Another monitoring station has been established in Karnes City, which is in Karnes County; this station was activated on Dec. 17, 2014. Karnes County continues to lead the Eagle Ford Shale play in production and drilling activities. The data from these monitoring stations are used to help determine whether the shale oil and gas play is

contributing to ozone formation in the San Antonio area. It should be noted that existing monitors located within the Barnett Shale and Eagle Ford Shale plays have not indicated that pollutant levels are of sufficient concentration or duration to be harmful to residents.

In response to observed increases in oil and gas activity and reported emission events across the Permian Basin Geological Area, TCEQ conducted two mobile monitoring surveys for hydrogen sulfide and sulfur dioxide in December 2019, and February 2020. The results of the surveys were used to site three new monitoring stations in the Goldsmith, West Odessa, and Midland areas that will monitor for hydrogen sulfide, sulfur dioxide, and VOCs.

Regional Haze

Guadalupe Mountains and Big Bend national parks are identified by the federal government for visibility protection, along with 154 other national parks and wilderness areas. Regional Haze is a long-term air quality program requiring states to develop plans to meet a goal of natural visibility conditions by 2064. In Texas, the primary visibility-impairing pollutants are NO_x, SO_2, and PM. Regional Haze program requirements include a Regional Haze SIP revision that is due to EPA every 10 years and a progress report due every five years, to demonstrate progress toward natural conditions.

The first Texas Regional Haze SIP revision was submitted to EPA in 2009. In 2016, EPA finalized a partial disapproval of that plan and proposed a federal implementation plan (FIP) that would have required emissions control upgrades or emissions limits at eight coal-fired power plants in Texas. In July 2016, Texas and other petitioners, contending that EPA acted outside its statutory authority, sought a stay pending review of the FIP, which was granted by the U.S. Court of Appeals for the Fifth Circuit. Due to continuing issues with the Cross-State Air Pollution Rule, EPA could not act on best available retrofit technology (BART) requirements for electric utility generating units (EGUs). On March 20, 2018, the U.S. Court of Appeals for the D.C. Circuit issued a ruling upholding "CSAPR-better-than-BART" for Regional Haze.

On Oct. 17, 2017, EPA adopted a FIP to address BART for EGUs in Texas, which included an alternative trading program for SO_2. EPA will administer the trading program, which includes only specific EGUs in Texas

and no out-of-state trading. For NO_X, Texas remains in CSAPR. For PM, EPA determined that no further action was required. On June 29, 2020, EPA finalized the amended BART intrastate trading program FIP for Texas, and the trading program was affirmed as an alternative to BART requirements for certain sources in Texas.

Texas' first five-year progress report on regional haze was submitted to EPA in March 2014. It contained all of the following:

- A summary of emissions reductions achieved from the plan.
- An assessment of visibility conditions and changes for each Class I area in Texas that Texas may affect.
- An analysis of emissions reductions by pollutant.
- A review of Texas' visibility-monitoring strategy and any necessary modifications.

On Jan. 10, 2017, EPA published the final Regional Haze Rule Amendments to update aspects of the reasonably available visibility impairment (RAVI) and regional haze programs, including all of the following:

- Strengthening the federal land manager consultation requirements.
- Extending the RAVI requirements so that all states must address situations where a single source or small number of sources is affecting visibility at a Class I area.
- Extending the SIP submittal deadline for the second planning period from July 31, 2018, to July 31, 2021, to allow states to consider planning for other federal programs like the Mercury and Air Toxics Standards, the 2010 one-hour SO_2 NAAQS, and the 2012 annual $PM_{2.5}$ NAAQS.
- Adjusting the interim progress report submission deadline so that second progress reports would be due by Jan. 31, 2025.
- Removing the requirement for progress reports to be SIP revisions.

In January 2018, EPA announced it would revisit the 2017 amendment to the Regional Haze Rule, though no formal action has been taken regarding the rule.

The second Regional Haze SIP is due to EPA in July 2021 and is currently scheduled to go before the commission in October 2020.

Major Incentive Programs

TCEQ implements several incentive programs aimed at reducing emissions, including the Texas Emissions Reduction Plan and the Texas Clean School Bus Program.

Texas Emissions Reduction Plan

The Texas Emissions Reduction Plan (TERP) program gives financial incentives to owners and operators of heavy-duty vehicles and equipment for projects that will lower nitrogen oxide (NO_X) emissions. Because NO_X is a leading contributor to the formation of ground-level ozone, reducing these emissions is key to achieving compliance with the federal ozone standard. Incentive programs under TERP also support the increased use of alternative fuels for transportation in Texas, including fueling infrastructure.

- The ***Diesel Emissions Reduction Incentive (DERI) Program*** has been the core incentive program since the TERP was established, in 2001. DERI incentives have focused largely on the ozone nonattainment areas of Dallas–Fort Worth and Houston-Galveston-Brazoria. Funding has also been awarded to projects in the Tyler-Longview-Marshall, San Antonio, Beaumont–Port Arthur, Austin, Corpus Christi, El Paso, and Victoria areas. (*Note:* Victoria was removed as an eligible area during the 86th Texas Legislature, Regular Session, 2019.) From 2001 through August 2020, the DERI program awarded over $1 billion for the upgrade or replacement of 19,955 heavy-duty vehicles, locomotives, marine vessels, and pieces of equipment. Over the life of these projects, over 183,434 tons of NO_X are projected to be reduced, which in 2020 equated to approximately 20 tons per day. TCEQ expects to award additional grants under the DERI program in fiscal 2021.
- The ***Texas Clean Fleet Program (TCFP)*** funds replacement of diesel vehicles with alternative-fuel or hybrid vehicles. From 2009 through August 2020, 32 grants funded 682 replacement vehicles for a total of over $61 million. These projects included a range of alternative-fuel vehicles, such as propane school buses, natural gas refuse trucks, hybrid delivery vehicles and refuse trucks, and electric vehicles. These projects are projected to reduce NO_X by over 666 tons over the life of the projects. TCEQ expects to award additional grants under the TCFP in fiscal 2021.
- The ***Alternative Fueling Facilities Program (AFFP)*** provides grants to ensure that alternative-fuel vehicles have access to fuel and to build the foundation for a self-sustaining market for alternative fuels in Texas. In 2017, the Clean Transportation Triangle program was incorporated

into the AFFP and the area of eligibility was designated the Clean Transportation Zone. From 2012 through August 2020, the AFFP and predecessor programs have provided over $22 million in grants to establish or upgrade 142 natural gas, electric, or other alternative fueling facilities, including 82 electric charging stations, 40 CNG stations, four stations providing CNG and LNG, one station providing CNG and electric charging, seven stations providing LPG, and eight biodiesel stations, four of which also provide electric charging. TCEQ expects to award additional grants under the AFFP in fiscal 2021.

- The ***Texas Natural Gas Vehicle Grants Program (TNGVGP)*** provides grants for the replacement or repower of heavy- or medium-duty diesel- or gasoline-powered vehicles with natural gas- or liquid petroleum gas-powered vehicles and engines. Eligible vehicles must be operated within the clean transport zone counties. From 2009 through August 2020, the program funded 145 grants to replace 1,210 vehicles for a total of over $56 million. These projects are projected to reduce over 1,695 tons of NO_X over the life of the projects. The TNGVGP is currently open and accepting applications through February 2021, or until all available funds have been awarded.
- The primary objective of the ***New Technology Implementation Grant (NTIG) Program*** is to offset the incremental cost of the implementation of existing technologies that reduce the emission of pollutants from facilities and other stationary sources that may also include energy-storage projects in Texas. From 2010 through August 2020, the program funded nine grants for a total of over $12 million. TCEQ expects to award additional grants under the NTIG in fiscal 2021.
- The ***Seaport and Rail Yard Areas Emissions Reduction (SPRY) Program*** was established by the Legislature in 2013 to fund the replacement of drayage trucks and cargo-handling equipment operating at seaports and railyards in Texas nonattainment areas with newer, less-polluting drayage trucks. From 2015 through August 2020, the program has funded 89 grants for the replacement of 261 trucks and pieces of cargo-handling equipment, for a total of over $19 million. It is estimated that these projects will reduce over 952 tons of NO_X in eligible Texas seaports and railyards over the life of the projects. The SPRY program is currently open and accepting applications until February 2021, or until all available funds have been awarded.
- The ***Light-Duty Motor Vehicle Purchase or Lease Incentive Program (LDPLIP)*** was established by the Legislature in 2013. The program provides up to $5,000 for the purchase of a light-duty vehicle operating on natural gas or propane, and up to $2,500 for the purchase of a plug-in hybrid, electric drive, or hydrogen powered vehicle. From 2014 through August 2020, the program has provided incentives for the purchase of 4,607 electric plug-in vehicles and 265 vehicles operating on compressed natural gas or propane, for a total of over $11 million. The program is currently open and accepting applications through January 2021, or until all available funds have been awarded.
- The ***Governmental Alternative Fuel Fleet (GAFF) Program*** was established by the Legislature in 2017 to help state agencies, political subdivisions, and transit or school transportation providers fund the replacement or upgrade of their vehicle fleets to alternative fuels, including natural gas, propane, hydrogen fuel cells, and electricity. The first grant round for the GAFF program will open in fiscal 2021.

TERP grants and activities are further detailed in a separate report, *TERP Biennial Report to the Texas Legislature* (TCEQ publication SFR-079/18).

Texas Clean School Bus Program

The Texas Clean School Bus Program (TCSBP) aims to reduce diesel exhaust emissions inside and around school buses throughout the state. From 2008 to August 2020, the TCSBP reimbursed over $30 million to retrofit 7,560 school buses in Texas. From September 2017 through August 2020, the TCSBP awarded over $14 million to replace 234 school buses across the state.

Texas Volkswagen Environmental Mitigation Program

In December 2017, Gov. Greg Abbott selected TCEQ as the lead agency responsible for the administration of funds received from the Volkswagen State Environmental Mitigation Trust. A minimum of $209 million dollars will be made available for projects that mitigate the additional NO_X emissions resulting from specific

vehicles using defective devices to pass emissions tests. From 2019 through August 2020, 164 grants funded 1,097 replacement vehicles for a total of over $73 million. These projects included a range of vehicles, such as school buses, transit buses, refuse trucks, local delivery vehicles, and port drayage vehicles. These projects are projected to reduce NO_X by over 1,051 tons over the life of the projects. TCEQ expects to award additional grants under the Texas Volkswagen Environmental Mitigation Program in fiscal 2021.

Drive a Clean Machine

The Drive a Clean Machine program (see www.driveacleanmachine.org) was established in 2007 as part of the Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program (LIRAP) to repair or remove older, higher-emitting vehicles. The Drive a Clean Machine (DACM) program is available to qualifying vehicle owners in 16 participating counties in the areas of HGB, DFW, and Austin–Round Rock. The counties in these areas conduct annual inspections of vehicle emissions. From the program's debut in December 2007 through August 2019, qualifying vehicle owners have received more than $236 million. This funding helped replace 69,965 vehicles and repair 47,122.

Following the governor's veto of the appropriations funding for LIRAP and the Local Initiative Projects program for fiscal biennium 2018–19, all 16 participating counties opted out and collection of the LIRAP fee has been terminated. Funding carried over from fiscal biennium 2016–17 appropriations continued to be used for the DACM program until Aug. 31, 2019.

Local Initiative Projects

The Local Initiative Projects (LIP) program was established in 2007 to provide funding to counties participating in LIRAP for implementation of air quality improvement strategies through local projects and initiatives. Projects are funded both by TCEQ from LIRAP appropriations and through a dollar-for-dollar match by the local government, although TCEQ may reduce the match for counties implementing programs to detect vehicle-emissions fraud (currently set at 25¢/dollar). Since the LIP program's debut in December 2007, more than $31 million has been appropriated to fund eligible projects in the participating counties. Recently funded projects include vehicle-emissions enforcement task forces, traffic-signal synchronization, and bus transit services.

Although all 16 counties participating in LIRAP have opted out, LIP funding carried over from fiscal biennium 2016–17 appropriations continued to be used for the LIP program until Aug. 31, 2019.

Environmental Research and Development

TCEQ supports scientific research to study air quality in Texas. The Air Quality Research Program (AQRP) funds projects that build on research from the previous biennium.

The AQRP and TCEQ sponsored a field campaign during May 2017 to study ozone in the San Antonio area. Ongoing analysis of atmospheric chemistry and meteorology measurements collected during this study will allow a better understanding of ozone in this area.

Other important air quality research carried out through the AQRP has included the following:

- Projects that examine the impact of wildfires and agricultural burning on air quality in Texas, including fires outside Texas and the United States.
- Improvements in the tools used to estimate biogenic volatile organic compound emissions in Texas.
- Emission inventory improvements for the Mexican energy sector and projections of emissions in future years.

In addition to research carried out through the AQRP, TCEQ used grants and contracts to support ongoing air quality research. Notable projects have included:

- Analyses of fire impacts on Texas air quality using different modeling and measurement methods, with an emphasis on identifying exceptional events that may affect air quality.

- Updating inventories for emissions from flash tanks, asphalt paving, ocean-going tanker-vessel lightering (i.e., transferring liquids from one tanker to another), aircraft, railyards, and fuel use from multiple sectors.
- Improving the boundary conditions used in ozone modeling in Texas by updating the chemistry and evaluating various configurations of the model.
- Measurements of biogenic VOC emissions and improvements of the tools used to estimate those emissions both inside Texas and throughout the ozone-modeling domain.
- Monitoring studies in El Paso to understand contributions to various pollutants from within and outside the United States.

The latest findings from these research projects help the state understand and appropriately address some of the challenging air quality issues faced by Texans. These challenges are increasing, in part due to changes in air quality standards, and addressing them will require continued research. This knowledge helps ensure that Texas adopts attainment strategies that are achievable, sound, and based on the most current information.

Water Quality

Developing Surface Water Quality Standards

Texas Surface Water Quality Standards

Under the federal Clean Water Act, every three years TCEQ is required to review and, if appropriate, revise the Texas Surface Water Quality Standards. These standards are the basis for establishing discharge limits in wastewater permits, setting instream water quality goals for total maximum daily loads, and establishing criteria to assess instream attainment of water quality.

Water quality standards are set for major streams and rivers, reservoirs, and estuaries based on their specific uses: aquatic life, recreation, drinking water, fish consumption, and general. The standards establish water quality criteria for temperature, pH, dissolved oxygen, salts, bacterial indicators for recreational suitability, and a number of toxic substances.

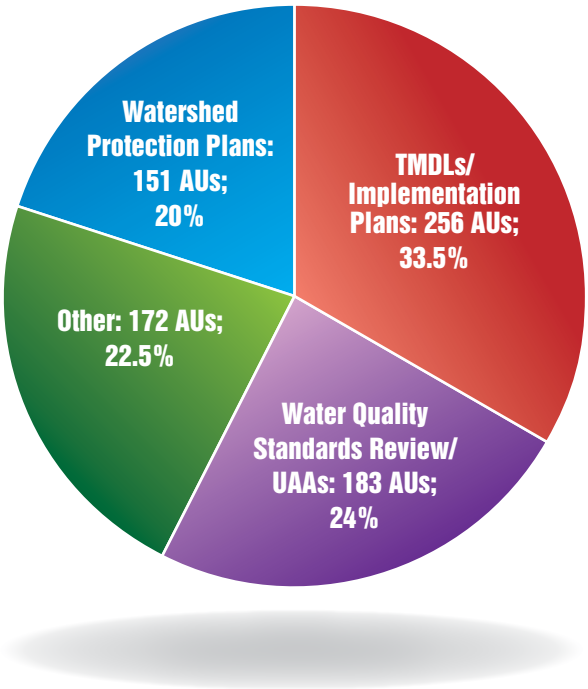
The commission revised its water quality standards in 2018. Major revisions included:

- A new single-sample criterion for coastal recreation waters as mandated by the BEACH Act.
- Revisions to toxicity criteria to incorporate new data on toxicity effects and local water quality characteristics that affect toxicity.
- Numerous revisions and additions to the uses and criteria of individual water bodies to incorporate new data and the results of recent use-attainability analyses.

The revised standards must be approved by EPA before being applied to activities related to the federal Clean Water Act. Although federal review of portions of the 2010, 2014, and 2018 standards has yet to be completed, TCEQ has proceeded with the 2021 triennial standards review. Initial preparations for the 2021 Texas Surface Water Quality Standards began in June 2019, and proposal to the commission is anticipated in 2021.

Figure 1. Management Strategies for Restoring Water Quality

An assessment unit (AU) is the smallest geographic area used when evaluating surface water quality.



Total AUs with an assigned restoration strategy: 762

TCEQ can address water impairments in a variety of ways. The selection of an appropriate restoration strategy is coordinated with stakeholders through the Watershed Action Planning (WAP) process. This figure is reflective of the 2014 Texas Integrated Report. Since the 2020 Texas Integrated Report was recently approved by EPA in May 2020, we are in the process of evaluating our strategies.

Source: WAP database and the 2014 Texas Integrated Report

A use-attainability analysis is a scientific assessment of the physical, chemical, biological, or recreational characteristics of a water body.

Use-Attainability Analyses

The Surface Water Quality Standards Program also coordinates and conducts use-attainability analyses to develop site-specific uses for aquatic life and recreation. The UAA assessment is often used to re-evaluate designated or presumed uses when the existing standards may need to be revised for a water body. As a result of aquatic-life UAAs, site-specific aquatic-life uses and dissolved-oxygen criteria were adopted in the 2018 revision of the standards for individual water bodies.

In 2009, TCEQ developed recreational UAA procedures to evaluate and more accurately assign levels of protection for water recreational activities such as swimming and fishing. Since then, the agency has initiated more than 131 UAAs to evaluate recreational uses of water bodies that have not attained their existing criteria. Using results from recreational UAAs, TCEQ adopted site-specific contact-recreation criteria for numerous individual water bodies in the 2018 Texas Surface Water Quality Standards revision.

Clean Rivers Program

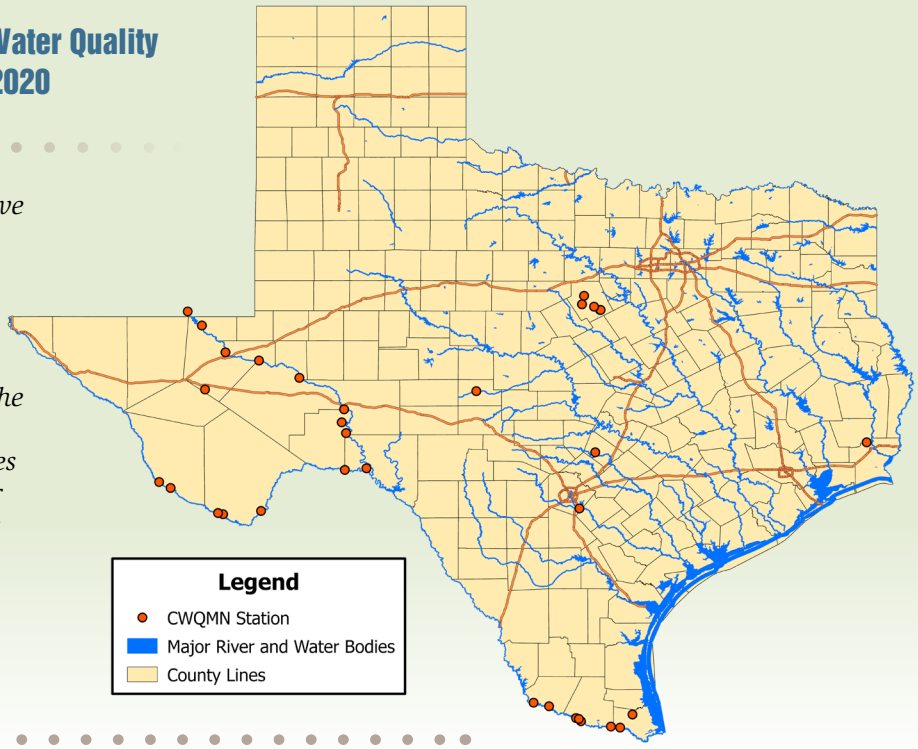
The Clean Rivers Program administers and implements a statewide framework set out in Texas Water Code, Section 26.0135. This state program works with 15 regional partners (river authorities and others) to collect water quality samples, derive quality-assured data, evaluate water quality issues, and provide a public forum for prioritizing water quality issues in each Texas river basin. This program provides 60–70% of the data available in the state's surface water quality database used for water-resource decisions, including revising water quality criteria, identifying the status of water quality, and supporting the development of projects to improve water quality.

Water Quality Monitoring

Surface water quality is monitored across the state in relation to human-health concerns, ecological conditions, and designated uses. The resulting data form a basis for policies that promote the protection and restoration of surface water in Texas. Special projects contribute water quality monitoring data and information on the

Figure 2. TCEQ Continuous Water Quality Monitoring Stations – July 2020

In July 2020, TCEQ had 33 active stations around the state as part of the Continuous Water Quality Monitoring Network. Instruments at these sites measure basic water quality conditions every 15 minutes. The data is used to make decisions about managing water resources and water quality. The number and locations of sites may vary from year to year.



condition of biological communities. This provides a basis for developing and refining criteria and metrics used to assess the condition of aquatic resources.

Coordinated Routine Monitoring

Each spring, TCEQ staff meets with various water quality organizations to coordinate monitoring efforts for the upcoming fiscal year. TCEQ prepares the guidance and reference materials, and the Texas Clean Rivers Program partners coordinate the local meetings. The available information is used by participants to select stations and parameters that will enhance the overall coverage of water quality monitoring, eliminate duplication of effort, and address basin priorities.

The coordinated monitoring network, which consists of about 1,800 active stations, is one of the most extensive in the country. Coordinating the monitoring among the various participants ensures that available resources are used as efficiently as possible.

Continuous Water Quality Monitoring

TCEQ has developed—and continues to refine—a network of continuous water quality monitoring sites on priority water bodies. The agency maintains 30 to 40 sites in its Continuous Water Quality Monitoring Network (CWQMN). At these sites, instruments measure basic water quality conditions every 15 minutes.

CWQMN monitoring data may be used by TCEQ or other organizations to make decisions about water-resource management to target field investigations, evaluate the effectiveness of water quality management programs such as TMDL implementation plans and watershed-protection plans, characterize existing conditions, develop and calibrate water quality models, define stream segment boundaries, and evaluate spatial and temporal trends. The data are posted at TCEQ's website.

The CWQMN data is used to guide decisions on how to better protect certain segments of rivers or lakes. For example, TCEQ developed a network of 15 CWQMN sites on the Rio Grande and the Pecos River, primarily to monitor levels of dissolved salts to protect the water supply in Amistad Reservoir. The Pecos River CWQMN stations also supply information on the effectiveness of the Pecos River Watershed Protection Plan. These stations are operated and maintained by the U.S. Geological Survey through cooperative agreements with TCEQ.

Assessing Surface Water Data

Every even-numbered year, TCEQ assesses water quality to determine which water bodies meet the surface water quality standards for their designated uses, such as contact recreation, support of aquatic life, or drinking-water supply. Data associated with 200 different water quality parameters are reviewed to conduct the assessment. These parameters include physical and chemical constituents, as well as measures of biological integrity.

The assessment is published on TCEQ's website and submitted as a draft to EPA as the Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d) (found at www.tceq.texas.gov/waterquality/assessment).

The Integrated Report evaluates conditions during the assessment period and identifies the status of the state's surface waters in relation to the Texas Surface Water Quality Standards. Waters that do not regularly attain one or more of the standards may require action by TCEQ and are placed on the 303(d) List of Impaired Water Bodies for Texas (part of the report). EPA must approve this list before its implementation by TCEQ's water quality management programs.

Because of its large number of river miles, Texas can monitor only a portion of its surface water bodies. The major river segments and those considered at highest risk for pollution are monitored and assessed regularly. The 2020 Integrated Report was approved by EPA in

May 2020. In developing the report, water quality data was evaluated from 2,639 sites on 1,644 water bodies. The draft 2022 Integrated Report is under development.

Restoring Water Quality

Watershed Action Planning

Water quality planning programs in Texas have responded to the challenges of maintaining and improving water quality by developing strategies to address water quality issues in the state. Watershed Action Planning (WAP) is a process for coordinating, documenting, and tracking the actions necessary to protect and improve the quality of the state's streams, lakes, and estuaries. The major objectives are:

- To fully engage stakeholders in determining the most appropriate action to protect or restore water quality.
- To improve access to state agencies' decisions about water quality management and increase the transparency of that decision-making.
- To improve the accountability of state agencies responsible for protecting and improving water quality.

Leading the WAP process are TCEQ, the Texas State Soil and Water Conservation Board (TSSWCB), and the Texas Clean Rivers Program partners. Involving stakeholders, especially at the watershed level, is key to the success of the WAP process.

Total Maximum Daily Load Program

The Total Maximum Daily Load (TMDL) Program is one of the agency's mechanisms for improving the quality of impaired surface waters. A TMDL is the total amount (or load) of a single pollutant that a receiving water body can assimilate within a 24-hour period and still maintain water quality standards. A rigorous scientific process is used to arrive at practicable targets for the pollutant reductions in TMDLs.

This program works with the agency's water quality programs, other governmental agencies, and watershed stakeholders during the development of TMDLs and related implementation plans.

Bacteria TMDLs

Bacteria from human and animal wastes can indicate the presence of disease-causing microorganisms that pose a threat to public health. People who swim or wade in waterways with high concentrations of bacteria have an increased risk of contracting gastrointestinal illnesses. High bacteria concentrations can also affect the safety of oyster harvesting and consumption.

Of the 1009 AUs listed in the 2020 Texas Integrated Report of Surface Water Quality, about one-third are for bacterial impairments to recreational water uses.

The TMDL Program has developed an effective strategy for developing TMDLs that protects recreational safety. The strategy relies on the engagement and consensus of the communities in the affected watersheds. Other actions are also taken to address bacteria impairments, such as recreational use–attainability analyses that ensure that the appropriate contact-recreation use is in place, as well as watershed-protection plans developed by stakeholders and primarily directed at nonpoint sources.

Implementation Plans

While a TMDL analysis is being completed, stakeholders are engaged in the development of an Implementation Plan (I-Plan), which identifies the steps necessary to improve water quality. These I-Plans outline three to five years of activities, indicating who will carry them out, when they will be done, and how improvement will be gauged. The time frames for completing I-Plans are affected by stakeholder resources and when stakeholders reach consensus. Each plan contains a commitment by the stakeholders to meet periodically to review progress. The plan is revised to maintain sustainability and to adjust to changing conditions.

Programmatic and Environmental Success

Since 1998, TCEQ has been developing TMDLs to improve the quality of impaired water bodies on the federal 303(d) List, which identifies surface waters that do not meet one or more quality standards. In all, the agency has adopted 286 TMDLs for 203 water bodies in the state.

Based on a comparison of the 2016 and the 2020 Integrated Reports, water quality standards were attained for five impaired AUs addressed by the TMDL Program.

From July 2018 to July 2020, the commission adopted TMDLs to address instances where bacteria had impaired the contact-recreation use. TMDLs were adopted for 13 AUs. A TMDL is developed for each AU: Sycamore Creek (one), Armand Bayou Tidal (one), Mary's Creek Bypass (one), Mound Creek (one), Oso Creek (one), Lavaca River above Tidal and Rocky Creek (two), Navasota River above Lake Limestone (two), Brushy Creek and Spring Branch (two), North

Fork Fish Creek (one), and Martinez Creek (one). During that time, the commission also approved three I-Plans—for the Lower San Antonio River, Lavaca River above Tidal and Rocky Creek, and the Navasota River above Lake Limestone. The Greater Trinity River Bacteria TMDL I-Plan is an example of successful community engagement to address bacteria impairments. Development of the I-Plan occurred through a stakeholder-driven process that included active public participation. Stakeholders engaged in the process represented a broad spectrum of authorities and interests including government, agriculture, business, conservation groups, and the public. The I-Plan identifies nine strategies for activities that address five TMDL projects. Seven AUs in the I-Plan are meeting their contact recreation uses in the 2020 Integrated Report.

Nonpoint Source Program

The Nonpoint Source (NPS) Program administers the provisions of Section 319 of the federal Clean Water Act. Section 319 authorizes grant funding for states to develop projects and implement NPS pollution management strategies to maintain and improve water quality conditions.

TCEQ, in coordination with TSSWCB, manages NPS grants to implement the long- and short-term goals identified in the Texas NPS Management Program. The NPS Program annual report documents progress in meeting these goals.

The NPS grant from EPA is split between TCEQ (to address urban and non-agricultural NPS pollution) and TSSWCB (to address agricultural and silvicultural NPS pollution). TCEQ receives $3 to $4 million annually. About 60% of overall project costs are federally reimbursable; the remaining 40% comes from state or local matching. In fiscal 2020, TCEQ received $3.8 million, which was matched with $2.6 million, for a total of $6.4 million.

TCEQ annually solicits applications to develop projects that contribute to the Texas NPS Management Program. Typically, 20 to 30 applications are received, reviewed, and scored each year. Because the number of projects funded depends on the amount of each contract, the number of contracts awarded fluctuates. Thirteen projects were selected in fiscal 2019, and 12 in fiscal 2020. Half of the federal funds awarded must be used to implement watershed-based plans, comprising activities that include public outreach and education, low-impact development, the construction and implementation of best management practices, and the inspection and replacement of on-site septic systems.

The NPS Program also administers provisions of Section 604(b) of the federal Clean Water Act. These funds are derived from State Revolving Fund appropriations under Title VI of the act. Using a legislatively mandated formula, money is passed through to councils of governments for water quality planning. The program received $741,000 in funding from EPA in fiscal 2019 and $734,000 in fiscal 2020.

Bay and Estuary Programs

The estuary programs are non-regulatory, community-based programs focused on conserving the sustainable

use of bays and estuaries in the Houston-Galveston and Coastal Bend bays regions through implementation of locally developed comprehensive conservation management plans. Plans for Galveston Bay and the Coastal Bend bays were established in the 1990s and recently updated by a broad-based group of stakeholders and bay user groups. These plans strive to balance the economic and human needs of the regions.

The plans are implemented by two different organizations: the Galveston Bay Estuary Program (GBEP), which is a program of TCEQ, and the Coastal Bend Bays and Estuaries Program (CBBEP), which is a nonprofit authority established for that purpose. TCEQ partially funds the CBBEP.

Additional coastal activities at TCEQ include:

- Participating in the Gulf of Mexico Alliance, a partnership linking Alabama, Florida, Louisiana, Mississippi, and Texas. TCEQ contributes staff time to implement the Governors' Action Plan, focusing on water resources and improved coordination among the states.
- Serving on the Coastal Coordination Advisory Committee and participating in the implementation of the state's Coastal Management Program to improve the management of coastal natural resource areas and to ensure long-term ecological and economic productivity of the coast.
- Working with the General Land Office to gain full approval of the Coastal Nonpoint Source Program, which is required under the Coastal Zone Act Reauthorization Amendments.

Galveston Bay Estuary Program

GBEP provides ecosystem-based management that strives to balance economic and human needs with available natural resources in Galveston Bay and its watershed. Toward this goal, the program fosters cross-jurisdictional coordination among federal, state, and local agencies and groups, and cultivates diverse public-private partnerships to implement projects and build public stewardship.

GBEP priorities include:

- coastal habitat conservation
- public awareness and stewardship
- water conservation
- nonpoint and point source abatement
- monitoring and research

During fiscal 2019 and 2020, GBEP worked to preserve wetlands and important coastal habitats

that will protect the long-term health and productivity of Galveston Bay. To inform resource managers, the program conducted ecosystem-based monitoring and research, and worked with partners to fill data gaps. GBEP collaborated with local stakeholders to create watershed-protection plans and to implement water quality projects. Its staff completed the Galveston Bay Plan through a collaborative stakeholder process; the plan was approved by EPA in fiscal 2020. The *State of the Bay* report, which summarizes monitoring data, research findings, and management action along with historical resource uses, began to be updated to transition it into a web-based format.

In fiscal 2019 and 2020, 682.27 acres of coastal wetlands and other important habitats were protected, restored, and enhanced. An additional 4,642 acres will be placed under conservation by the end of calendar 2020. Since 2000, GBEP and its partners have protected, restored, and enhanced a total of 33,408 acres of important coastal habitats.

Through collaborative partnerships established by the program, approximately $15.49 in private, local, and federal contributions was leveraged for every $1 the state dedicated to the program in fiscal 2019 and 2020.

Coastal Bend Bays and Estuaries Program

During fiscal 2019 and 2020, CBBEP implemented 56 projects, including habitat restoration and protection, outreach and educational programs, and studies that promote bay and estuary watershed planning. Based in the Corpus Christi area, CBBEP is a voluntary partnership that works with industry, environmental groups, bay users, local governments, and resource managers to improve the health of the bay system. In addition

to receiving program funds from local governments, private industry, TCEQ, and EPA, CBBEP seeks funding from private grants and other governmental agencies. In the last two years, CBBEP secured $6,705,581 in additional funds to leverage TCEQ funding.

CBBEP priority issues focus on human uses of natural resources, freshwater inflows, maritime commerce, habitat loss, water and sediment quality, and education and outreach. One of CBBEP's goals under their comprehensive conservation and management plan is to address 303(d)-listed segments so that they meet state water quality standards.

Other areas of focus:

- Conserving and protecting wetlands and wildlife habitat through partnerships with private landowners.
- Restoring the Nueces River Delta for the benefit of fisheries, wildlife habitat, and freshwater conservation.
- Environmental education and awareness for more than 8,000 students and teachers annually at the CBBEP Nueces Delta Preserve by delivering educational experiences and learning through discovery, as well as scientific activities.
- Enhancement of colonial-waterbird rookery islands by implementing predator control, habitat management, and other actions to help stem the drop in populations of nesting coastal birds in the Coastal Bend and the Lower Laguna Madre.
- Supporting the efforts of the San Antonio Bay Partnership to better characterize the San Antonio Bay system and to develop and implement management plans that protect and restore wetlands and wildlife habitats.

Drinking Water

Of the approximate 7,000 public water systems (PWSs) in Texas, about 4,660 are community systems, mostly operated by cities. These systems serve about 97% of Texans. The rest are non-community systems—such as those at schools, churches, factories, businesses, and state parks.

TCEQ makes data tools available online so that the public can find information on the quality of locally produced drinking water. The Texas Drinking Water Watch at www.tceq.texas.gov/goto/dww provides analytical results from the compliance sampling of PWSs. In addition, the Source Water Assessment Viewer at www.tceq.texas.gov/gis/swaview shows the location of the sources of drinking water. The Viewer also allows the public to see any potential sources of contamination, such as an underground storage tank.

All PWSs are required to monitor the levels of contaminants present in treated water and to verify that each contaminant does not exceed its maximum contaminant level, action level, or maximum residual disinfection level—the highest level at which a contaminant is considered acceptable in drinking water for the protection of public health.

In all, EPA has set standards for 102 contaminants in the major categories of microorganisms, disinfection by-products, disinfectants, organic and inorganic chemicals, and radionuclides. TCEQ evaluates approximately 165,000 analytical results each month to determine compliance with these standards. The most significant microorganism is coliform bacteria, particularly *E. Coli*. The most common chemicals of concern in Texas are disinfection by-products, arsenic, fluoride, and nitrate.

More than 58,000 water samples are collected by TCEQ each year just for chemical compliance. Most of the chemical samples are collected by TCEQ contractors and then submitted to an accredited laboratory for analysis. The analytical results are sent to TCEQ and the PWSs.

Each year, TCEQ holds a free symposium on public drinking water, which typically draws about 1,000 participants. The agency also provides technical assistance to PWSs to ensure that consumer confidence reports are developed correctly and include all required information.

Any PWS that fails to have its water tested or reports test results incorrectly faces a monitoring or reporting violation. When a PWS has significant or repeated violations of state regulations, the case is referred to TCEQ's enforcement program.

EPA developed the Enforcement Response Policy and the Enforcement Targeting Tool for enforcement targeting under the Safe Drinking Water Act. TCEQ uses this tool

Table 4. Violations of Drinking-Water Regulations

	Fiscal 2019	Fiscal 2020
Enforcement Orders	346	444
Assessed Penalties	$420,900	$548,105
Offsets by SEPs	$27,620	$14,785

Note: The numbers of public-water-supply orders reflect enforcement actions from all sources in the agency.

to identify PWSs with the most serious health-based or repeated violations and those that show a history of violations of multiple rules. This strategy brings the systems with the most significant violations to the top of the list for enforcement action, with the goal of returning those systems to compliance as quickly as possible.

More than 99% of the state's population is served by a PWS producing water that meets or exceeds the National Primary Drinking Water Standards.

Review of Engineering Plans and Specifications

PWSs are required to submit engineering plans and specifications for new water systems or for improvements to existing systems. The plans must be reviewed by TCEQ before construction can begin. In fiscal 2019, TCEQ completed compliance review of 2,327 engineering plans for PWSs; in fiscal 2020, 2,352.

The agency reviews creation applications for general-law water districts and bond applications for water districts to fund water, sewer, and drainage projects. In fiscal 2019, the agency reviewed 563 water-district applications; in fiscal 2020, 557.

Assistance

TCEQ strives to ensure that all water and wastewater systems have the capability to operate successfully. TCEQ contracts with the Texas Rural Water Association to assist utilities with financial, managerial, and technical expertise. About 1,060 assignments were made through this contract in fiscal 2019, and 992 assignments in fiscal 2020.

Wastewater Permitting

The Texas Pollutant Discharge Elimination System was created in 1998, when EPA transferred the authority of the National Pollutant Discharge Elimination System for water quality permits in the state to Texas. The TPDES program issues municipal, industrial, and stormwater permits.

Industrial and Municipal Individual Permits

Industrial wastewater permits are issued for the discharge of wastewater generated from industrial activities. In fiscal 2019, TCEQ issued 189 industrial wastewater permits; in fiscal 2020, 179. Municipal wastewater permits are issued for the discharge of wastewater generated from municipal and domestic activities. In fiscal 2019, TCEQ issued 593 municipal wastewater permits; in fiscal 2020, 560.

Stormwater Permits

Authorization for stormwater discharges are primarily obtained through one of three types of general permits: industrial, construction, and municipal. TCEQ receives thousands of applications a year for coverage. To handle the growing workload, the agency has introduced online applications for some of these permitting and reporting functions.

Industry

The multi-sector general permit regulates stormwater discharges from industrial facilities. Facilities authorized under this general permit must develop and implement a stormwater pollution prevention plan, conduct regular monitoring, and use best management practices to reduce the discharge of pollutants in stormwater. On average per month, TCEQ receives 50 notices of intent, 23 no-exposure certifications, and 35 notices of termination for industrial facilities.

Construction

The construction general permit regulates stormwater runoff associated with construction activities, which include clearing, grading, or excavating land at building projects. Construction disturbing five or more acres is labeled a "large" activity, while construction disturbing one acre or more but less than five acres is termed "small." TCEQ currently receives about 658 notices of intent and 366 notices of termination a month for large construction activities.

Table 5. Stormwater General Permits

	Applications Affected (issued)		Applications Received (monthly average)		Applications Received (total)	
	Fiscal 2019	Fiscal 2020	Fiscal 2019	Fiscal 2020	Fiscal 2019	Fiscal 2020
Industrial (facilities)[a]	1,336	876	111	73	1,330	876
Construction (large sites)	8,625	7,893	712	658	8,540	7,895
MS4s (public entities)	13	5	4	1	526	15

a. Includes No-Exposure Certifications.

Municipal

TCEQ also regulates discharges from municipal separate storm-sewer systems (MS4s). This category applies to a municipality's system of ditches, curbs, gutters, and storm sewers that collect runoff, including controls for drainage from state roadways. TCEQ has 23 active individual MS4 Phase I permits and 583 active MS4s Phase II authorized under a general permit. MS4s must develop and implement a stormwater management plan.

Water Availability

Managing Surface Water Rights

TCEQ is charged with managing state surface water in Texas. The agency implements its authority through permitting and enforcement of surface water rights. The use of water for domestic or livestock purposes is considered a superior water right that does not require a permit. TCEQ is responsible for protecting senior and superior water rights, as well as for ensuring that water right holders divert state water only in accordance with their permits.

Texas water law specifies that in times of shortage, permitted water rights will be administered based on the priority date of each water right, also known as the prior appropriation doctrine—that is, the earliest in time is senior. Additionally, exempt domestic and livestock uses are superior to permitted rights. Among permitted water right holders, the permit holders that received their authorization first (senior water rights) are entitled to take their water before water right holders that received their authorization on a later date (junior water rights). Additionally, exempt domestic and livestock uses are superior to permitted rights. Senior or superior water right holders not able to take their authorized water can call on TCEQ to enforce the priority doctrine (a priority call).

Under the *TCEQ v. Texas Farm Bureau* decision, if suspension is necessary to satisfy a priority call by a senior or superior water right holder, TCEQ will not be able to exempt any junior water rights. This includes exemptions based on public health, safety, or welfare concerns for junior water rights used for municipal purposes or power generation.

Managing Water Availability During Drought

TCEQ is engaged to respond to extreme drought. The agency's focus on drought response and its activities include monitoring conditions across the state, expedited processing of drought-related water rights applications, priority call response, and participating in multi-disciplinary task force meetings. TCEQ also communicates information about drought to state leaders, legislative officials, county judges, county extension agents, holders of water right permits, and the media.

Drinking Water Systems

The TCEQ Public Drinking Water Program is responsible for ensuring that the citizens of Texas receive a safe and adequate supply of drinking water. TCEQ carries out this responsibility by implementing the Safe Drinking Water Act. All public water systems are required to register with TCEQ, provide documentation to show that they meet state and federal requirements, and evaluate the quality of the drinking water.

Exploring New Supplies through Alternative Treatment

The population of Texas is expected to reach almost 46 million by the year 2060. Planning well in advance is critical to sustaining Texas' increasing water needs in a state that experiences prolonged droughts, floods, and other challenges. Recognizing this, more and more public water systems are beginning to propose the use of less-conventional sources of water that often require complex innovative treatment. TCEQ's engineers and scientists use their expertise to help guide public water systems through the process of selecting appropriate innovative treatment technologies, and to ultimately grant approvals for those technologies while ensuring that the treated water is safe for human consumption. Some examples of challenging water sources that require innovative treatment technologies are groundwater with elevated levels of nitrates, radionuclides, or other contaminants; saline or brackish groundwater; seawater; and effluent from municipal wastewater treatment plants reclaimed for direct potable reuse.

Disaster Preparedness

TCEQ encourages public water systems to take an all-hazards approach in preparing their water system for any disaster and to become more resilient prior to and following a disaster. TCEQ's public website addresses natural-disaster preparedness, drought contingency plan reporting, drinking water flood information, homeland security FAQs for public water systems, information on regulatory guidance, and mutual-aid assistance through the Texas Water/Wastewater Agency Response Network (TXWARN). In addition, TCEQ's Water Security Contract

provides educational workshops and seminars to public water systems across the state covering topics such as risk assessments, emergency response planning, hazard mitigation funding, disaster relief funding, drought workshops and emergency management resources. TCEQ's educational and disaster preparedness resources assist public water systems in providing a safe, adequate and continuous supply of drinking water to their customers before, during and after a disaster.

In addition to the education and preparedness resources, public drinking water drought-response activities are coordinated through TCEQ's Drought Team. The team issues updates on the status of drought conditions and continues to monitor a targeted list of PWSs that have a limited supply of water. In addition, the multi-agency Emergency Drinking Water Task Force, which was formed to respond to drought emergencies at public water systems, currently meets quarterly to discuss the systems being tracked and opportunities for outreach, funding, and assistance.

Water Rights Permitting

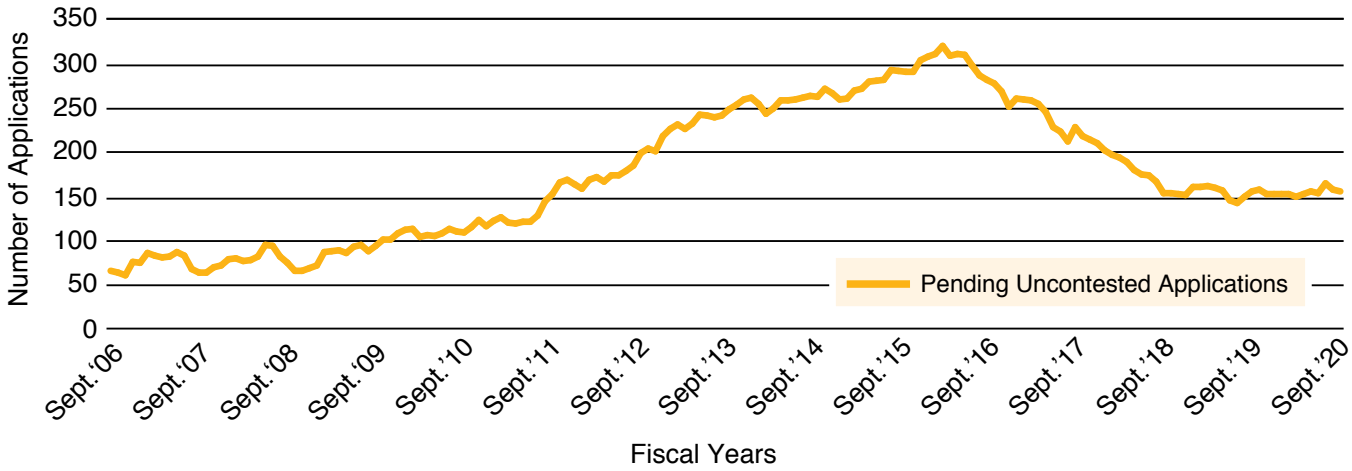
Water flowing in Texas creeks, rivers, lakes, and bays is state water. The right to use state water may be acquired through appropriation via permitting as established in state law. An authorization (permit or certificate of adjudication) is required to divert, use, or store state water or to use the bed and banks of a watercourse to convey water. However, there are several specific uses of state water that are exempt from the requirement to obtain a water right permit, such as domestic and livestock (D&L) purposes. For any new appropriation of state surface water, the Texas Water Code requires TCEQ to determine whether water is available in the source of supply. Once obtained, a surface water authorization is perpetual, with the exception of some temporary and term authorizations.

TCEQ reviews permit applications for new appropriations of state water for administrative and technical requirements related to conservation, water availability, and the environment. In addition to new appropriation requests, the agency also reviews amendment applications and other applications including bed-and-bank authorizations, reuse, and temporary water rights. In fiscal 2019 and 2020, the agency processed 217 water rights actions, including new permits, amendments, water-supply contracts, and transfers of ownership.

Major changes to state water policy (for example, developing environmental flow standards), drought, complex applications, and other projects can shift TCEQ water rights permitting staff from permitting activities. Beginning in 2007, several of these factors affected water rights processing. The result was an increase in pending permit applications, 355 by early 2016. That number has since been reduced to 168 as of September 2020. Figure 3 shows the number of water right permit applications pending with TCEQ from November 2014 to August 2020. This graph shows TCEQ's recalibration efforts.

TCEQ continues to strongly encourage pre-application meetings to assist applicants in developing more complete applications, limiting time extensions granted to applicants to respond to requests for information, and implementing return policies when an applicant is unresponsive. Additionally, LEAN management tools and practices

Figure 3.
Pending Uncontested Water Rights Applications, September 2006–September 2020



have been applied to the water rights permitting process to streamline the process and assist with identifying and solving process problems. LEAN management incorporates continuous improvement into the management process. In addition, TCEQ has engaged in outreach efforts to help water right holders remain in compliance with statutory requirements for reporting water use. Whenever possible, TCEQ has reached out to water rights stakeholders and has increased its presence and availability at water conferences and other events.

Fast Track Permitting

Not all water right applications require the same level of technical review. In July 2016, the Water Rights Permitting program began a "Fast Track" pilot program designed to provide for more streamlined processing for less complex water right applications. This program was largely successful, with 337 Fast Track applications processed between July 2016 and August 2020, at a median processing time of 280 days.

In 2020, TCEQ reviewed and revised the program based on its successes and challenges over the four-year pilot program. The Fast Track program now streamlines Fast Track application processing through a modified LEAN prioritization system. Additionally, application types that did not fit the program were removed, while other types were added. TCEQ will continue to evaluate the Fast Track program to ensure focus on the overall goal of providing streamlined permit processing for less complex applications while adapting to changes in the water rights permitting program.

Texas Water Rights Viewer

In September 2019, TCEQ launched the Texas Water Rights Viewer. The Viewer is a GIS-based tool that houses water rights information. The Viewer makes a wide range of information easily available to the public in a spatial format. The water rights permit data available includes copies of water right permits, water right ownership data, and water-use data. Prior to the Viewer, obtaining much of this data required an in-person search of TCEQ records or a Public Information Request.

Changes of Ownership and Water Use Reports

TCEQ processes ownership changes in support of water rights permitting statewide. Current ownership information ensures that proper notice information is received by water rights permit holders. Additionally, current owner information is critical to ensure that information is conveyed to the appropriate permit holder to achieve the desired effect of actions taken to meet a priority call during drought.

TCEQ also requires the completion of Water Use Reports to support modeling efforts and enforcement of water rights. Water Use Reports are sent to water rights permit holders outside of watermaster areas on Jan. 1 of each year and are due back to TCEQ on March 1. The return rate for these reports was 72% for the 2019 water year, but this actually represents approximately 95% of the permitted water in the state.

Water Conservation and Drought Contingency Plans

Under Texas Water Code, Chapter 11, and Title 30 Texas Administrative Code, Chapter 288, certain water right holders and other entities are required to develop, implement, and submit updated Water Conservation Plans (WCPs) (including Water Conservation Implementation Reports) and Drought Contingency Plans (DCPs) to TCEQ every five years. The most recent deadline to submit updated WCPs and DCPs to TCEQ was May 1, 2019. As of September 1, 2020, TCEQ has completed the review of 90% (1,162 of 1,288) of the required plans.

Changes in Water Rights Permitting

In 2019, the 86th Texas Legislature passed two bills relating to surface water rights that required changes to TCEQ's rules. House Bill (HB) 1964 streamlined the water rights permitting process for simple amendments to a water right that do not affect other water rights or the environment. HB 720 removed permitting barriers for water right applications for new appropriation and amendments that include (1) storage in an aquifer storage and recovery (ASR) project for later recovery for the ultimate authorized beneficial use under an appropriation and (2) aquifer recharge (AR) projects. TCEQ implemented the requirements of these bills in a single rulemaking adopted in May 2020.

In April 2019, TCEQ adopted rules to complete implementation of HB 2031 from the 84th Legislature by designating discharge and diversion zones based on a Marine Seawater Desalination Diversion and Discharge Zone Study completed by the Texas Parks and Wildlife Department and the General Land Office. In April 2019, in response to a petition for rulemaking, TCEQ also adopted rules to provide an exception from notice requirements for applications to extend the time to commence or complete construction of a reservoir designed for storage of more than 50,000 acre-feet of water.

Environmental Flows

In 2007, the Legislature passed two landmark measures relating to the development, management, and preservation of water resources, including the protection of instream flows and freshwater inflows. The measures changed how the state determines the flow that needs to be preserved in the watercourse for the environment, requiring the consideration of both environmental and other public interests.

TCEQ adopted rules for environmental flow standards for Texas' rivers and bays through three rulemakings. The third rulemaking for the environmental flow standards was completed in February 2014. TCEQ's ongoing goal is to protect the flow standards—along with the interests of senior water-rights holders—in the agency's water rights permitting process for new appropriations and amendments that increase the amount of water to be taken, stored, or diverted.

Evaluations of River Basins without a Watermaster

Under Section 11.326 of the Texas Water Code, TCEQ is required every five years to evaluate river basins that do not have a watermaster program to determine whether a watermaster should be appointed. Agency personnel are directed to report their findings and make recommendations to the commission.

In 2011, TCEQ developed a schedule for conducting these evaluations, as well as criteria for developing recommendations. TCEQ has completed one five-year cycle of evaluations. The agency is currently in the second five-year cycle. In 2019, TCEQ evaluated the Sabine and Neches River basins. In 2020, TCEQ evaluated the Canadian and Red River basins.

The commission did not create a watermaster program on its own motion at the conclusion of any evaluation year. In the first five-year cycle, TCEQ expended approximately $570,000 total in staff time, travel costs, and other administrative costs to conduct evaluations. In the first and second years of the second five-year cycle, the agency expended approximately $198,000.

For more information, see Appendix D, "Evaluation of Water Basins in Texas without a Watermaster."

Texas Interstate River Compacts

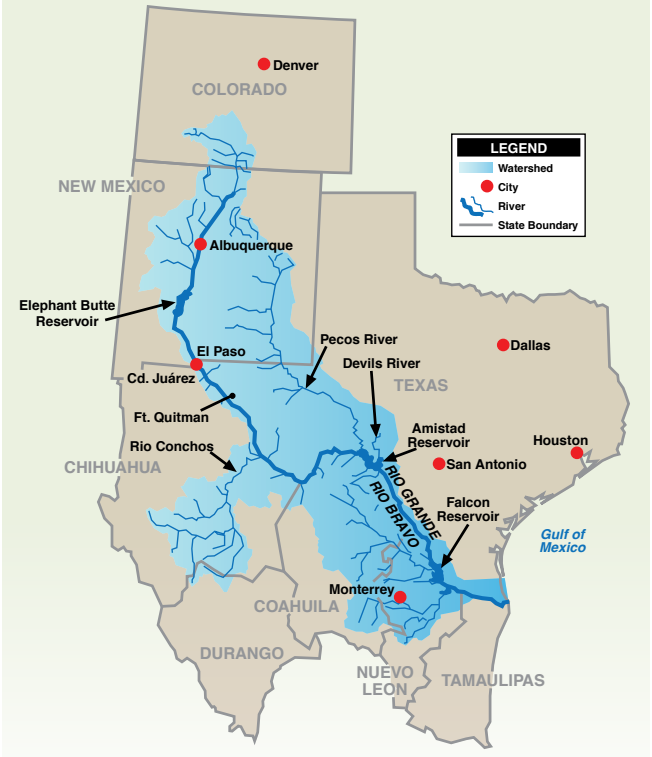
Texas is a party to five interstate river compacts. These compacts apportion the waters of the Canadian, Pecos, Red, and Sabine rivers and the Rio Grande between the appropriate states. Interstate compacts form a legal foundation for the equitable division of the water of an interstate stream with the intent of settling each state's claim to the water.

Rio Grande Compact

The Rio Grande Compact, ratified in 1939, divided the waters of the Rio Grande among the signatory states of Colorado, New Mexico, and Texas from its source in Colorado to Fort Quitman, Texas. The compact did not contain specific wording regarding the apportionment of water in and below Elephant Butte Reservoir. However, the compact was drafted and signed against the backdrop of the 1915 Rio Grande Project and a 1938 U.S. Bureau of Reclamation contract that referred to a division of 57% to New Mexico and 43% to Texas. The compact contains references and terms to ensure sufficient water to the Rio Grande Project.

The project serves the Las Cruces and El Paso areas and includes Elephant Butte Reservoir, along with canals and diversion works in New Mexico and Texas. The project water was to be allocated according

Figure 4.
Rio Grande Watershed



to the 57:43% division, based on the relative amounts of project acreage originally identified in each state. Two districts receive project water: Elephant Butte Irrigation District (EBID), in New Mexico, and El Paso County Water Improvement District No. 1 (EP#1), in Texas. The latter supplies the city of El Paso with about half of its water.

In 2008, after 20 years of negotiations, the two districts and the Bureau of Reclamation completed an operating agreement for the Rio Grande Project. The agreement acknowledged the 57:43% division of water and established a means of accounting for the allocation. The agreement was a compromise to resolve major issues regarding the impact of large amounts of groundwater development and pumping in New Mexico that affected water deliveries to Texas.

But significant compliance issues continue regarding New Mexico's water use associated with the Rio Grande Compact. In 2011, New Mexico took action in federal district court to invalidate the 2008 operating agreement. In response to the lawsuit and in coordination with the Legislative Budget Board and the Attorney General's Office, the Rio Grande Compact Commission of Texas hired outside counsel and technical experts with specialized experience in interstate water litigation to protect Texas' share of water.

In January 2013, Texas filed litigation with the U.S. Supreme Court. A year later, the Supreme Court granted Texas' motion and accepted the case. Subsequently, the United States filed a motion to intervene as a plaintiff on Texas' side, which was granted.

As Texas develops information to support its position, evidence grows that New Mexico's actions have significantly affected, and will continue to affect, water deliveries to Texas. On Nov. 3, 2014, the Supreme Court appointed a special master in this case with authority

to fix the time and conditions for the filings of additional pleadings, to direct subsequent proceedings, to summon witnesses, to issue subpoenas, and to take such evidence as may be introduced. The special master was also directed to submit reports to the Supreme Court as he may deem appropriate.

A "special master" is appointed by the Supreme Court to carry out actions on its behalf such as the taking of evidence and making rulings. The Supreme Court can then assess the special master's ruling much as a normal appeals court would, rather than conduct the trial itself. This is necessary as trials in the United States almost always involve live testimony and it would be too unwieldy for nine justices to rule on evidentiary objections in real time.

Motions to Intervene filed by EP#1 and EBID were referred to the special master. Following a hearing on the motions conducted Aug. 19–20, 2016, the special master filed his First Interim Report with the Supreme Court on Feb. 13, 2017. He recommended denying the motions to intervene filed by EP#1 and EBID as well as New Mexico's motion to dismiss. The First Interim Report was also very favorable to Texas' position.

On Oct. 10, 2017, the Supreme Court ruled to dismiss New Mexico's motion to dismiss Texas' complaint. The court also denied the motions by EBID and EP#1 to intervene. Various motions to file amicus curiae briefs were granted. (Amicus curiae: literally "friend of the court"—persons that are not party to the case that are allowed to present points of law or information to the court.) The exception of the United States and the first exception of Colorado to the First Interim Report of the Special Master were heard during oral arguments by the Supreme Court on Jan. 8, 2018. On March 5, 2018, the court ruled that the United States may pursue the compact claims it has pleaded in the litigation and all other exceptions were denied.

A new special master, Judge Michael Melloy, was appointed by the Supreme Court on April 2, 2018. New Mexico filed a response to Texas' complaint on May 22, 2018, denying the allegations and filed counterclaims against Texas and the United States. Texas submitted a response on July 20, 2018, to counterclaims filed by New Mexico. Texas generally denied all the counterclaims and requested they be dismissed. An Amendment to the Case Management Order was issued by the Special Master on Jan. 31, 2019. Additionally, the Special Master dismissed most of New Mexico's counterclaims on March 31, 2020.

Due to the COVID-19 emergency, deposition discovery was originally stayed until April 2020. The Special Master then extended discovery through August 2020. All other discovery, including the submission and responses to interrogatories and exchanges of documents, is continuing. The Special Master has scheduled bi-weekly status videoconferences.

The trial is currently scheduled for late 2021, but this may change, depending on Special Master rulings that are taken up to the Supreme Court for review. A mediator has been appointed to try to settle the issues.

International Treaties

Two international treaties have a major impact on water supplies available to Texas. The 1906 convention between the United States and Mexico apportions the waters of the Rio Grande Basin above Fort Quitman, Texas, while the 1944 treaty between the United States and Mexico apportions the waters of the basin below Fort Quitman.

Mexico continues to under-deliver water to the United States under the 1944 treaty. Mexico does not treat the United States as a water user and only relies on significant rainfalls to make deliveries of water. This stands in contrast to the manner in which the United States treats Mexico with regard to the Colorado River. In fact, the United States has always supplied Mexico its annual allocation from the Colorado River. The Colorado River and the Rio Grande are both covered by the same 1944 treaty. Efforts continue through the Texas congressional delegation to address this problem.

Mexico's failure to deliver 1944 treaty water and overall water-management strategies have negative impacts on Texas, especially in the Lower Rio Grande Valley below Falcon Dam. Mexican drains of irrigation tailwater—including the Morillo Drain, which continues to function below the capacity specified by the minutes of the 1944 treaty—negatively affect salinity levels in the Rio Grande below Falcon Dam. Salinity levels above 1,000 mg/L compromise crops and municipal water systems. The Rio Grande Watermaster monitors salinity levels and provides notifications to stakeholders when salinity in the Rio Grande below Falcon Dam is elevated.

A related issue concerns the accounting of waters in the Rio Grande at Fort Quitman. While the 1906 convention clearly granted to the United States 100% of all waters between El Paso and Fort Quitman, the International Boundary and Water Commission has allocated the waters equally between the United States and Mexico.

Groundwater

TCEQ is responsible for delineating and designating priority groundwater management areas (PGMAs) and creating groundwater conservation districts in response to landowner petitions or through the PGMA process.

In 2021, TCEQ and the Texas Water Development Board will submit a joint legislative report that details activities in fiscal biennium 2019–20 relating to PGMAs and the creation and operation of groundwater conservation districts.

Groundwater conservation districts (GCDs), each governed by a locally selected board of directors, are the state's preferred method of groundwater management. Under the Texas Water Code, GCDs are authorized and required to issue permits for water wells, develop a management plan, and adopt rules to implement the plan. The plan and the "desired future conditions" for a groundwater management area must be readopted and approved at least once every five years. TCEQ actively monitors and ensures GCD compliance to meet requirements for adoption and re-adoption of management plans.

TCEQ also has responsibility for supporting the activities of the interagency Texas Groundwater Protection Committee (TGPC). Texas Water Code, Sections 26.401–26.408, enacted by the 71st Texas Legislature (1989), established non-degradation of the state's groundwater resources as the goal for all state programs. The same legislation created the TGPC to bridge gaps between existing state groundwater programs and to optimize groundwater quality protection by improving coordination among agencies involved in groundwater activities.

Three of the TGPC's principal mandated activities are:

- Developing and updating a comprehensive groundwater protection strategy for the state.
- Publishing an annual report on groundwater monitoring activities and cases of documented groundwater contamination associated with activities regulated by state agencies.
- Preparing and publishing a biennial report to the legislature describing these activities, identifying gaps in programs, and recommending actions to address those gaps.

Waste Management

Disposal of Low-Level Radioactive Waste

In 2009, TCEQ issued a license to Waste Control Specialists LLC (WCS) authorizing the operation of a facility for disposal of low-level radioactive waste (LLRW) in Andrews County, Texas.

The Texas Low-Level Radioactive Waste Disposal Compact is an interstate compact between Texas and Vermont. LLRW generated in the Texas Compact may be disposed of in the Compact Waste Facility (CWF). The CWF can also accept non-compact wastes provided that the importation is approved by the Texas Low-Level Radioactive Waste Disposal Compact Commission. A separate, adjacent facility, the Federal Waste Facility (FWF), authorized by the same license as the CWF, may accept LLRW and mixed waste (waste that contains both a hazardous and a radioactive constituent) from federal facilities. Upon eventual closure of the FWF, the facility will be owned by the U.S. Department of Energy (DOE).

After TCEQ authorized commencement of operations at the CWF portion of the site, the facility received its first waste shipment in April 2012. TCEQ then authorized operations to begin at the FWF portion of the site, and the facility received its first waste shipment in June 2013. Since operations began at both sites, more than 550,000 cubic feet of waste have been safely disposed of, and over $56 million in disposal and processing fees have been collected as revenue for the state through the third quarter of fiscal 2020.

LLRW is produced predominantly by nuclear utilities, academic and medical research institutions, hospitals, industry, and the military. It typically consists of radioactively contaminated trash, such as:

- paper
- rags
- plastic
- glassware
- syringes
- protective clothing (gloves, coveralls)
- cardboard
- packaging material
- organic material
- used, sealed radioactive sources

Nuclear power plants contribute the largest portion of LLRW in the form of spent ion-exchange resins and filters, contaminated tools and clothing, and irradiated metals and other hardware. LLRW does not include high-level waste and spent nuclear fuel.

By law, TCEQ is responsible for setting rates for the disposal of LLRW at the compact facility. In November 2013, TCEQ adopted a final disposal rate by rule and published the notice in the *Texas Register*. The disposal rate has been reviewed and revised as necessary, or at the request of the compact facility operator and the compact generators.

Disposal of Radioactive By-Product Material

Licensed in 2008, the WCS site has been open for by-product disposal since 2009. By-product material that can be disposed of by the WCS facility is defined as tailings or wastes produced by, or resulting from, the extraction or concentration of uranium or thorium from ore.

Since 2009, the WCS facility has disposed of one by-product waste stream containing 3,776 canisters of waste generated by the DOE's Fernald facility in Ohio.

Underground Injection Control Program

Underground Injection Control (UIC) is a federally authorized program that was established under the authority of the federal Safe Drinking Water Act to protect underground sources of drinking water from degradation caused by unsafe injection of fluids underground. The state of Texas gained primacy for the UIC program in 1982 and jurisdiction is shared between TCEQ and the Railroad Commission of Texas (RRC). There are six classes of injection wells. TCEQ's jurisdiction covers Class I, III, IV, and V injection wells.

- Class I wells are used for deep injection of hazardous and non-hazardous wastes.
- Class III wells are used to extract minerals other than oil and gas, and are regulated by TCEQ or the RRC, depending on the type of well.

- Class IV wells are only authorized by TCEQ or EPA in special circumstances regarding environmental cleanup operations.
- Class V wells are used for many different activities and are regulated by either TCEQ or the RRC, depending on the type of well.

Uranium Production

Uranium is produced in Texas through *in situ* leaching. Uranium is leached directly out of a uranium-bearing formation underground and pumped in solution to the surface for processing. The conventional method used in the past for uranium production created impoundments for disposal of by-product waste. These impoundment sites have all been capped, are no longer accepting waste, and will be transferred to the DOE upon license termination. Currently, Texas has five uranium mining licenses comprising seven sites and two licensed uranium-processing facilities.

Managing Industrial and Hazardous Waste

The Resource Conservation Recovery Act (RCRA) establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal. EPA has delegated the primary responsibility of implementing the RCRA in Texas to TCEQ.

TCEQ reviews and approves plans, evaluates complex analytical data, and writes new and modified Industrial and Hazardous Waste (I&HW) permits. Texas has 177 permitted industrial and hazardous waste treatment, storage, and disposal facilities.

During fiscal 2019 and 2020, TCEQ issued 21 I&HW permit renewals, performed approximately 1,160 industrial waste-stream audits, and oversaw remediation of a total of 314 sites.

Managing Municipal Solid Waste

With growing demands on the state's waste-disposal facilities, TCEQ evaluates the statewide outlook for landfill capacity and strives to reduce the overall amount of waste generated.

In fiscal 2019 (the most recent data available), there were 198 active municipal solid waste landfills in the state. Over 36.8 million tons of waste were disposed of, an increase of 4.2% from fiscal 2017. In fiscal 2019, the average per capita disposal rate was 6.96 pounds per person per day.

At the end of fiscal 2019, overall municipal solid waste capacity was over 1.9 billion tons, representing 53 years of statewide remaining disposal capacity. The net capacity increased approximately 6.2 million tons, or about 0.3%, compared with the capacity in fiscal 2017. Throughout the state, the existing trend is for regional landfills to serve the state's more-populous areas, while less-populous areas in West Texas are served by small, arid-exempt landfills that accept less than 40 tons per day.

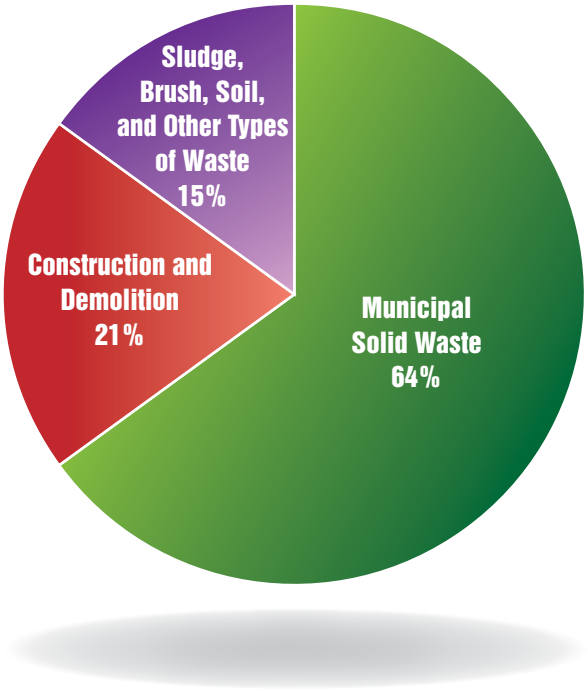
To assist regional and local solid waste planning initiatives, such as addressing adequate landfill capacity, TCEQ provides solid waste planning grants to each of the 24 regional councils of governments (COGs). The planning initiatives are based on goals specified in each COG's regional solid waste management plan.

For the 2018–19 grant period, the COGs received about $10.9 million. Pass-through projects included recycling activities, cleanups of illegal dump sites (including illegal tire sites), household hazardous waste collection events, and education and outreach projects.

The *Regional Solid Waste Grants Program Funding Report, Fiscal Year 2018/2019*, includes data collected by TCEQ from the 24 COGs, and details the regional solid waste grant activities for that two-year period. The report will be available on TCEQ's website in January 2021.

Figure 5. Municipal Solid Waste

Texas had 198 active municipal solid waste landfills in fiscal 2019. Municipal solid waste disposal reached about 36.8 million tons.



Superfund Program

Superfund is the federal program that enables state and federal environmental agencies to address properties contaminated by hazardous substances. EPA has the legal authority and resources to clean up sites where contamination poses the greatest threat to human health and the environment.

Texas either takes the lead or supports EPA in the cleanup of Texas sites that are on the National Priorities List (NPL), which is EPA's ranking of national priorities among known or threatened releases of hazardous substances, pollutants, or contaminants.

In addition, Texas has a state Superfund program to address sites that are ineligible for the federal program. This program is the state's safety net for addressing contaminated sites. TCEQ uses state funds for cleanup at sites in the Texas Superfund Registry if no responsible parties can or will perform the cleanup. TCEQ also takes legal steps to recover the cleanup expenses.

After a site is proposed for the state Superfund program, either the responsible party or TCEQ proceeds with a remedial investigation, during which the agency determines the nature and extent of the contamination. A feasibility study follows to identify possible cleanup remedies. A public meeting is held to explain the proposed remedy and to accept public comments. TCEQ then selects an appropriate remedial action.

In fiscal 2019, Texas had 108 active sites in the state and federal Superfund programs. No new sites were proposed or listed on the NPL or Texas Superfund Registry during the fiscal year. Remedial actions were completed at two state Superfund sites—in Matagorda and Galveston counties.

In fiscal 2020, no new sites were proposed or listed on the NPL or Texas Superfund Registry, for a total of 108 active sites. No remedial actions were completed.

Petroleum Storage Tanks

TCEQ oversees the cleanup of contamination of groundwater and soil due to leaking petroleum-storage tanks. Since the program began in 1987, the agency has received reports of 28,488 leaking PST sites—primarily at gasoline stations.

By the end of fiscal 2020, cleanup had been completed at 27,335 sites, and corrective action was under way at 1,153 sites.

Of the total reported PST releases, about half have affected groundwater.

Leaking PSTs are often discovered when a tank owner or operator upgrades or removes tanks, when an adjacent property owner is affected, or when the tank leak-detection system signals a problem. Some leaks are detected during construction or utility maintenance. Most tank-system leaks are due to corrosion, incorrect installation, or damage during construction or repairs.

To avoid releases, tank owners and operators are required to properly operate and monitor their storage-tank systems, install leak-detection equipment and corrosion protection, and take measures to prevent spills and overfills.

Tank owners and operators are required to clean up releases from leaking PSTs, beginning with a site assessment that may include drilling monitoring wells and taking soil and groundwater samples. TCEQ oversees the remediation.

Under state law, cleanups of leaking tanks that were discovered and reported after Dec. 23, 1998, are paid by the owners' environmental liability insurance or other financial-assurance mechanisms, or from their own funds.

The PST State Lead Program cleans up sites at which the responsible party is unknown, unwilling, or financially unable to do the work—and in situations in which an eligible site was transferred to State Lead by July 2011. State and federal funds pay for the corrective actions. Except for the eligible sites placed in the program by the July 2011 deadline, the state allows cost recovery from the current owner or any previous responsible owner.

Voluntary Cleanups

The Texas Voluntary Cleanup Program (VCP) gives incentives for pollution cleanup by releasing future property owners from liability once a previously contaminated property is cleaned up to the appropriate risk-based standard.

Since 1995, the program has provided regulatory oversight and guidance for 2,962 applicants and has issued 2,490 VCP certificates of completion.

In the last two years, the program received 144 applications and issued 160 certificates. Recipients of the certificates report that the associated release of liability helps with property sales, including transactions that would not have otherwise occurred due to real or perceived environmental impacts. As a result, many underused or unused properties may be restored to economically beneficial use.

The key benefit of the VCP is the liability release afforded to future property owners once the certificate

is issued. The certificate insulates future owners from potential changes in environmental conditions, such as the discovery of previously unknown contamination.

The VCP is funded by an initial $1,000 fee paid by each applicant. Costs beyond the initial fee are invoiced to the applicant monthly by TCEQ.

Under the Innocent Owner/Operator Program (IOP), TCEQ also implements the law providing liability protection to property owners whose land has been affected by contamination that migrated onto their property from an off-site source. In the last two years, TCEQ issued 62 IOP certificates.

Dry Cleaners

Since 2003, TCEQ has been responsible for collecting fees for a remediation fund designed to help pay for the cleanup of contaminated dry-cleaner sites. The fees come from the annual registration of dry-cleaning facilities and drop stations, property owners, prior property owners, and solvent fees from solvent distributors.

In 2007, the Legislature established registration requirements for current and prior property owners who wish to claim benefits from the remediation fund and authorized a lien against current and prior property owners who fail to pay registration fees due during corrective action.

In addition, the use of perchloroethylene was prohibited at sites where the agency has completed corrective action.

In fiscal 2019, there were 2,578 dry-cleaner registrations and more than $3.1 million in invoiced fees; in fiscal 2020, there was a total of 2,449 registrations and approximately $2.9 million in invoiced fees.

Waste Reduction

Hazardous Waste

TCEQ provides technical advice and collaborates on the offering of innovative approaches and in-person workshops for improving environmental performance through pollution prevention (P2) planning.

All together, these efforts resulted in reductions of hazardous waste by more than 918 thousand tons and of toxic chemicals by more than 240 thousand tons during fiscal biennium 2019–20.

Renewing Old and Surplus Materials

Texas established the Resource Exchange Network for Eliminating Waste (RENEW) in 1988 to promote the reuse or recycling of industrial waste.

The materials-exchange network has assisted in the trading of millions of pounds of materials, including plastic, wood, and laboratory chemicals. These exchanges divert materials from landfills and help participants reduce waste-disposal costs and receive money for their surplus materials. Additionally, exchanges help protect the environment by conserving natural resources and reducing waste.

RENEW is a free, easy-to-use service. Listings are grouped under “Materials Available” for anyone offering raw materials to other facilities, and “Materials Wanted” for anyone looking to find raw materials.

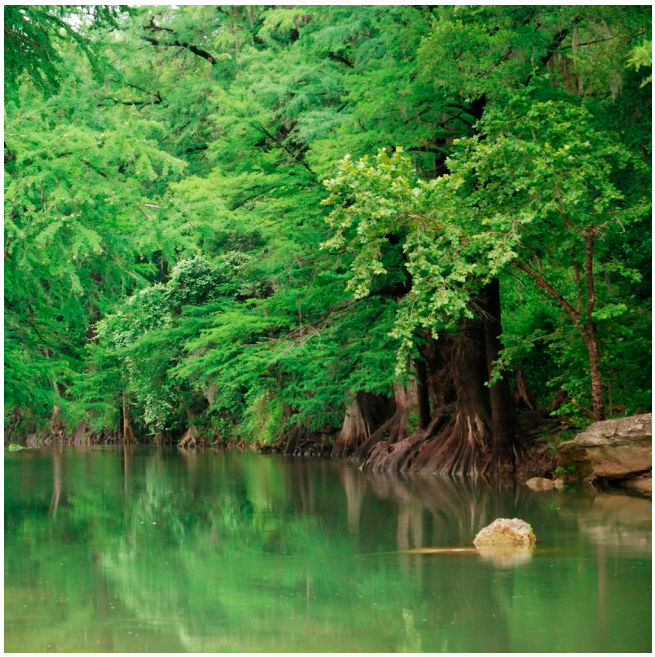
Through the RENEW website, www.renewtx.org, these participants can list and promote information on opportunities for exchanging at national and regional levels.

In fiscal 2019 and 2020, 102 users signed up to use RENEW, and 204 new listings were posted.

Compliance Assistance

TCEQ uses technical assistance, education, and pollution prevention programs to encourage environmental improvements. The Program Support and Environmental Assistance Division (PSEAD) steers many of these programs in a direction that focuses on agency priorities and aligns with agency regulatory systems.

In fiscal 2019 and 2020, the division responded to 15,091 requests for assistance from small businesses



and local governments. Of those, 277 received one-on-one assistance at their business site or facility.

For fiscal 2019, PSEAD's Site Visit program continued to focus resources on the requirement of the federal Energy Policy Act (EACT), that all registered petroleum storage tanks (PSTs) must undergo an investigation at least once every three years. Through the Site Visit Program, PST facilities have an opportunity to receive an EACT site visit. If they achieve full compliance with the EACT checklist, they receive credit for their three-year investigation. Site visits do not lead to an investigation or citation, unless there is an imminent threat to human health or the environment.

In fiscal 2019, 145 EACT site visits were completed, resulting in 130 EACT-compliant facilities. Non-compliant facilities received recommendations for resolving non-compliance issues so that they can prepare for a future EACT investigation. In fiscal 2019, the Site Visit program also piloted a new EACT Abandoned checklist and conducted 33 site visits at potentially abandoned PST facilities.

In fiscal 2020, the Site Visit program focused resources on EACT Abandoned site visits and conducted 221 site visits at potentially abandoned PST facilities. In fiscal 2020, TCEQ developed a process to establish when a PST can be considered abandoned and removed from the EACT investigation cycle. This process also provides guidance to other parts of the agency for determining what additional assistance or action may be necessary to mitigate risks that may be presented by these abandoned PSTs.

During fiscal 2019, the Site Visit program, utilizing a grant from EPA, conducted 221 site visits at potentially abandoned PST facilities in the 60 counties affected by Hurricane Harvey to assess damage that may have resulted from the hurricane. In fiscal 2019, the Site Visit program also conducted comprehensive site assessments at seven of these facilities to determine whether a release had occurred. In fiscal 2020, the Site Visit program conducted an additional 25 comprehensive site assessments. Cleanups were initiated at three facilities and completed at one facility.

The Program Support and Environmental Assistance Division hosts a variety of workshops to help educate the regulated community.

During fiscal 2019 and 2020, Nitrification Action Plan workshops were hosted for public water systems (PWSs) that use chloramines for disinfection. Licensed operators received continuing-education units for attending. Workshops were held in Tyler (2), Willis, Lumberton, Waco, Corpus Christi, Dallas, and Ft. Worth. In total, the workshops had 277 attendees. Workshops planned for the spring and summer of 2020 were cancelled as a result of the coronavirus pandemic.

In fiscal 2020, compliance workshops for Transient Non-Community (TNC) Public Water Systems were held in Fredericksburg and San Marcos. A total of 101 participants received a TNC Compliance Notebook to assist in preventing recordkeeping-related violations and to comply with the rules and regulations associated with producing and distributing drinking water.

In fiscal 2019, 18 PST compliance workshops were held across the state. A total of 444 participants received an Underground Storage Tank Compliance Notebook to help them be prepared for their upcoming EACT investigations. In fiscal 2020, four webinars were offered in lieu of in-person workshops, due to the coronavirus pandemic. Over 650 people registered to attend the webinars.

TCEQ's External Relations Division also offers educational opportunities and technical assistance through coordinated workshops, seminars, and education events, including the annual Environmental Trade Fair and Conference (ETFC) held in downtown Austin. There was a decrease in the number of events and attendees in fiscal 2020, due to the cancellation of events including the ETFC as a result of the coronavirus pandemic. During the last two years, the agency sponsored 12 seminars to provide technical information to almost 7,420 attendees.