CHAPTER 1

Accomplishments and Innovations

Pedernales Falls

Texans are extremely proud of Texas. And they well should be. With a vigorous economy, a rich supply of natural resources, and a diverse population, the Lone Star State is worth bragging about.

Texans expect air that is safe to breathe, water that is free from contaminants, and a system of waste management that is efficient and well regulated. As the state's lead environmental agency, the Texas Commission on Environmental Quality assumes the primary role in these areas.

The TCEQ has created a wide range of initiatives, policies, and programs that help ensure the safety and purity of our state's most fundamental natural resources. In doing so, the agency is recognized as an innovator and is often called upon to provide information on its programs to other states and other countries.

This chapter highlights some of the initiatives and projects undertaken by the TCEQ during the 2009 and 2010 fiscal years.

TCEQ Responds to Hurricane Ike, 2008

Emergency management for TCEQ staff includes responding promptly to hurricane damage. As Hurricane Ike roared onto the Texas shoreline in September 2008, the TCEQ and other first responders were preparing to enter the devastated areas. In the aftermath, agency staff spent many weeks in the hardest-hit areas, evaluating environmental problems and helping to restore vital services.

On the evening of Sept. 12, as Hurricane Ike unleashed its fury on Galveston and nearby coastal communities, the TCEQ Emergency Response Strike Team—a select group of agency

personnel trained to deal with natural or man-made events that trigger an environmental crisis—packed supplies in preparation for storm duty. The 16 senior investigators assembled with hundreds of other state and federal responders at a former Air Force base in San Antonio, which served as the staging area for the state's unified response to one of the worst hurricanes to ever hit Texas.

The next morning, a convoy of 520 trucks and assorted vehicles left San Antonio and headed into what remained of the storm. The TCEQ Strike Team was assigned to the first quadrant of the convoy because the agency's mobile command post is a highly valued asset, having radio and satellite equipment capable of providing emergency communications to an area that has no other means of reaching the outside.

As the convoy made its way through flooded Houston and reached the causeway leading to Galveston Island, the landscape was littered with downed billboards and trees, random chunks of houses and buildings, and piles of beached boats.

Isolation and devastation awaited the Strike Team and their counterparts from the Texas Department of Public Safety, the Governor's Division of Emergency Management, the Environmental Protection Agency (EPA), and various military units. A 12-foot storm surge, combined with 110-mile-an-hour winds, had left a large number of the island's structures flooded or flattened.

With Galveston's streets under water, the TCEQ team operated for a few days out of the parking lot of Ball High School. At night, the pitch dark of the evacuated city was punctuated by sporadic house fires. During the day, team members paired up with members of the EPA or the Texas National Guard's 6th Civil Support Team (CST) to conduct inspections across the area. Shortly after the hurricane passed, hundreds of additional TCEQ staff from TCEQ regional offices across the state joined the recovery effort.

In the wake of a major storm, the TCEQ has a number of major responsibilities. One of the first is to quickly ascertain whether hazardous chemicals have spilled from any industrial facilities or are leaking from containers or storage tanks swept from their original sites. These "orphan" containers are sometimes found miles from their home base. In fact, the Strike Team discovered a 12,000-gallon fuel tank in Galveston that had floated away from a small airport miles away.

Before approaching an orphan container, staff uses mobile monitors to test for leaking vapors. Once safety is assured, GPS coordinates are recorded for later pickup and proper disposal by a contractor.

Another primary duty is assessing the operational status of public drinking water facilities and wastewater treatment plants. After Ike, TCEQ staff in Austin and across the state contacted hundreds of facilities to determine which ones had been left inoperable by the storm. Sites that could not be reached by phone were visited by TCEQ regional staff. The agency then assisted local operators in restoring service.

The TCEQ also tracks any boil water notices issued in communities where service has been interrupted or contaminants have been found in the water. Later, communities are notified when water becomes safe to use straight from the tap.

Storms can leave behind massive amounts of debris, so the TCEQ is also

TCEQ Storm Duty

The following is a summary of agency activities in the aftermath of Hurricane Ike in the 10-county area encompassing Houston, Galveston, and Beaumont.

- Contained and recovered more than 46,000 orphaned containers and tanks (5 gallons or more in size), with the assistance of TCEQ and EPA contractors.
- Assessed operational status and damage to almost 1,400 public water systems and over 700 wastewater treatment plants.
- Tracked over 1,200 boil water notices.
- Evaluated debris management at 175 temporary sites.
- Assessed damage at 13 refineries and 47 chemical facilities, all of which shut down operations before the storm.

In addition, the agency conducted air monitoring, sampled storm-surge residue and surface water, and evaluated potential emergencies resulting from oil and chemical releases. The agency's website was updated regularly with hurricane response and cleanup information.

responsible for providing authorizations for setting up temporary staging areas where the debris can be delivered and sorted. The Houston, Galveston, and Beaumont areas required 175 temporary sites. In order to help ensure FEMA reimbursement for local jurisdictions, it was the TCEQ's job to visit the sites regularly to assess whether debris was properly separated into trees and branches, material from damaged buildings, "white goods" like refrigerators and other appliances, and household hazardous waste.

Agency Deals with Extended Drought, 2009

Large sections of the state experienced exceptional drought during 2009. These prolonged dry conditions put a strain on water supplies for all uses. During 2009, a total of 342 public water systems had placed water restrictions on their customers; however, due to an increase in rainfall, this amount was reduced to 202 by the end of 2009.

The TCEQ took a number of actions to lessen the effects of the extended drought. Those included (1) curtailing temporary water use permits, (2) consulting with public water systems regarding specific needs and the implementation of drought contingency plans, (3) tracking the public drinking water systems with water use restrictions, and (4) tracking and managing water rights diversions of surface water.

The TCEQ also implemented a drought information hotline to answer questions from the public; expanded its Web pages to cover a wide range of drought-related topics; conducted weekly meetings for relevant agency programs to address concerns and provide updates, monitoring status, and forecasts; and targeted news releases in areas with curtailed water rights to provide information and encourage conservation. It also participated with other state agencies on the Joint Information Council and Drought Preparedness Task Force.

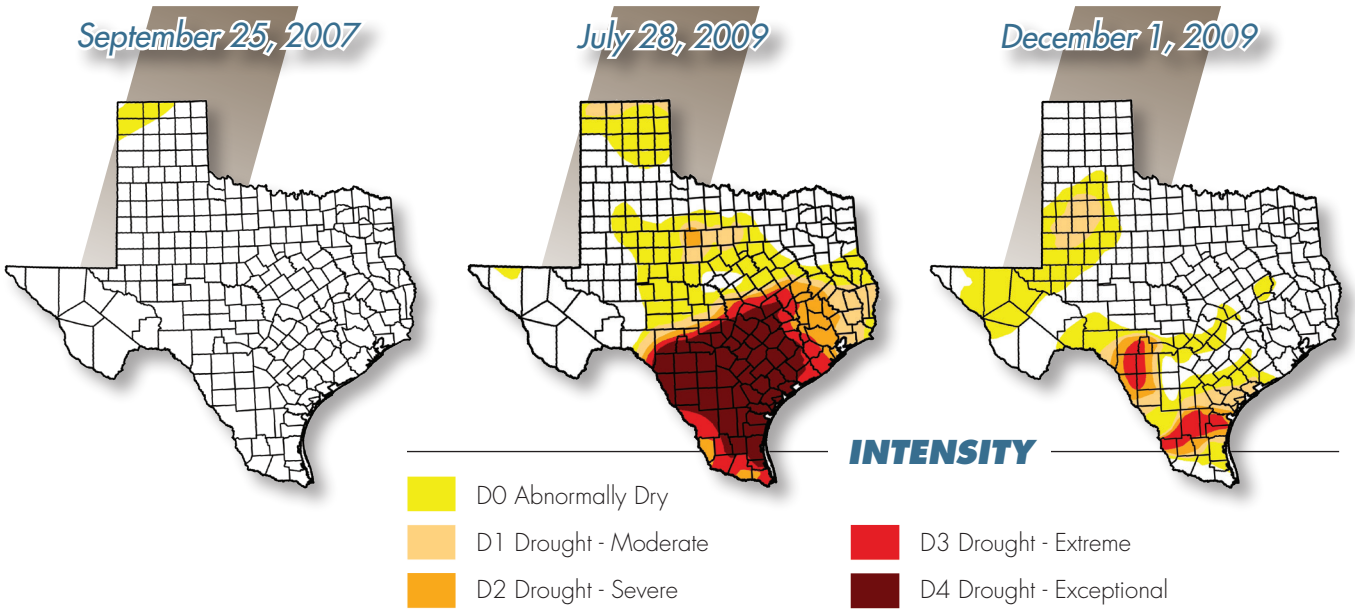
TCEQ Joins in Border Flood Response, 2010

As torrential rains from Hurricane Alex and a tropical depression fell in South Texas and northern Mexico from late June through early July 2010, record flooding occurred along the Rio Grande. As the waters started to rise, the TCEQ responded quickly, performing essential duties to help control flooding and minimize damage to communities along the border.

As the liaison between the U.S. International Boundary and Water Commission (IBWC) and the Texas Division of Emergency Management, the TCEQ played an instrumental role in coordinating efforts to control the flooding.

Rainfall and Drought Conditions

From September 2007 through December 2009



Brown pelican, photo courtesy TPWD

TCEQ staff acted as the "eyes and ears" of the IBWC by patrolling floodgate levees saturated by the floodwater and notifying it of any cracks or other problems discovered along 160 miles of the Rio Grande from Falcon Dam downstream to Brownsville, and 270 miles of floodway levees in Hidalgo, Cameron, and Willacy counties. This allowed the IBWC to concentrate its efforts on immediately addressing any issues identified by the TCEQ. In addition, specialized teams of TCEQ employees conducted 75 water and wastewater inspections; three landfill inspections; and inspections of 2,799 lateral gate, levee, temporary pump, and other irrigation and flood-control features in the affected counties.

An unprecedented information flow from Mexican officials to Texas emergency management officials through the TCEQ and the IBWC, and the close coordination among all these response partners, will serve as a model for future disaster management efforts across border jurisdictions.

TCEQ's Galveston Bay Estuary Program Receives Presidential Award

In 2009, the TCEQ's Galveston Bay Estuary Program, as part of the North Deer Island Protection Team, received the Coastal America Partnership Award, which is the only environmental award of its kind given by the president of the United States. It received this award for its work protecting North Deer Island, the most important colonial waterbird rookery on the upper Texas coast.

The North Deer Island shoreline restoration project was a collaborative effort between federal, state, and local governments, as well as nongovernmental organizations and the private sector, to stabilize nearly two miles of shoreline that was once rapidly eroding. As a result of this effort, nesting and foraging sites for tens of thousands of waterbirds from 19 different species will be sustained for years to come. This restoration project was also instrumental in the brown pelican's recovery in Galveston Bay.

The other members of the North Deer Island Protection Team are the Texas Parks and Wildlife Department, Audubon Texas, NRG Energy, the EPA's Gulf of Mexico Program, EPA Region 6, the Houston Audubon Society, the Texas General Land Office, the U.S. Fish and Wildlife Service, and the Galveston Bay Foundation.

Permit Backlog Continues to Decline

Since the inception of the Permit Time-Frame Reduction project in 2002, the TCEQ has made significant progress toward its goal of improving permitting efficiencies and reducing the backlog of permit applications. Most notably, the agency has reduced the overall backlog of uncontested permits—from 1,150 to 588—over the last eight years.

A backlog occurs when a permit exceeds its targeted "time frame," the amount of time required to complete all the steps in processing the application.

Staff continues to build on this success through the Project Time-Frame Tracking Program. This initiative focuses not only on permits but also on nonpermitting functions such as reviews of water district bonds and water system plans and specifications.

For a full report, see Appendix B.

Office of Water Focuses on Water Quality and Quantity

Texas is one of the fastest-growing states in the nation. And as the population climbs, the demand for water will increase. Ensuring a plentiful, clean water supply for the state's growing population will be a major challenge for years to come.

To enhance the agency's focus on the challenges facing Texas with respect to water quality and quantity, in late 2009 the TCEQ created the Office of Water, which brought together the divisions of Water Quality, Water Quality Planning, and Water Supply.

Consolidating the agency's water monitoring, permitting, planning, and assessment functions into one office created one point of contact for questions regarding wastewater, groundwater, surface water, and water rights—thereby helping to give the agency one consistent voice in its communications with stakeholders and the public. Consolidation also maximized staff resources and knowledge by facilitating integrated solutions to the challenges facing Texas in the area of water resources.

The goals for the Office of Water include making balanced decisions based on sound science, proactively working with stakeholders to implement programs, providing accurate and prompt communication, increasing the use of technology to help gain efficiencies, and working for the people of Texas on water issues.

Guadalupe River State Park, photo courtesy TxDOT

World Bank Taps TCEQ for International Workshop

The TCEQ was one of four water quality programs from around the world invited by the World Bank in 2010 to speak at an international workshop in India. The workshop, "Global Experiences in River Clean-Up and Basin Management: Relevance for the Ganga," brought experts from around the globe to New Delhi to share ideas and best practices with the country's new National Ganga River Basin Authority, the organization formed to spearhead Ganga River conservation efforts.

The World Bank is helping to fund a variety of initiatives—including programs for infrastructure development, pollution control and conservation, and energy efficiency—designed to clean the Ganga (or Ganges) River. The massive river supports close to 400 million people in India alone.

L'Oreal Stepney, deputy director of the TCEQ's Office of Water, was one of those experts sponsored by the World Bank to speak at the workshop. There was also a representative from the San Antonio River Authority.

In addition to featuring the successes of the Texas Clean Rivers Program—which fosters partnerships among local and regional agencies (primarily river authorities, municipal water authorities, and councils of governments) for water quality monitoring and assessment and public outreach—Stepney's presentation discussed different techniques used by the TCEQ to improve water quality across the state, how technology is used to communicate and share information with stakeholders, and how the agency assures integrity and accountability in the regulatory process.

Workshop attendees included scientists, government officials, community leaders, and academics, as well as World Bank representatives. The event included panel discussions and served as an opportunity for participants to share lessons learned and to gain potential new strategies for managing water resources. Attendees were especially interested in how the TCEQ develops partnerships and engages stakeholders in the decision-making process.

TCEQ's Border Initiative Addresses Environmental Concerns

Texas shares a border with Mexico that stretches for 1,254 miles, from El Paso to Brownsville. The people living in communities on both sides of the Rio Grande have a long history of strong economic, cultural, and social ties that unite the United States and Mexico in an enduring bond.

Texans have something else in common with their neighbors south of the border—a history of shared environmental concerns.

To address these concerns, in 2008 the TCEQ developed a comprehensive, cooperative effort to serve border residents. The goals and objectives of the TCEQ's Border Initiative are outlined in an action plan, which addresses air, water, waste, and other environmental concerns, such as emergency response.

The TCEQ has 83 full-time employees in Harlingen, Laredo, El Paso, and Austin working to ensure that efforts along the U.S.–Mexico border have a measurable environmental benefit to the region.

Because many environmental issues along the border are transboundary in nature, the TCEQ works with other U.S. and Mexican states, federal agencies in both countries, and binational organizations to accomplish mutual environmental protection goals.

Although these partnerships take different forms, many of the binational activities are pursued under the umbrella of the U.S.–Mexico Border 2012 Environmental Program, which was launched in 2003. The TCEQ is active at every level of this program—taking a broad perspective of borderwide concerns and "microviews" regarding issues specific to Texas and its four Mexican neighboring states of Tamaulipas, Nuevo León, Coahuila, and Chihuahua. Staff interacts with officials from the border cities in those four states, with its counterpart agencies at the state level, and with the Mexican federal government.

The TCEQ has developed a particularly strong relationship with the state environmental agency of Nuevo León, promoting technical exchange and mutually beneficial cooperative work. In May of 2010, the TCEQ renewed its partnership with its counterpart in Nuevo León by signing a memorandum of cooperation between the two state agencies. Commissioner Buddy Garcia and Secretary Fernando Gutiérrez Moreno, of Nuevo León's Ministry of Sustainable Development, signed the memorandum during the TCEQ's annual Environmental Trade Fair and Conference. Later that month, Nuevo León Gov. Rodrigo Medina de la Cruz, who was in Austin to meet with Gov. Rick Perry, met with Commissioner Garcia to discuss environmental issues and implementation of the newly signed memorandum.

As part of the Border Governors Conference, the TCEQ sits on the environment and water worktables with members of the nine other U.S. and Mexico border states. Commissioner Garcia represents the TCEQ on the Environment Worktable, and Commissioner Carlos Rubinstein represents the TCEQ on the Water Worktable.

Through these types of collaborative partnerships, the agency has accomplished a major goal of the Border Initiative, which is to increase cooperation and the exchange of knowledge, experience, and technology related to the environment along the border.

TCEQ Border Initiative

Since its creation in 2008, the TCEQ's Border Initiative has realized many successes. Here are just a few of the accomplishments for 2009 and 2010. For more accomplishments, visit <www.tceq.state.tx.us/goto/border>.

- **Binational air quality monitoring.** The TCEQ was instrumental in ensuring that data reporting from air monitors in Ciudad Juárez continued after management of the monitors was transferred from the City of El Paso to the Ciudad Juárez Ecology Department.
- **Construction of water quality wetlands in the Texas Lower Rio Grande Valley.** The TCEQ Office of Water worked closely with the cities of La Feria, San Juan, and San Benito in the Lower Rio Grande Valley to design and construct wetlands to manage storm water runoff and improve the water quality of area arroyos.
- **Deployment of continuous water quality monitors.** Five additional real-time surface water quality monitors were deployed in Texas along the Rio Grande to measure the upstream and downstream inflows. In June 2010, however, flooding from Hurricane Alex damaged or destroyed the five monitors. While these monitors were not operational at the end of fiscal 2010, the TCEQ plans to redeploy the sites.
- **Scrap tire management.** The TCEQ partnered with EPA Region 6 and the environmental agency for the state of Nuevo León to conduct a binational workshop on municipal scrap tire management. In attendance were officials from the Mexican federal environmental agency, the acting deputy regional administrator for EPA Region 6, leaders of scrap tire programs from New Mexico and Texas, academics from both sides of the border, and representatives from six Texas cities and counties and seven Mexican cities.
- **Technical exchanges with Nuevo León.** In 2009, the TCEQ organized several technical exchanges and training events with its counterpart agency in Nuevo León. The two agencies worked together on environmental law enforcement and air quality issues,

Access to TCEQ Information Expands

From its inception, the TCEQ has recognized that information systems are vital to its ability to accomplish its mission. The expansion of technology and online government offers greater efficiencies to companies, municipalities, and individuals conducting business with the agency. Toward this end, the TCEQ implemented a number of technological advances to internal and external applications and services in fiscal years 2009 and 2010. Following are samples of what was accomplished:

ePermits

This automated system allows for not only the online submittal of applications, but also the issuance of authorizations and permits. The estimated time for filling out a form, paying the application fee, and printing the permit authorization is less than 30 minutes. A new feature added in 2009 makes it easier for the agency to add more applications. Permits for Concentrated Animal Feeding Operations were added in fiscal 2009, and an oil and gas permit by rule is expected to be available to the public by early 2011.

ePay

This online payment system uses <www.texas.gov> to provide a secure environment for financial transactions. Users may pay a variety of fees and assessments with a credit card or electronic check. The security of these transactions was further improved in fiscal 2010 when the processing of payment data was integrated entirely within the texas.gov infrastructure. Since becoming available in 2004, the system has handled about $20.3 million in revenue associated with TCEQ fees and assessments, and has processed an average of 1,750 transactions per month.

eLicense Renewal

With this service, renewing TCEQ individual occupational licenses and company registrations is easily accomplished online through texas.gov at <www.tceq.state.tx.us/goto/renew>. Since its initiation in April 2006, to 2010, the portion of applications

Accomplishments

including visible-emissions quantification, monitoring for particulate matter smaller than 2.5 microns, and calculating on-road vehicle emission inventories.

- **Dos Laredos Binational Emergency Preparedness Workshop and Exercise.** TCEQ personnel collaborated with 45 emergency response officials from local, state, and federal agencies from both countries in a knowledge-exchange workshop. The workshop included courses on the Incident Command System and a special exercise designed to enhance the ability of first responders at the local and state levels to respond to a hazardous-materials incident.
- **Clean School Bus grants.** The Texas Clean School Bus program awards grants to Texas school districts and charter schools for the purchase and installation of technology to reduce diesel emissions and onboard exposure of schoolchildren and bus drivers to the emissions. During fiscal years 2009 and 2010, the program awarded more than $1 million to improve onboard air quality for 389 buses in 17 border school districts. The majority of these funds came from the EPA.
- **Reintroduction of the Rio Grande silvery minnow.** The Rio Grande silvery minnow had disappeared from the river below El Paso. The TCEQ is a member of a stakeholder group chaired by the U.S. Fish and Wildlife Service to reintroduce the silvery minnow as an experimental, nonessential population in the Rio Grande. In 2008, 445,000 silvery minnow were reintroduced in the Big Bend reach of the Rio Grande, and another 509,000 the following year.
- **Participation on the Good Neighbor Environmental Board (GNEB).** A TCEQ staff person who represents the State of Texas on the GNEB worked to ensure the production of a transboundary air quality case study for the 13th annual GNEB report, *A Blueprint for Action on the U.S.–Mexico Border*. The report was released in Washington in June 2010, and was

renewed annually online increased from 6 to 81 percent.

Fiscal Year	Percentage of applications renewed online
2006	6%
2007	35%
2008	75%
2009	78%
2010	81%

eReporting

The agency has been a leader in implementing electronic reporting of data from the regulated community for many years. Online reporting services allow regulated entities to electronically fulfill reporting requirements related to air emissions and maintenance events, industrial and hazardous waste, self-certification of underground petroleum storage tanks, annual air emissions inventory data, and laboratory test results from water samples. During fiscal 2009, NetDMR—a new online reporting system for wastewater Discharge Monitoring Reports (DMRs) for facilities covered under the Texas Pollutant Discharge Elimination System permit—came online. As of Sept. 17, 2010, 56 percent of those permittees eligible to use NetDMR had adopted its usage. Consequently, as of that date, a total of 49,472 records had been submitted using NetDMR.

Public Website

In September 2009, the TCEQ website was migrated to a new content management system. The flexibility of the new system allows for renovation of navigation and usability, as well as the continued process of making content accessible to visitors with disabilities.

Comments on proposed rules and pending permit applications can now be submitted through the website. The status of items pending before the Commission and any associated documents can be viewed on the website via the Commissioners' Integrated Database. In the future, the agency will introduce online viewing of comment letters, hearing requests, and public meeting requests made on pending permit applications.

Central Registry

The agency integrated access to more of its permit information through its Central Registry system and added access points directly on the home page. Users can now access information about a permit stored in different databases through a single query.

Geographic Information System Map Viewers

Online geographic information system (GIS) viewers allow TCEQ staff or the public to see what is going on environmentally or administratively at a particular location in Texas on a map. A GIS captures, stores, analyzes, and presents data that is linked to a geographic location. This data is stored as a collection of layers that can be linked together by a common locational component such as latitude and longitude, a postal ZIP code, census tract name, or road name. Data about a particular location on the earth's surface can be visualized in ways that reveal relationships, patterns, and trends. Available GIS map viewers include air quality monitoring, water well reports, source water assessments, surface casings, dams, and water utilities.

Computer-Based Testing

The TCEQ has engaged with 27 testing centers in Texas to provide computer-based testing (CBT) for the agency's occupational licensing examinations. Before CBT was available, either applicants had to travel to Austin or to a regional office, or agency personnel had to arrange for a remote testing site and travel there to administer the tests. Nine different types of occupational license tests are available through this service for customer service inspectors, landscape irrigators and technicians, municipal solid waste facility supervisors, wastewater treatment and collection system operators, and water treatment and distribution systems operators. CBT provides immediate exam-score results with options for e-mail notification.

Data Exchanges with Other Units of Government

As a partner in the Environmental Protection Agency (EPA)–sponsored National Environmental Information Exchange Network, the TCEQ now shares environmental data efficiently and securely over the Internet through the Texas Integrated Data Exchange Node (TIDEN). Examples of information shared include Toxic Release Inventory (TRI) data in support of the Community Right-to-Know Act, hazardous waste generator data, and point source air emissions inventory data. The agency has also used TIDEN to exchange data

with county tax authorities in support of the Air Check Texas Drive a Clean Machine program, and there is a data interface with the Office of the Secretary of State to verify the identity of regulated entities that are registered corporations.

Internal Systems

Upgrades designed to improve internal operations and agency services were implemented in the accounts receivable system and the water rights accounting and billing system. In addition, online systems now automate human resources, procurement, and financial management processes, greatly improving their efficiency.

Agency Hosts International Toxicological Workshop

Toxicologists from as far away as the Netherlands and New Zealand travelled to the TCEQ's headquarters in 2010 to attend "Beyond Science and Decisions: From Issue Identification to Dose-Response Assessment," an international workshop organized by the Alliance for Risk Assessment.

The workshop brought together representatives from academic, governmental, industrial, and nonprofit institutions to discuss a report, "Science and Decisions: Advancing Risk Assessment," which was published in 2008 by the National Academy of Sciences (NAS). The report is also known as the Silver Book, because of its silver cover.

Through a series of meetings and discussions led by panels of experts, attendees focused on biological and statistical issues related to dose-response assessment, which is the process used to determine the level at which a chemical will produce harmful health effects. Panelists discussed how to determine safe levels of chemicals to prevent harmful health effects and how to apply the 2008 NAS recommendations to specific case studies.

The Toxicology Division helps the TCEQ evaluate the potential for chemicals to harm human health, interacts with stakeholders, drafts rules, and makes technical recommendations related to permitting, remediation, monitoring, and enforcement. Discussions such as the ones held in this workshop will ultimately result in research that will inform agencies that make regulatory decisions, including ones that do risk assessment.

San Jacinto Monument, photo courtesy TxDOT