

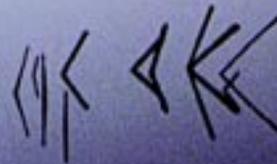
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BIENNIAL REPORT TO THE 78th LEGISLATURE VOLUME I

Ensuring Environmental Quality for Texans



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION FY 2001

How to reach the TNRCC

By phone: 512/239-1000

By mail:

Texas Natural Resource Conservation Commission
PO Box 13087
Austin TX 78711-3037

Web site: **www.tnrcc.state.tx.us**

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Texas Star Award**

Cover: Early morning at Mitchell Lake in San Antonio. Photo by Tommy Hultgren.

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BIENNIAL REPORT TO THE 78th LEGISLATURE VOLUME I

Ensuring Environmental Quality for Texans

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION FY 2001



Our Mission

The Texas Natural Resource Conservation Commission strives to protect our state’s human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste.

Our Philosophy

To accomplish our mission, we will:

- base decisions on the law, common sense, good science, and fiscal responsibility;
- ensure that regulations are necessary, effective, and current;
- apply regulations clearly and consistently;
- ensure consistent, just, and timely enforcement when environmental laws are violated;
- ensure meaningful public participation in the decision-making process;
- promote and foster voluntary compliance with environmental laws and provide flexibility in achieving environmental goals; and
- hire, develop, and retain a high-quality, diverse workforce.

From the Commission

Fiscal 2001 will be remembered as the year the TNRCC got its first official report card. It was the agency's turn to go through the Sunset process, a rigorous performance review in which no division or program is spared the focus of outside scrutiny.

Since 1993, when the Legislature merged the environmental authority from different agencies into one comprehensive agency, the TNRCC has worked to blend its personnel, policies, and processes into a unified whole.

We thought we were doing a good job, but would the Legislature agree?

Our first indication of a passing grade came when the Sunset Advisory Commission acknowledged in its report: "The TNRCC's structure represents the full integration of its predecessor agencies into a comprehensive natural resource conservation agency."

Then the Legislature deliberated questions critical to our future: Is the agency performing efficiently? Does it have the resources to accomplish its mission? How can it better serve Texans?

The final verdict was that the TNRCC should be reauthorized to operate for another 12 years and in the coming years should expand its outreach. The Legislature identified major issues in the environmental arena and moved to address those through the Sunset bill and other legislation.

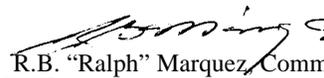
The 77th regular session turned out to be the most significant for environmental legislation in a decade. We even got a new name. Watch for the "Texas Commission on Environmental Quality" to debut in September 2002.

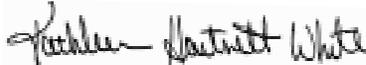
The TNRCC has now entered a period of intense implementation as we move quickly on legislation aimed at clean air incentives, compliance history, grandfathered industrial facilities, the petroleum storage tank program, and agency staffing. In all, we have 66 rulemaking projects on our Commission agenda and another 56 actions that will require changing agency policies, documents, or operating procedures.

This is an exciting time to be engaged in environmental regulation. Much is happening in air quality, water quality, and waste management.

We look forward to the future with much anticipation.


Robert J. Huston, Chairman


R.B. "Ralph" Marquez, Commissioner


Kathleen Hartnett White, Commissioner

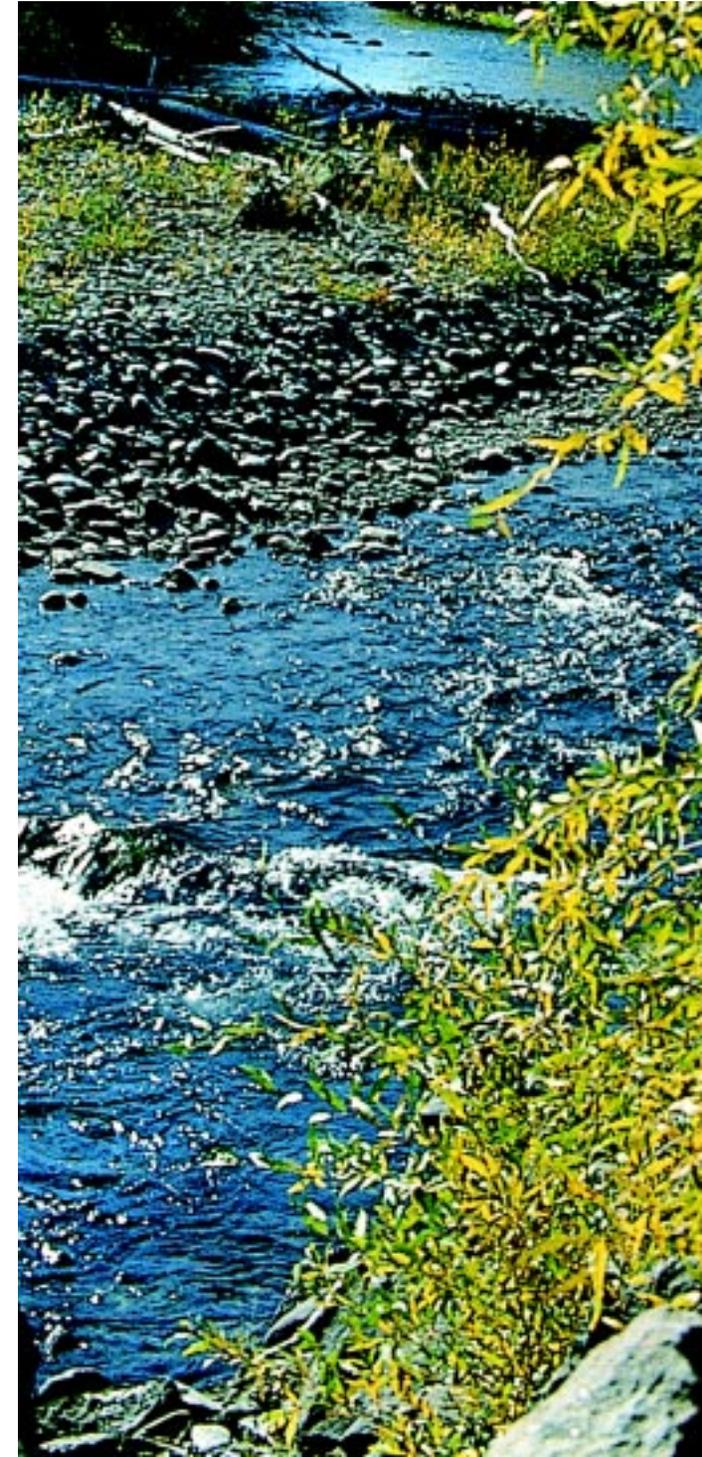




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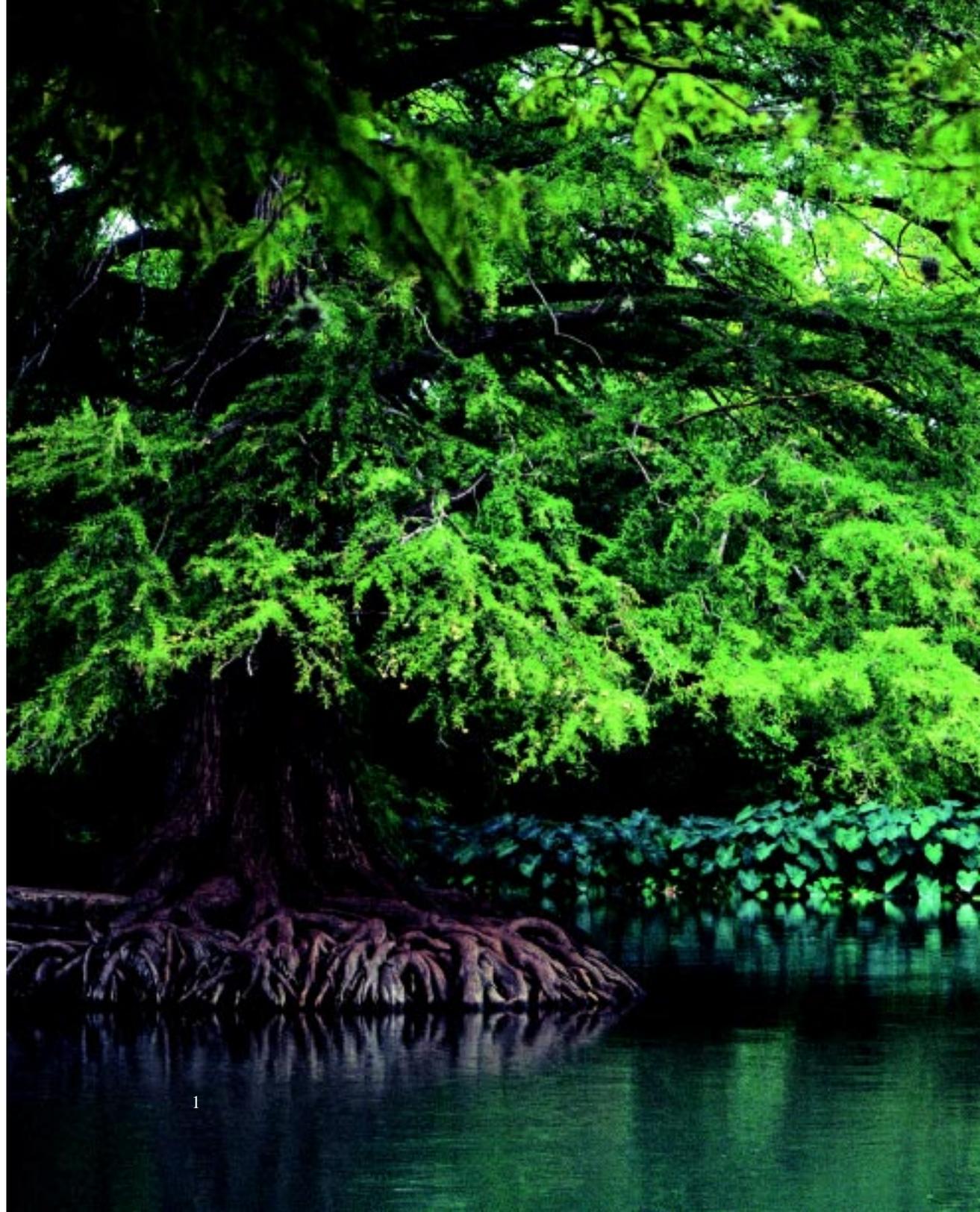
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Introduction

The Texas Natural Resource Conservation Commission has a broad mandate: to protect human health and the state's natural resources by ensuring clean air, clean water, and proper management of waste. Its major responsibilities are:

- To enforce state and federal environmental laws by issuing permits and authorizations for the control of air pollution; overseeing the safe operation of water treatment and wastewater facilities; regulating the treatment, storage, and disposal of hazardous, industrial, and municipal waste; and acting as the authority over most low-level radioactive waste.
- To ensure compliance with state and federal environmental laws and regulations by conducting investigations of regulated facilities, monitoring air and water quality, providing technical assistance, encouraging voluntary compliance, and taking formal enforcement actions against suspected violators.
- To develop plans for the cleanup and eventual reclamation of contaminated industrial and abandoned hazardous waste sites, and for the restoration of air and water quality.
- To administer the program for public drinking water systems and ensure compliance with state and federal drinking water standards.



The agency's far-ranging responsibilities require a broad perspective for crafting policy and long-range strategies, such as developing clean air plans for large metropolitan areas, and keen attention to detail and day-to-day management of complex functions.

In fiscal 2001, the TNRCC acted on 7,596 permit actions, operated air monitoring stations at 132 locations, performed some 78,000 investigations, responded to 7,850 environmental complaints, issued 850 administrative enforcement orders, built cases for 28 criminal convictions for environmental violations, and coordinated investigations or cleanup work on 91 Superfund sites.

Central Themes

Information, access, and outreach continue to be key themes, as the agency develops new ways to work with stakeholders, provide more information to the public, expand outreach efforts, shift additional resources to the regions, and conduct training on compliance and pollution prevention issues.

Stakeholder involvement has been particularly important. The term "stakeholder" encompasses a broad spectrum of interested parties in matters involving air quality, water quality and supply, or cleanup of contaminated land. In a water quality matter, for example, stakeholders might include individuals and civic groups, farmers and dairymen, local businesses, environmental organizations, wastewater dischargers, and city and county governments—all in or interested in the same watershed.

The TNRCC involves local stakeholders in open dialogues on environmental matters and enlists their help in developing and implementing improvement plans. The public's involvement is vital to the missions of protecting or restoring natural resources.

Expanding on the theme of public participation, the TNRCC has enhanced its Web site so that environmental information is more accessible—increasingly in both English and Spanish. One of the most popular Web destinations has proved to be the Smoking Vehicle Program page, which allows for online reporting of vehicles with excessive tailpipe emissions.

More than 8,500 reports of smoking vehicles were submitted via the Internet in fiscal 2001. Staff follow up on all such reports with suggestions to the vehicle owners on cost-effective ways to reduce or eliminate visible emissions.

Another online feature is a new tracking log of state environmental laws implemented by the TNRCC. Visitors can follow any bill of interest, find staff members serving as contacts, and stay abreast of upcoming Commission actions.

These links and others can be found at www.tnrcc.state.tx.us.

Staff also have hands-on involvement with the community through such activities as pollution prevention and recycling projects. Representatives from the central headquarters and the 16 regional offices are active in providing technical assistance, as well as promoting public education, voluntary waste reduction, and recognition of regulated companies, governmental units, and other organizations with outstanding records. The TNRCC also encourages the development of recycled goods and collection programs for household or agricultural chemicals.

Roundup Report

These activities and others occurring in fiscal 2001—from September 2000 through August 2001—are highlighted in the *Biennial Report to the 78th Legislature, Volume I*. In this book, Chapter 1 serves as a "Year in Review," featuring 10 activities or events that provide snapshots of TNRCC services and activities. Chapter 2 on "Environmental Management" analyzes the most pressing issues confronting the TNRCC and the agency's response to those problems.

In Chapter 3, a detailed description of the "Agency Operating Structure" will help the general public understand how the TNRCC is organized and the specific functions assigned to the various divisions. Chapter 4 on "Agency Resources" summarizes the personnel and financial resources that support all the environmental programs previously discussed.

Volume II of the *Biennial Report*, which will summarize the agency's activities in fiscal 2002, will be published in December 2002.

Chapter 1

Year in Review

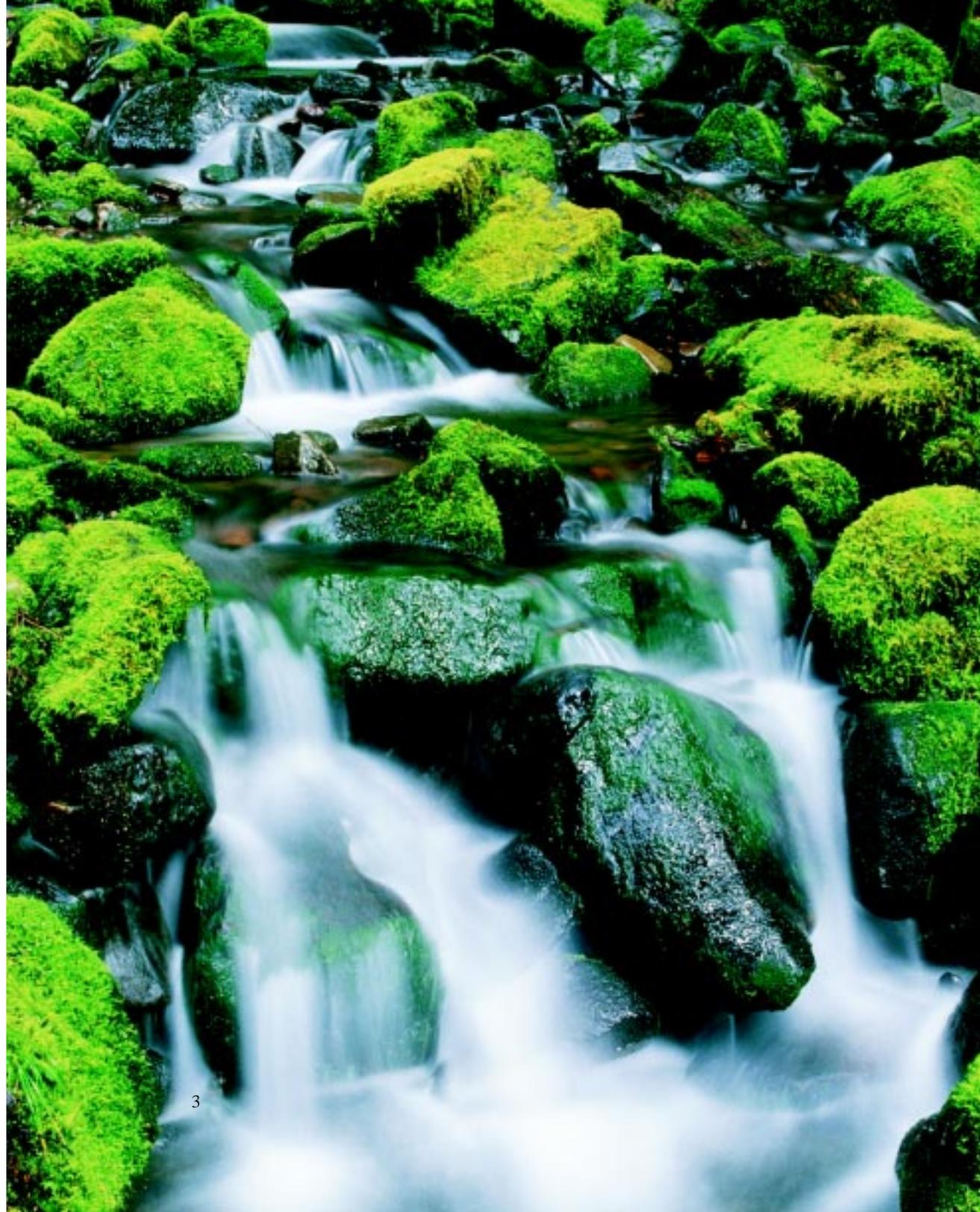
Employees at the Texas Natural Resource Conservation Commission are on the front lines of dealing with environmental challenges every day. They use their training and expertise in a variety of tasks, be it responding to emergency calls or developing community support.

The following events from fiscal 2001 highlight TNRCC people and programs at work. In all of these endeavors, the underlying theme was advancing the protection of natural resources and broadening the public's involvement in environmental issues.

TNRCC Joins in Flood Recovery

As Tropical Storm Allison hovered over the Houston area, dumping up to three feet of rain, the TNRCC's Region 12 staff and the agency's Strike Team mobilized to quickly address developing environmental problems.

In fact, the June 2001 disaster brought together—for the first time under emergency conditions—all the members of the TNRCC Strike Team. These 11 staffers from various regional offices had been specially trained for rapid response to oil and hazardous materials spills, emergency sewage overflows, and other disaster-related environmental events.





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Normally bustling Houston ground to a halt in June 2001 when Tropical Storm Allison dumped 28 inches of rain over a two-day period. Floodwaters swamped homes, freeways, and the Texas Medical Center. The TNRCC was on the scene to conduct environmental assessments and to help with disaster recovery. In the ensuing months, 119,000 people in a 30-county area applied for disaster aid.

The severe flooding paralyzed the city by shutting down major freeways, causing widespread power outages, and forcing thousands of residents out of their homes.

Rising waters also triggered a variety of environmental problems. Four of the six major bayous crested above their 100-year flood levels, spawning problems in air and water quality as well as waste collections and disposal.

The Strike Team was aware that the Houston Ship Channel area posed the potential for key environmental problems because of the concentration of refineries and petrochemical plants. The team worked with refineries and chemical plants that experienced unauthorized releases of air emissions due to electrical outages and advised those companies on emergency operational procedures.

Rising floodwaters also spelled problems when drums, compressed gas cylinders, and other containers filled with chemical compounds were swept from their storage areas. The Strike Team joined the General Land Office (GLO), U.S. Coast Guard, Environmental Protection Agency (EPA), and contractors in cruising the Houston Ship Channel in search of stray drums. After collecting 529 floating containers, the participating agencies assembled the barrels and drums at a secure location until proper analysis and disposal of the items could be conducted.

After days of heavy rains, some industrial plants discovered that the floating roofs on their storage tanks were sinking. This allowed raw chemicals to be discharged, with the contents spilling onto the ground or mixing with floodwaters. The Strike Team, with the help of GLO and the Coast Guard, oversaw the installation of booms to contain chemical slicks on the surface of the floodwaters until cleanup could occur. Companies also conducted their own mitigation efforts to control emissions and odors.

Once floodwaters began to recede, the TNRCC's Houston office worked with 34 public water supply systems that had experienced contamination problems and helped them to restore operations. Staff provided technical guidance and assistance on issuing boil-water notices and procedures for disinfecting private water wells.

TNRCC staff also disseminated information to the public through the news media on the environmental and health implications of flood debris,



The command center of the TNRCC's Strike Team was busy around-the-clock after massive flooding hit the Houston region. Among many assignments, staff helped collect floating containers that had been carried off from industrial centers and answered other emergency calls.

household hazardous waste, and insecticide usage.

The unprecedented flood damage to Houston and the surrounding area carried an estimated cost of \$5 billion. Twenty-two people were killed, and some 48,400 homes were damaged. The federal government declared 30 counties a major disaster area.

During this flurry of round-the-clock activity, floodwaters closed the TNRCC's Houston regional office for three days and damaged the homes of 34 employees. Region 12 section managers worked out of temporary office space provided by the Harris County Pollution Control Office.

In the aftermath, TNRCC staff continued to coordinate with local governments, the EPA, and the Federal Emergency Management Agency on debris collection and disposal of contaminated household hazardous waste products. To help landfills cope with towering volumes of waste resulting from the storm, the Houston office worked to grant temporary permit amendments, allowing the facilities longer hours of operation.

The TNRCC's flood management team also helped staff Houston's disaster field office and held workshops to assist residents in assessing damage to their homes.

CLEAN TEXAS Gets a New Look

More opportunities for environmental stewardship are available now that the former Clean Texas 2000 programs (Clean Cities 2000, Clean Industries

2000, Clean Industries Plus, and Clean Texas Star) have been replaced with a broader, more inclusive program.

Under the new CLEAN TEXAS banner, the program has been re-tooled and broadened in scope to offer more Texans an opportunity to get involved with environmental stewardship. Administered by the Small Business and Environmental Assistance Division, it is designed for organizations that have compiled a solid environmental record and have shown a willingness to commit to preserving the air, water, and land resources.

The previous program focused on waste reduction, and its members were primarily from industries and local governments.

Now three levels of membership are available, all with varying degrees of commitment for a three-year period. This structure makes it easier for all types of organizations—from industries and small businesses to local governments, nonprofits, and academic institutions—to participate.

Another new twist to the CLEAN TEXAS program is its regional approach. Using the eight regional planning areas identified by TNRCC's Strategic Environmental Analysis group, members are grouped with their counterparts in the same region for networking and building partnerships. This approach creates greater local participation among neighbors, focuses more on regional and local issues, and provides local recognition for members. In its first year, CLEAN TEXAS hosted several regional meetings across the state, providing an avenue for environmental leaders to meet their counterparts in other communities.

Beyond networking, members receive other benefits, such as technical assistance, training opportunities, and use of the CLEAN TEXAS logo. They earn recognition during the annual conference and the Texas Environmental



Levels of Participation

CLEAN TEXAS offers members a choice in levels of commitment to make it easier for different types and sizes of organizations to be environmentally active.

Those levels are:

Partner: These members commit to environmental improvement goals, internal environmental programs, and community outreach programs.

Leader: This level requires six commitments: environmental improvement goals set with community support, internal environmental programs, community outreach programs, a system to ensure continuous improvement and compliance, a community-focused communications program, and sustainability practices.

Advocate: These members commit to promoting the CLEAN TEXAS program and supporting a community outreach program.

By August 2001, membership stood at 147, which included 90 Partners, 28 Leaders, and 29 Advocates.

Excellence Awards, and receive the TNRCC's *CLEAN TEXAS Update*, a bimonthly newsletter.

Based on the specific needs of each member, Leaders are eligible for incentives that include regulatory flexibility, technical and program assistance, and organization-specific public recognition.

As a result of the broader opportunities, CLEAN TEXAS members have made commitments that focus on key environmental issues in Texas—air quality, water quality, and water supply. Each of the following examples is scheduled to be achieved in a three-year period, ending in 2003:

- The city of College Station will increase its greenway acreage by 95 percent, with an annual budget expected to grow from the \$40,000 spent in 2000 to \$750,000.
- Bell Helicopter in Fort Worth will boost employees' use of mass transit by almost 100 percent—from 258 employees to 500 employees—and reduce water use by almost 28 percent—from 145 million gallons to 105 million gallons.

- The city of Lake Jackson will reduce air emissions by purchasing 14 alternative fuel cars for fleet operations.
- Habitat Suites of Austin will conserve 52,000 gallons of water and 36,000 kilowatts of energy.

Under the previous structure, the TNRCC's voluntary programs were recognized nationally and internationally for providing environmental leadership, with the help of the following track record: An estimated 195 facilities participating in Clean Industries 2000 halved their Toxics Release Inventory emissions from 1988 to 1997, and the 81 Clean Cities 2000 members diverted 1 million tons of solid waste from landfills each year.

A final analysis of these programs will be issued at the CLEAN TEXAS annual conference in February 2002 in San Antonio.

Additional information can be found at www.cleantexas.org.

Other upcoming initiatives may affect the future of this program as the TNRCC begins to develop a framework for a strategically directed regulatory structure, a new legislative mandate. CLEAN TEXAS is one of the existing agency programs that would likely be a component of an integrated system that looks to use regulation and various approaches to motivate outstanding environmental performance.

Self-Certification Requirements Kick In

On May 1, 2001, owners or operators of petroleum storage tanks who had failed to submit the required paperwork for self-certification of their tanks discovered they could no longer receive shipments of motor fuels. And their customers were left dry at the pumps.

These owners and operators had missed a deadline for complying with a 1999 state law that began requiring petroleum storage tanks to meet a series of new requirements. Leaking petroleum storage tanks have always posed a significant threat to the environment and public safety.

The legislation, which was designed to help ensure the integrity of petroleum storage tanks, set out deadlines for compliance:

November 23, 2000: Revisions to the storage tank rules take effect, including a new Underground Storage Tank Registration and Self-Certification form to be submitted to the TNRCC. The required information must include ownership changes and tank removals, installations, and upgrades.

December, 23, 2000: All underground storage tank pipes must be physically labeled according to uniform standards.

January 22, 2001: The initial registration and self-certification form must be filed. After processing by the TNRCC, a delivery certificate is issued covering specific tanks for which compliance is properly certified by the owner or operator.

May 1, 2001: Suppliers are barred from making deliveries into motor fuel underground storage tanks unless a delivery certificate is available and posted at the facility.

In a cooperative effort with the Texas Association of Convenience Stores, the TNRCC conducted several mailings to disseminate information about the requirement to have petroleum storage tanks certified.

The TNRCC also conducted 18 workshops across the state to provide firsthand information about self-certification.

The TNRCC initially estimated about 20,000 storage tanks statewide would need to be certified. By the May 1 deadline, about 14,000 tanks had met that requirement, leaving the remainder uncertified and ineligible to receive deliveries of gasoline or diesel fuel.

Soon the media began reporting that large numbers of service stations, convenience stores, and other establishments were out of gasoline or diesel fuel because they had missed the state's deadline for certifying storage tanks. The deadline also applied to the public entities that operate vehicle fleets, such as school districts, cities, counties, and state agencies.



▲ More than 17,000 petroleum storage tanks in Texas are subject to a state law spelling out certain safety requirements. By May 2001, an estimated 3,500 tank owners and operators had missed the deadline for self-certification and were barred from receiving motor fuel shipments. Within weeks, the remaining underground tanks had been certified.

Working overtime and on weekends, the TNRCC processed certifications for more than 3,000 storage tanks immediately after May 1 to quickly restore eligibility. As of August 31, the program had certified about 17,500 storage tanks. Some tanks are no longer operational and do not need certification.

Owners and operators will need to renew the certification annually. The first renewals come due in January 2002.

Information about the TNRCC's Petroleum Storage Tank registration database is available on the Web site: www.tnrcc.state.tx.us/subject.html. Under the index, refer to "Data."

Access to TNRCC Data Widens

A computer application designed to provide better access to comprehensive information about the regulated community got under way in fiscal 2001.

The Central Registry, which is still being developed, contains information about the customers and entities the agency must regulate under law (see box). This new program serves as a central point of contact for information about TNRCC permits, registrations, or licenses.

Building a central system to allow access to all TNRCC databases is an ongoing project. The foundation laid thus far includes defining the basic information, or core data, such as customers' and regulated entities' names, addresses, and telephone numbers. It is critical that all the databases have identical listings of the key elements so a comprehensive record of each regulated entity can be presented.

To track all permits and/or registrations an entity may hold, each entity will be uniquely identified in each program area database with an 11-digit number. To ensure accuracy, data standards have been developed to consistently store information. For example, addresses are validated with the U.S. Postal Service.

Eventually, the commonality of the data fields will help link the TNRCC databases into a "virtual location," allowing users to receive a comprehensive report about an entity's environmental history with the TNRCC.

The Central Registry also will enable staff to answer queries such as:

- What companies in Houston hold permits for both air emissions and industrial and hazardous waste management?
- How many wastewater treatment plants are in Dallas County?
- What foreign companies own or operate regulated facilities in Texas?

In the first year of implementation, staff addressed the program area databases of Title V, Water Utilities and Districts, Wastewater General

Permits, Industrial and Hazardous Waste, Municipal Solid Waste, Used Oil, Petroleum Storage Tanks, Water Availability Modeling, Water Quality, Point Source Database, Innocent Owner Program, Brownfields, Dam Safety, and the Edwards Aquifer.

The Central Registry staff can be reached at 512/239-5175, or by e-mail at: registry@tnrcc.state.tx.us.

Laredo Steps Up to Challenge

With the U.S.-Mexico border opened to trade, Laredo has become this country's busiest inland port, handling 40 percent of all U.S.-Mexico trade transported by land.

Such intense activity brings new environmental risks associated with the handling and storing of hazardous materials. Fortunately, Laredo has taken innovative steps to minimize potential problems—with the help of state and federal officials.

When commodities are transported into Mexico, U.S. trucks typically drive the goods to warehouses just inside the border and unload the cargo. From there, short-distance trucks carry the goods across the border to Mexican warehouses,

where they are stored until Mexican trucks pick them up and take them to their final destination. Often the same warehouses are used to store Mexican goods destined for north of the border.

Of the 8,000 trucks crossing Laredo's bridges each day, several dozen carry hazardous materials—chemicals, paints, and polymers, for example—that are stored for indefinite periods before being allowed across the border. Not all warehouses are designed to store such materials, nor are all the warehouse employees properly trained. Sometimes corrosive materials are unclaimed and remain in storage for years, eventually leaking from containers and becoming dangerous contaminants in nearby soil or waterways.

The demand for warehouse space in Laredo has pushed the number of

A customer is the organization or individual that is or has been responsible for a regulated entity. For example, a corporation that owns a landfill is a customer, as is the consulting firm hired to work on the site.

A regulated entity is a broad term that can apply to a company, organization, or facility—anything regulated now (or in the past or future) under state environmental laws. The term could apply to a gas station, a water treatment plant, or petroleum storage tank.

facilities to about 2,000, and still new construction expands capacity by as much as 1 million square feet a month. Anticipating that rate of growth, the city used a TNRCC grant several years ago to begin registering these facilities and ordering them to comply with hazardous material guidelines. In addition, Laredo's zoning ordinance was revised so that warehouses must be built along main traffic arteries that avoid critical watersheds.

To ensure compliance with environmental laws, the EPA and TNRCC regional staff teamed up to conduct surprise investigations. With the help of the Laredo Fire Department, the task force of industrial waste experts visited 216 warehouses in September 2000 and issued 32 citations for violations such as improper storage of used oil and failure to label the contents of containers.

The effort did not stop there. Special instruction was conducted on how to properly label hazardous materials and dispose of abandoned materials.

Also the TNRCC began organizing workshops to review pertinent environmental laws with freight forwarders, customs brokers, warehouse operators, transporters, and shippers. The workshops target Brownsville, McAllen, Laredo, and El Paso.

Estuary Program Funds Projects

In fiscal 2001, the TNRCC's Galveston Bay Estuary Program (GBEP) awarded \$377,000 in grants for projects designed to protect and improve Galveston Bay's water quality and natural resources. The 11 recipients included state and local governments, nonprofit organizations, and academia.

Many of the grant projects address habitat loss, which is the No. 1 problem identified by the GBEP. Wetland habitats are vital because they improve water quality by filtering pollutants, reduce erosion and flooding, and contribute to the economy by providing key habitat for recreational and commercial fisheries.

Continued population growth in the coastal region underscores the importance of implementing projects that preserve remaining habitat or restore lost habitat.

GBEP is a continuation of the National Estuary Program, which was established by amendments to the Clean Water Act to restore and protect



The Galveston Bay Estuary Program works to improve water quality and enhance the bay's living resources. One of the activities is raising funds to support education and restoration projects. Field trips for students and adults raise awareness of issues such as loss of wetlands habitat.



nationally significant estuaries threatened by pollution, development, or overuse. Galveston Bay is economically important to Texas, but its future is threatened by problems such as habitat loss and pollution from runoff.

The Galveston Bay Plan, which established initiatives to address specific problems within the bay's ecosystem, is now in its fifth year of implementation.

The projects selected to receive grants are all located within the Galveston Bay watershed, and all relate to initiatives proposed in the Galveston Bay Plan. By funding locally sponsored projects, the TNRCC seeks to encourage innovative activities that spur public support and involvement while benefitting the environment.

Here are some of the projects that received funding:

- **Galveston Bay Foundation**—\$100,000 to restore about 30 acres of tideland habitat. Resource experts will help identify several sites for

habitat restoration. The project calls for new terracing techniques along with wave barriers to lessen the impact of incoming waves on newly planted smooth cordgrass.

- **Scenic Galveston Inc.**—\$50,000 for continued efforts to restore the natural functions of the most impacted and visible lands along the entry corridor to Galveston Island. Plans are to remove a landfill, restore the area’s natural water flow, and plant smooth cordgrass in the intertidal zone.
- **City of Houston**—\$25,000 for the “Two Bayous to Bay” educational project. The project includes activities along Hunting and Sims bayous for inner city youth to learn about the impact of a highly urbanized area on the local waterways. Activities include mapping the bayous, Houston Ship Channel, and bay; testing water quality; taking field trips to see the waterways and the wildlife they support; planting trees; and cleaning up parks next to the waterways.
- **City of Baytown**—\$25,000 for the San Jacinto Marsh Area, Phase II project. Students work with the city parks department to restore 1½ acres of marsh; study the functions of wetlands (including floodwater retention, water quality improvement, and erosion control); and collect before-and-after evaluations of the restored wetland area.
- **Chambers/Liberty Navigation District**—\$19,058 for the “Facilitators of Waterborne Education” project. Facilitators are trained to lead floating field trips through the Trinity River and Galveston Bay ecosystems to encounter wildlife in its natural habitat, consider past and current uses of the system, and study issues such as wetland conservation and freshwater needs of the estuary. Originated in Chambers County, this project targets both rural and urban links to the Bay ecosystem.
- **Bayou Preservation Association**—\$25,000 for the “Kids on the Bayou” project. About 3,000 students and 600 teachers in the Houston area will explore the city’s waterways and discover their urban watershed’s connection to the bay during four-day Bayou Day camps and after-school Bayou Club activities. For more information on the Galveston Bay Estuary Program, visit <http://gbep.tamug.tamu.edu/>.

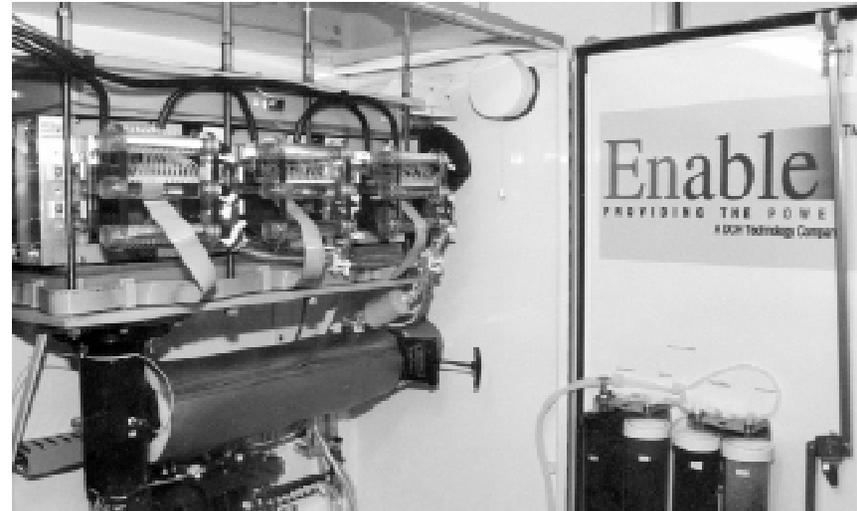
Demonstrating Fuel Cell Technology

The TNRCC launched a new partnership with the public and private sectors to demonstrate the environmental benefits of an alternative energy source—the hydrogen fuel cell.

A 3,000-watt hydrogen fuel cell—a form of distributed power that uses hydrogen and oxygen to produce electricity—was used for several months to power sophisticated air quality monitoring equipment at the TNRCC’s headquarters in Austin. The fuel cell then was moved to the Port of Houston Authority to collect air quality data.

The demonstration project was held to increase awareness of the air quality, energy conservation, and reliability benefits of fuel cells. This emission-free technology emits water as its only by-product.

Fuel cells are a highly efficient way to reduce transmission losses. They can operate with a variety of fuel sources, including natural gas, pure hydrogen, methane gas, and propane. Besides curbing air emissions and greenhouse gases, fuel cells have the potential to complement the existing energy supply.



▲ A 3,000-watt hydrogen fuel cell on loan to the TNRCC for several months served as the power source for monitoring equipment that tested air emissions in north Austin near Interstate 35.

The TNRCC also began evaluating portable fuel cells to power a 12-watt system to monitor water quality in Austin’s Walnut Creek and in remote sampling conducted throughout the state. Replacing diesel generators with fuel cells in remote sampling would eliminate generator emissions that can compromise air quality testing. The samples are essential to the decision-making process used by regional, state, and national regulatory agencies.

The next phase of the fuel cell demonstration project involves the use of “reformer” technology to convert any hydrocarbon fuel into usable hydrogen for the fuel cell. Along with the TNRCC, participants include Texaco Energy Systems Inc., DCH Technology through its Enable™ Fuel Cell Corp. subsidiary, Air Products Corp., the Houston Advanced Research Center, IPS MeteoStar, the Texas Railroad Commission, the State Energy Conservation Office, Unocal Corp., Praxair Inc., and the Port of Houston Authority.

The Legislature in 2001 passed two bills that affect fuel cell technology. Senate Bill 2845 requires the State Energy Conservation Office to develop a statewide plan to increase the commercial availability and economic viability of fuel cells. The office will study programs that could aid commercialization and report its findings and recommendations for fuel cell development.

Helping to develop the plan will be representatives from the fuel cell industry, energy services providers, electric transmission and distribution utilities, small electric energy consumers, and electric cooperatives.

SB 5, also known as the Texas Emissions Reduction Plan, provides grants and other funding for programs aimed at reducing emissions and achieving standards under the federal Clean Air Act. Fuel cells will be one type of technology eligible to receive funding. Under the bill, a representative from the fuel cell industry will serve on a 15-member board to advise on the implementation of SB 5.

More information about fuel cells is available at: www.tnrcc.state.tx.us/exec/sbea/fuelcell/.

Helping to Maintain Texas Beaches

Offshore dumping of containers filled with hazardous materials or petroleum products into Texas and international waters is illegal. Often these

containers end up on beaches and in bays and estuaries. When sealed barrels, drums, or other containers wash ashore, the TNRCC is the agency that state and federal authorities rely on to assess the contents and conduct proper recycling or disposal.

Each year, the TNRCC evaluates more than 1,000 sealed containers for potential removal. These containers can hold hazardous materials, such as petroleum by-products, corrosive solvents, and pesticides. TNRCC regional staff headquartered near the Gulf Coast call on the Emergency Response Program and its lead contractor to help determine the chemical makeup of the contents and whether leakage has occurred. Of the containers inspected, about 400 a year need to be removed by the state and taken to the appropriate recycling or disposal facilities.

Much of this recovery work occurs on ecologically fragile areas along the Texas coast, such as Matagorda Island, a 38-mile-long barrier island that is an extension of the Aransas National Wildlife Refuge. The refuge is home to threatened or endangered species, such as the whooping crane and the Ridley sea turtle.

While the agency has performed this role for years, the practice was just formalized in June 2001, when the TNRCC signed a memorandum of agreement (MOA) with the U.S. Coast Guard outlining the need for the recovery of sealed containers washed onto Texas beaches. The agreement also spells out the roles and coordination requirements between the two agencies and procedures for documentation and reimbursement.

The TNRCC’s Emergency Response Program and legal staff spearheaded completion of the MOA along with Coast Guard representatives.

In Texas, jurisdiction over beaches is a shared responsibility. The Coast Guard has federal jurisdiction over the prevention and cleanup of chemical and hydrocarbon spills in coastal waters and on adjacent beaches, and the state General Land Office, as trustee for state lands, has state jurisdiction over coastal oil spills. Both entities, however, lack the necessary training to assess and respond to hazardous materials assessment, so the TNRCC fills that role, primarily from the regional offices based in Beaumont, Houston, Corpus Christi, and Harlingen.

With the MOA now in effect, the TNRCC can recover past costs for



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The TNRCC is regularly called out to assess unidentified containers that wash up on the Texas coastline. Crews analyze stray barrels and drums for hazardous materials and determine whether leakage has occurred. The TNRCC now has a formal agreement with the U.S. Coast Guard to be compensated for this work.

hazardous materials response work. By August 2001, the TNRCC had recovered almost \$400,000 from the Coast Guard for beach cleanup dating back to 1998. Those funds cover staff time, direct contractor costs, equipment use, and agency overhead.

The TNRCC will continue to be reimbursed for its participation as long as the MOA remains in effect. The agreement will be reviewed every three years.

Enforcement Highlights

The TNRCC conducts thousands of investigations and compliance monitoring activities each year. Although the vast majority of companies meet their environmental obligations, the TNRCC secures several hundred agreed orders assessing administrative penalties and requiring corrective actions from companies that have violated state environmental rules.

Most TNRCC enforcement cases are pursued through administrative orders and civil courts. In fiscal 2001, some of these orders resulted in penalties that exceeded \$100,000 each.

For example, a \$280,000 administrative penalty was levied against the owner of a glass fiber manufacturing plant in Wichita Falls. The assessed fines covered several air emissions violations, which included exceeding permitted emissions limitations for particulate matter, nitrogen oxides (NO_x), and carbon monoxide, as well as failure to obtain a permit for volatile organic compound (VOC) emissions. Half of the penalty was offset with a supple-

mental environmental project (SEP), in which the company paid \$140,000 to help the city of Wichita Falls with materials and a 30-inch transmission line needed to complete a wastewater effluent reuse project.

SEPs provide a settlement option in which companies or municipalities can choose to perform an environmental project—or contribute to one—to benefit the community in which the environmental infraction occurred.

Other significant enforcement actions in fiscal 2001 included:

- The owner of a bauxite refining plant in San Patricio County paid \$206,060 in administrative penalties for violating conditions of its air permit and rules of the Commission. Violations included failure to report operational “upsets” that resulted in unauthorized air emissions, emitting dust off site, and failure to obtain authorization for construction and operation of a new storage unit. Half of the penalty was offset by allowing the company to pay \$103,030 into an SEP with the Texas Environmental Education Partnership Fund. The contribution is to be used to install and maintain ozone monitors in schools in Nueces County or San Patricio County.
- A Beaumont refinery paid \$129,600 in administrative penalties for violating conditions of its air permit and Commission rules. The company was found to have committed the following violations: exceeded the NO_x emissions limits; failed to demonstrate compliance testing and to report the test results; failed to install, certify, and operate continuous emissions monitoring for carbon monoxide, NO_x, and oxygen; and failed to submit a complete final report to demonstrate NO_x compliance. Half of the penalty was offset by the company paying \$64,800 to an SEP to help buy emergency response communications equipment for Jefferson County.
- The former and current owners of a bulk petroleum storage and warehousing plant in Harris County paid \$103,125 in administrative penalties for violating conditions of an air permit. The owner of the Galena Park plant prior to August 1999 shared responsibility with the subsequent owner by assuming accountability for violations that

occurred before the sale of the plant. Violations included failure to conduct stack sampling for air quality within 90 days after the initial start-up of the vapor recovery system, and exceeding the maximum allowable emissions rate for VOCs and the gasoline additive MTBE.

- A petroleum refinery in El Paso paid \$102,500 in administrative penalties for nine violations of its air permit. Violations included exceeding sulfur dioxide and hydrogen sulfide standards and failure to monitor VOC emissions.
- A Southeast Texas city paid \$101,250 in administrative penalties for water quality violations at one of its wastewater treatment plants. The city was cited for failing to prevent unauthorized discharges and to comply with permitted daily average flows from the treatment plant. Commissioners agreed to offset the penalty by allowing the city to spend at least an equal amount performing an SEP that included extending wastewater services to some low- to moderate-income homeowners with 20- to 30-year-old on-site septic systems. The city absorbed all costs normally charged to homeowners for connecting to a municipal wastewater system.

The TNRCC also helped secure the largest environmental criminal penalty ever assessed in the state. One of the country's largest independent petroleum refiners pleaded guilty in federal district court to a single felony count of falsifying a document. Officials with the firm's subsidiary in Corpus Christi admitted its refinery disconnected equipment designed to keep benzene from escaping into the air. Benzene, a petroleum industry by-product, is a known carcinogen.

In a plea bargain, the firm agreed to pay a \$10 million fine to the federal government and to contribute another \$10 million toward an SEP in the Corpus Christi area. The SEP must be approved by the federal district court in which the case is pending. The firm also was placed on probation for five years.

The criminal case was developed by the Texas Environmental

Enforcement Task Force, which includes the TNRCC, the EPA, the U.S. Attorney's Office, the Texas Parks and Wildlife Department, and the FBI. The task force was organized in 1991 to enable agencies from various government sectors to combine their strengths and talents in a coordinated approach.

Star Recognition

The TNRCC's diligence and hard work during fiscal 2000-2001 earned it one of the premier awards for state agencies. The Texas Star Award was presented to the TNRCC by Gov. Rick Perry for distinctive and measurable success in providing services to Texas citizens.

The TNRCC earned high marks for responsiveness and accurate reporting to state budget writers; excellence in customer service; and high employee participation in surveys administered by the University of Texas and designed to improve the efficiency and effectiveness of government organizations.

In accepting the award, Chairman Robert J. Huston said: "Environmental regulation in a state with this size, diversity, beauty of natural resources, and economic might is an extraordinary challenge. The Texas Star Award validates the job our employees have been doing on behalf of Texans."

The Texas Star Award is only presented every two years. Agencies are evaluated by size, with the Legislative Budget Board and the Governor's Office of Budget and Planning screening the applicants.

Along with the TNRCC, other Star winners were the Teacher Retirement Service for a mid-sized agency and the State Office of Administrative Hearings for a small agency.



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Gov. Rick Perry, left, presents TNRCC Chairman Robert J. Huston with the prestigious Texas Star Award, which is only given every two years to state agencies for organizational excellence. The TNRCC won the large-agency category for its performance in areas such as customer service.



Implementing New Environmental Laws

With authorization to operate another 12 years, the TNRCC spent the summer of 2001 preparing to implement new environmental laws passed by the Legislature.

In one of the most significant environmental sessions in a decade, the TNRCC gained more tools for pursuing environmental protection. At the same time, lawmakers conducted an in-depth review of the agency's functions and job performance—the first Sunset review since the agency was created in 1993.

The major measures passed during the session are summarized below.

Sunset Bill

The TNRCC emerged from the session with not only a renewed license to operate but the promise of a new name. By 2004, the TNRCC will be known as the “Texas Commission on Environmental Quality.”

The Sunset bill, HB 2912, became a broad platform for legislative directives. One of the most important changes was making compliance history a more significant component in permit and enforcement actions.

Now the TNRCC must consistently review the environmental records of an individual or company. If the applicant has a pattern of ignoring state or federal

environmental laws, that fact alone may be the basis for denying or revoking a permit. The TNRCC must develop a uniform definition of compliance history by February 2002. The agency then has until September 2002 to develop a system for assessing compliance history in the context of enforcement actions, permitting, and innovative programs.

In another important development, the Sunset bill directs the TNRCC to develop a “strategically directed regulatory structure” to provide incentives for enhanced environmental performance by regulated entities. The incentives will be based on compliance history and voluntary measures that entities undertake to improve environmental quality. These innovative programs are intended to obtain maximum environmental benefits and to reward compliance performance.

The Sunset bill also requires that the Commission:

- Establish policies allowing for a timely response to after-hours complaints.
- Adopt criteria for the contested case hearings in which the executive director may participate (HB 2912 clarifies that the role of the executive director in hearings is to complete the record).
- Address a water quality dispute in the North Bosque watershed near Waco by requiring any new dairies or existing dairies expanding their operations to get individual permits. Those dairies also must manage the manure, such as hauling it out of the watershed or to one of several new composting facilities. Studies have identified dairy farms and municipal sewage treatment plants along the Bosque River as the primary source of phosphorus and algae problems.
- Develop a plan to encourage the use of environmental management systems and integrate the use of these systems in permitting and enforcement.
- Provide an opportunity for a hearing for the reopening of closed municipal solid waste landfills.

The bill also authorized the Commission to certify water treatment specialists and to issue orders requiring adjustments to customer bills from public utilities if the executive director finds the utility failed to make the

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Anyone interested in the environment kept an eye on the Legislature in 2001 to learn the outcome of the TNRCC's Sunset review. The agency won approval for continued operations and got directives for expanding its oversight duties. Lawmakers also created new incentives for conservation and public involvement.

proper adjustment. And it clarified the Commission’s authority to require record keeping and reporting by recycling facilities.

Other elements of the Sunset bill:

- provide for a legislative interim study on the role and authority of the Office of Public Interest Counsel;
- direct that the advisory committees created by the Commission and executive director have balanced representation from interested groups;
- allow the transfer of fee revenue among TNRCC programs and consolidate the water resource management account fees;
- require a program for tracking and reducing upset, maintenance, startup, and shutdown emissions (the law clarifies the burden of proof regarding these emissions);
- require a permit for the land application of Class B sludge;
- allow the agency to use only data from accredited labs in most decisions and give the Commission responsibility for accrediting labs in accordance with national laboratory standards;
- transfer the drinking water laboratory program to the TNRCC from the Texas Department of Health;
- provide for the Texas Environmental Health Institute, jointly created by the TNRCC and Texas Department of Health, to investigate and treat illnesses caused by contamination from Superfund sites;
- provide that certain multiple treatment on-site sewage facility systems may be permitted as an on-site facility; and
- require posting public information on the Web, including minutes of advisory committee meetings, pending permit and enforcement actions, compliance histories, and emissions inventories.

Grandfathered Facilities

The Sunset bill addressed the controversial “grandfather” exemption that allowed industrial plants in existence or under construction before the 1971 Clean Air Act to avoid requirements for air permits.

In 1999, the Legislature required the TNRCC to develop a voluntary permitting program for “grandfathered” facilities. In 2001, lawmakers made it a mandatory permitting program.

The Sunset bill now provides permitting options for various types of facilities: Small businesses may apply for a small business stationary source permit, and electric generating facilities and certain reciprocating internal combustion engines can apply for permits tailored to those facilities.

Finally, a general permitting option, requiring control technology that was the best available 10 years ago, is available for all grandfathered facilities.

Grandfathered facilities located in East Texas (east of Interstate 35) must comply with the permit requirements by March 2007; those in West Texas have until March 2008. After those dates, any facilities failing to meet this requirement may not emit air contaminants, bringing “grandfathering” to an end in Texas.

Among other permitting requirements, the facilities must conduct an evaluation on the health effects of their emissions.

Emissions Reductions

Lawmakers embraced a new strategy to provide grants and other financial incentives to help curb air pollution.

SB 5 was designed to support

Reporting a Problem

One important legislative initiative requires the TNRCC to fully inform the public how to report an environmental complaint and how to gather and handle evidence in support of a complaint. Complaints may occur when Texans smell a noxious odor, come across water or land that appear to be polluted, or notice a problem with the drinking water.

Complainants will be briefed on the type of information needed: the nature and location of the problem, when the problem occurred, and the source of the problem. They will be provided an avenue for bringing forward any supporting information or evidence, such as documents or photographs, a videotape, or a water or soil sample.

The TNRCC also will outline the follow-up procedures, including how long it will take to respond to the complaint.

Environmental complaints may be filed with the TNRCC by one of these means:

- call toll-free at 1-888-777-3186,
- visit the Web site at www.tnrcc.state.tx.us/report-problem.html, or
- e-mail the agency at complaint@tnrcc.state.tx.us.

the TNRCC's revisions to the State Implementation Plan, which targets the "nonattainment" areas of Houston-Galveston, Dallas-Fort Worth, Beaumont-Port Arthur, and El Paso. All four metropolitan areas have violated federal air quality standards, primarily for ozone, and have a 2007 deadline for achieving compliance. Other urban areas—Austin, San Antonio, Corpus Christi,

Victoria, and Longview-Tyler-Marshall, and several counties around the Dallas-Fort Worth area are being closely monitored for "near nonattainment" of ozone standards.

The new Texas Emissions Reduction Plan provides incentive programs aimed at cutting pollution generated by cars, trucks, and diesel construction equipment. The plan's fund, operated in part by the TNRCC, was designed to draw revenue from surcharges on the sale or lease of construction equipment and heavy diesel trucks, a surcharge on heavy truck registrations, and inspection fees and increased registration fees on vehicles new to Texas.

More specifically the bill:

- establishes the Diesel Emissions Reduction Incentive Program, in which grants aimed at 38 counties with air quality problems will help offset the incremental costs of projects that reduce NO_x emissions from heavy trucks and construction equipment, and rebates will be available statewide for the purchases or leases of newer, cleaner heavy-duty vehicles; and
- authorizes additional incentive programs for the purchase or lease of clean light-duty vehicles.

Appropriations Authorized

The TNRCC was approved to receive a total of \$282 million in new funding during fiscal 2002 and 2003. That includes revenue—generated by a variety of surcharges and fee increases—for grants to help reduce the emissions from various sources of air pollution. The appropriations bill also granted flexibility in the agency's use of fee revenue, and it answered the critical need of better compensation of agency staff, especially in high turnover areas.

The General Appropriations Act addressed many of the funding requests submitted by the TNRCC.

In addition to the 4 percent across-the-board salary increase for all qualified state employees in fiscal 2002, the TNRCC received more than \$1.9 million for additional salary increases for select job classes.

The bill eliminated all state agencies' annual limit of 1.7 percent on merits and promotions. For the TNRCC, it established a higher cap for the number of full-time equivalent (FTE) jobs (3,042 in fiscal 2002 and 3,046.5 in fiscal 2003), and gave the agency more hiring flexibility by allowing the number of FTEs to be averaged annually rather than quarterly.

Other significant items funded *beyond* fiscal 2001 levels included:

- \$1.5 million for the Total Maximum Daily Load Program, as well as 2.5 new FTEs in fiscal 2002 and 3 in 2003);
- \$2 million in grants for technical analysis in near-nonattainment cities;
- \$4 million for air modeling activities;
- \$2.2 million from fee revenue to be collected on upset air emissions;
- 5 new FTEs to manage the Texas Emissions Reduction Plan program and as much as \$213 million in biennial funding; an additional \$500,000 for air quality planning activities in 22 counties in and around near-nonattainment areas;
- \$7.5 million from the Municipal Solid Waste Account to clean up waste tire sites, and \$2 million for tire-derived fuel grants;
- 10 new FTEs in 2002 and 11 in 2003 for programs associated with statutory requirements in the agency's Sunset bill, including a performance regulatory program, upset air emissions, lab certification, and after-hours emergency response.

Tailpipe Emissions

HB 2134 gave the TNRCC and the Texas Department of Public Safety more flexibility to implement the state's vehicle inspection and maintenance (I&M) program.

Already, motorists in El Paso, Tarrant, Dallas, and Harris counties must have cars and trucks tested yearly for excess emissions. In 2002, the tests become more sophisticated, and in 2003 and 2004 more counties join the I&M testing program.

The bill establishes a vehicle repair, retrofit, or retirement assistance program for low-income drivers whose vehicles failed the I&M test. Counties that choose to participate may receive funding assistance.

Also the TNRCC is allowed to require more than one type of emissions test in various regions, contract with an entity to purchase and lease testing equipment to inspection stations, and provide incentives to stations that participate in the testing network.

Focus on Water Resources

SB 2 addressed the implementation of water resource plans developed by the regional water planning groups, and strengthened the role of groundwater conservation districts in managing underground water resources.

Originally, SB 2 was drafted to respond to regional planning groups that spent two years examining Texas' future water needs. The groups concluded that, based on population growth, various regions will need major reservoirs and other capital projects totaling \$17 billion in the coming decades.

No funds were approved in 2001 for major water projects, but the Legislature did create an infrastructure fund to pay for pipelines, reservoirs, and desalination plants. Voters were given the chance, through constitutional amendment, to authorize the issuance of \$2 billion in bonds for water projects. The first \$50 million is to be earmarked for the water infrastructure fund.

SB 2 also created the Texas Water Policy Council, composed of representatives of the major water and natural resource agencies, the Legislature, and the public, to recommend state water policy initiatives. The bill modified provisions related to amendments to water rights and applications for use of unappropriated state water, added requirements for water conservation plans, and established a priority for agricultural use of water.

SB 2 also:

- modified provisions related to the designation of priority groundwater management areas and the creation of districts in priority management areas, and required the TNRCC to complete the designation of priority groundwater management areas by September 2005;
- ratified the creation of the groundwater districts created in 1999 on an interim basis and amended provisions related to the creation of groundwater conservation districts and the authority of districts to adopt and enforce rules, including those related to well permits and

permit exceptions, spacing and production limits, fees, and groundwater export; and

- incorporated provisions of other water-related bills, including statutory revisions related to the permitting of concentrated animal feeding operations near sole-source drinking water supplies and revisions to the authority of water utilities to amend rates.

Water Availability Models

The TNRCC was charged in 1999 with developing modeling tools to project water availability for 22 of 23 specific water bodies. The data are used by the TNRCC in water rights permitting and by regional water planning groups in making projections of water availability.

While the TNRCC was on track with completing all 22 by December 2001, the Legislature provided funding for the TNRCC to undertake water modeling on the final water body—the Rio Grande.

Petroleum Storage Tanks

HB 2687 extends the petroleum storage tank (PST) reimbursement program to September 2006, and ensures that sufficient funds will be available for cleanup of the sites that reported a spill by the December 22, 1998, statutory deadline and are eligible for reimbursement. About 6,600 sites still need to be properly assessed and/or cleaned up. Of those, all but 350 are eligible for reimbursement from the fund.

The bill establishes deadlines for various phases of a remediation project, including site and risk assessment, the corrective action plan, and site closure, and makes meeting all deadlines a condition of reimbursement. It also reauthorizes the PST product delivery fee at a reduced rate, with additional fee reductions occurring annually through fiscal 2007.

Chapter 2

Environmental Management

Fiscal 2001 began with an unprecedented air quality study under way in the eastern half of the state. Scientists converged on the Gulf Coast area to study patterns of ground-level ozone formation, the primary pollutant that threatens Texans' health and the state's economic viability.

Meanwhile, research and analysis continued on the source and movement of contaminants that harm the quality of water and land.

The Texas Natural Resource Conservation Commission relies on sound scientific data for its policy decisions and regulatory activities. Protecting natural resources requires investigating the source and development of contaminants with the best available methods, coordinating with stakeholders and the appropriate levels of government, and planning effectively for the long term.

The TNRCC devotes most of its resources to reducing pollution and improving cleanup programs.

This chapter examines some of the leading issues confronting the TNRCC. Cutting across air, water and waste management, the common goal of agency programs is creating a clean environment that fosters good health and quality of life.



Toxics Release Inventory

The Toxics Release Inventory (TRI), a program administered since 1986 by the Environmental Protection Agency (EPA), documents the toxic chemical releases, transfers, and waste management activities that occur both on site and off site for 1,369 manufacturing plants and other facilities in Texas. The TRI

collects data on activities affecting air, water, land, and underground injection.

As part of the federal Emergency Planning and Community Right-to-Know Act, the TRI program was created to make information available to the general public on chemicals considered to be toxic to humans, animals, fish, and plant life. The database is used nationally as the primary indicator of trends in pollution prevention.

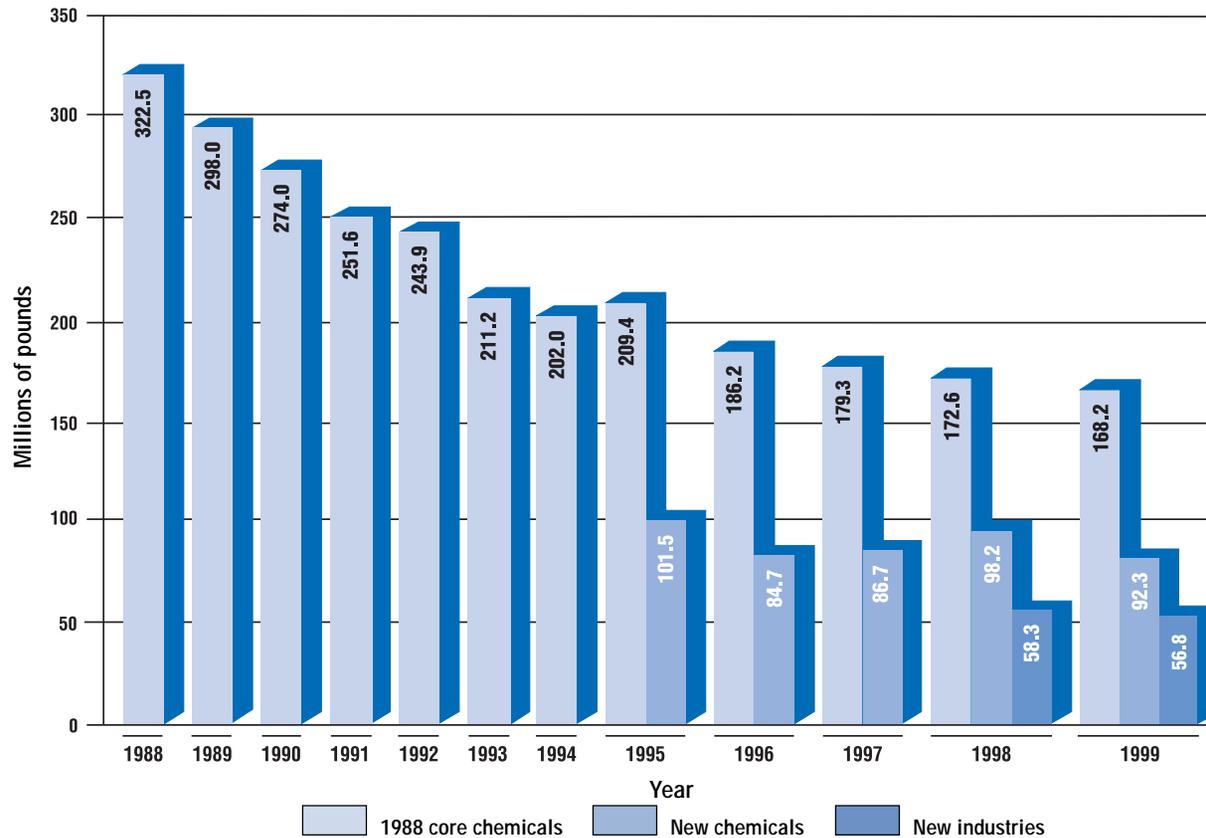
The most recent TRI data—released by the EPA in spring 2001—reflect activities that occurred in 1999.

The TRI reporting requirements have been modified several times. In 1987, the original list of toxics consisted of 308 chemicals and 20 chemical categories. From 1988 to 1999, 285 chemicals and eight chemical categories were added, and 18 chemicals were removed from the list. In 1998, the EPA included seven new industries that were required to report to the TRI database.

Due to the changing nature of the TRI database, a core set of chemicals common to all the reporting years from 1988 to 1999 is used to analyze long-term trends. This set of chemicals is called the “1988 core chemicals.”

The most common method for analyzing long-term trends within the TRI uses annual on- and off-site release and waste disposal totals of the 1988 core chemicals. According to the EPA, Texas has reduced the amount of releases and disposals of the core chemicals from 322.5 million pounds in 1988 to 168.2 million pounds in 1999, a decrease of 47.8 percent.

Texas TRI Releases and Disposals



The TRI is the only means at the federal or state levels of reporting in a single form the releases and disposals of toxics to air, land, and water. This 11-year picture of the TRI reflects the new reporting requirements added by the EPA in 1995 and again in 1998. Texas' 1999 TRI data, which the EPA released in spring of 2001, showed total releases and disposals at about 317.3 million pounds for that year.

A second method, looking at shorter-term trends, uses the 1988 core chemicals and the “new chemicals” added from 1988 to 1995 to analyze the reports from 1995 to 1999. Texas’ amount of releases and waste disposals has fallen from 310.9 million pounds in 1995 to 260.5 million pounds in 1999, a decline of 16.2 percent.

The newest information available from the TRI is the “new industries” data. In 1998, the EPA expanded the scope of the facilities in the inventory to include seven new industry sectors: oil- and coal-fired electric utilities, commercial waste management, solvent recovery, coal mining, metal mining, chemical distribution, and petroleum bulk terminals and stations. Incorporating data from these “new industries,” along with the releases and waste disposals of 1988 core chemicals and “new chemicals,” shows that Texas’ TRI dropped from 329.1 million pounds in 1998 to 317.3 million pounds in 1999, a reduction of 3.6 percent.

Air Quality

The most widely debated and analyzed environmental problem for Texas has been air quality in urban areas, primarily in the metropolitan areas along and east of Interstate 35. The state’s fast-growing population and expanding industrial base have boosted the levels of emissions that compromise air quality.

The pervasive nature of air pollution is often difficult to understand because it is not as visible as contaminated water or land. In some cases, haze will settle over a city, which is readily identifiable as urban smog, but other days with seemingly clear skies might also register high in ozone. Sometimes ozone levels will peak for a short period, then return to average the rest of the day. For that reason, TNRCC monitors operate around the clock to evaluate air quality.

In fiscal 2001, the TNRCC operated air monitoring stations at 132 locations, mostly in urban areas. These stations are located in a variety of places, such as airports, schoolyards, and neighborhoods. Many of the sites have multiple monitors, sampling for ozone, carbon monoxide, particulate matter, and other pollutants, so the actual number of monitors totaled 502.

Health Implications

Poor air quality can have an impact on almost all segments of society: the young and old, the physically fit, and people with health problems, such as asthma. Children are a particular worry because their bodies are still developing and they spend considerable time outdoors.

Ground-level ozone has become a health concern for residents in urban areas where air pollution is more likely to be concentrated. High ozone levels can cause shortness of breath, coughing, wheezing, headaches, nausea, and throat and lung irritation. People who suffer from respiratory disease are more likely to have problems, but even healthy adults who exercise or work outside for long periods can be affected.

Ground-level ozone is not emitted directly into the air, but is formed by a combination of sunlight, heat, and little or no wind—all of which trigger a series of complex atmospheric chemical reactions, primarily involving two gases: nitrogen oxides (NO_x) and volatile organic compounds (VOCs).

NO_x, which is produced almost entirely as a byproduct of high-temperature combustion, comes from a variety of sources—usually industrial—such as electric generating plants. But cars, trucks, and buses are contributors, too, as are construction equipment and even lawnmowers.

VOCs include many chemicals that vaporize easily, such as those found in solvents and gasoline. Sources include oil refineries, chemical plants, power generation units, gasoline stations, and dry cleaners, as well as cars, trucks, buses, ships, and airplanes.

Air pollution in Texas encompasses more than ozone. Particulate matter is another pollutant that can have adverse health consequences. These tiny particles are small enough to be drawn deeply into the lungs, affecting breathing and aggravating cardiac and respiratory problems. These microscopic bits of dust, soot, and smoke can contain chemical compounds, including sulfates and nitrates. In addition to natural occurrences, such as windblown dust and pollen, particulate matter is emitted from cars, trucks, fireplaces, smokestacks, and other types of combustion equipment.

When the weather is hot and sunny, with little air movement, particulate matter can hang around for days or weeks, contributing to air pollution and visibility problems, sometimes hundreds of miles from the sources.

State Implementation Plan for Texas

States are required under federal law to submit plans to the Environmental Protection Agency detailing strategy and timetables for meeting federal air quality standards. The following metropolitan areas, except for El Paso, have until 2007 to attain compliance.

Counties	Pollutant	Classification
Harris, Galveston, Brazoria, Fort Bend, Waller, Montgomery, Liberty, Chambers	Ozone	Severe
Dallas, Tarrant, Denton, Collin	Ozone	Serious
Jefferson, Orange, Hardin	Ozone	Moderate
El Paso	Ozone	Serious
El Paso	Carbon monoxide	Moderate
El Paso	PM10	Moderate

In 1987, the EPA ordered states to measure for particles with a diameter of 10 microns or less. Called PM10, these particles are smaller than the width of a human hair. Subsequent health research led the federal agency to come up with a “fine” particulate standard at 2.5 microns or less in diameter—referred to PM2.5.

Texas and other states continue to monitor for both PM10 and fine PM2.5, but EPA’s standards for fine particulate matter are in a state of flux because of litigation over the issue.

So far, PM10 and PM2.5 do not appear to be a significant air quality problem in Texas, compared with other parts of the country.

Reaching Attainment

More than half of the state’s 20 million residents live in areas that do not meet federal standards for ozone.

For more than a decade, the EPA has been pressuring key urban areas to address this problem. The TNRCC has worked with the federal environmental

agency, the Legislature, local governments, and stakeholders to devise pollution control measures for key parts of the state.

The metropolitan areas of Houston-Galveston, Dallas-Fort Worth, Beaumont-Port Arthur, and El Paso have exceeded the federal 1-hour ozone standard. The 1-hour standard is violated if a monitor exceeds 125 parts per billion (ppb) for more than three days over three years.

These federally designated “nonattainment” areas have a deadline of 2007 to reach compliance, or the state could face federal sanctions. The only exception to this deadline requirement is El Paso, which is affected by emissions from south of the border and has demonstrated considerable improvement in its ozone readings, as well as in measurements for other pollutants.

Strategic Planning and Implementation

Sweeping changes are in store for many Texans as a result of poor air quality in many urban areas.

In an unprecedented and coordinated effort to address emissions from a variety of sources, new air quality regulations will affect heavy and light industrial facilities, diesel equipment, lawn and garden equipment, cars and trucks, and formulations of gasoline.

The TNRCC has moved aggressively to craft a plan that addresses the needs of each region of the state but, at the same time, is rigorous enough to satisfy federal clean air standards. In fiscal 2001, the EPA gave final approval to revisions in the State Implementation Plan (SIP) that include Beaumont-Port Arthur. The federal agency proposed approval of the TNRCC’s submission for the Dallas-Fort Worth area and was still reviewing the plan at the end of the year. The TNRCC also submitted an air improvement plan for Houston-Galveston, then revised the submission in keeping with new laws passed during the legislative session. The EPA approved the final components of the Houston clean air plan in October 2001.

The Texas SIP was carefully designed to recognize the profile of each region. The Houston area, for example, is host to one of the country’s largest industrial complexes. Those industrial and petrochemical operations, combined with high-volume traffic in cars and trucks, produce a challenging

ozone pollution picture that continues to be studied by research scientists.

On the other hand, Dallas-Fort Worth produces a different scenario: ozone-producing emissions that stem primarily from an ever-growing number of cars, trucks, and diesel construction equipment.

In Beaumont-Port Arthur, emissions are generated from a concentration of oil refineries and marine vessels, supplemented by heavy-duty trucks and construction equipment.

El Paso has an air quality scenario unique in Texas. The area is affected by its own car and truck emissions, but also has to cope with seasonal temperature inversions and a variety of emissions that are generated in Juarez, Mexico, and carried by southerly winds.

The TNRCC's final clean air strategy was influenced by state legislation passed in 2001. Senate Bill 5, creating first-time incentives for reducing air pollution, was a direct response to SIP recommendations by the TNRCC. The bill became a key component in the agency's ability to achieve compliance with federal air quality standards.

As a result of SB 5, the TNRCC revised some of its proposed pollution control measures for the Houston area, including the repeal of the proposed early morning construction ban and the early retirement and replacement of off-road diesel equipment. Other proposed SIP changes included engine idling restrictions, diesel fuel and diesel engine requirements, controls on large industrial emissions, and the emissions cap-and-trade program.

Additional SIP amendments stemmed, in part, from an agreement to stay a lawsuit by the Business Coalition for Clean Air Appeal Group (BCCA-AG) and several individual companies over certain SIP measures approved by the Commission in late 2000.

In the lawsuit, BCCA-AG's position was that "upset" emissions—the unscheduled releases of air pollution by industrial facilities—may cause rapid increases in ozone formation. In the settlement, the TNRCC agreed to scientifically investigate rapid ozone formation events and, if appropriate, develop a SIP revision by June 2002.

Proposed rules stemming from the agreement would allow for the substitution of some emission reductions, which were previously required from electric utilities, with reductions from certain "grandfathered" facilities,

as required by House Bill 2912. Reliant Energy of Houston, for example, will reduce emissions levels by 90 percent, rather than the 93.5 percent originally proposed.

Understanding Ozone

The Texas 2000 Air Quality Study, which began in the summer of 2000, pulled together 250 researchers from the public and private sectors to examine the Gulf Coast's complex interaction of emissions, meteorology, and atmospheric chemistry. The \$20 million study is examining how these factors influence the formation and concentration of ozone and particulate matter, as well as the movement of air pollutants around the state.

In August and September 2000, scientists used specially equipped research aircraft and an array of ground equipment to monitor and analyze the chemical and atmospheric reactions that produce pollution in the Houston area.

By August 2001, the first study results were reported, and the findings held surprising news. The rates of ozone production in the Houston area—downwind from major industrial sources—were substantially higher than expected; in fact, higher than ever detected in the United States.

The investigation also suggested that hydrocarbons, such as ethylene, propylene, and 1,3 butadiene, contribute to unusually high ozone production rates. According to aircraft measurements, the VOC emissions also were higher than previously reported.

These findings, along with factors including the agreement in the BCCA-AG lawsuit, required the TNRCC and other study participants to expedite their analysis of ground-level ozone.

Representatives of companies, including some that produce ethylene, propylene, and 1,3 butadiene, began working with the TNRCC and research scientists from the study to address apparent discrepancies between established emission inventories and measurements made during the air quality study.

The evaluation focuses on several issues, such as the causes of rapid-forming ozone. The primary goal is to determine whether some alternate ozone-reducing strategy in the Houston region would be at least as effective

as the strategy proposed in the SIP. An alternate strategy would likely call for substantial additional hydrocarbon controls and a lower NO_x reduction than the current requirement of 90 percent.

Under the agreement in the BCCA-AG case, a report on the possibility of developing an alternate strategy must be completed by February 28, 2002. By June 2002, the TNRCC executive director may propose a SIP revision

universities, federal laboratories, representatives of environmental organizations and industry, the EPA, and TNRCC staff.

The Legislature in 2001 approved \$4 million for improving air quality analysis. The appropriation will be used by the TNRCC primarily in fiscal 2002.

Tailpipe Testing

As fiscal 2001 came to a close, the TNRCC was preparing to expand the inspection and maintenance (I&M) tests for car and truck emissions. The effort to curb vehicular emissions that contribute to ozone formation will focus on the metropolitan areas of Houston-Galveston, Dallas-Fort Worth, and El Paso.

In August 2001, the TNRCC published the proposed revisions to the I&M rules in the *Texas Register* and adopted the revisions in the fall. Under the program, vehicles that are 2 to 24 years old will be tested annually as part of the mandatory safety inspection. Motorists will have to pass both tests to receive a safety sticker. Vehicles that fail the I&M test must be repaired to comply with emissions standards and then submitted for a retest. Repair costs will be capped, and waivers will be available to low-income motorists.

The Texas Department of Public Safety will continue to administer the safety inspections, while the TNRCC is responsible for setting the emissions testing fee.

The new I&M program not only applies to more counties than those in the current testing requirements, but requires the use of more sophisticated testing equipment—the acceleration simulation mode and onboard diagnostics.

The program also expands another monitoring component—remote sensing on highways. This equipment, which is installed on vans, will be used to identify high-emitting vehicles commuting to the target areas from adjacent counties.

8-Hour Standard

Texas' ozone problems go further than the federal 1-hour standard. In recent years, a tougher measure has been devised for monitoring ground-level ozone: the 8-hour standard. Under this standard, a metropolitan area is in violation when the three-year average of the annual fourth-highest daily 8-hour average concentration is 85 ppb or higher.

Expanded Emissions Inspections	
North Texas Counties	Effective Date
Dallas, Tarrant, Denton, and Collin	May 2002
Ellis, Johnson, Kaufman, Parker, and Rockwall	May 2003
Southeast Texas Counties	Effective Date
Harris	May 2002
Galveston, Montgomery, Brazoria, and Fort Bend	May 2003
Chambers, Liberty, and Waller* *If an alternative air plan has not been approved	May 2004
Far West Texas	Effective Date
El Paso County** **The two-speed idle test remained in place through 2001. Starting in 2002, all vehicles that are model-year 1996 and newer may be tested with the more advanced computer equipment used in the other I&M test regions.	January 2003

that uses alternate NO_x reduction strategies.

The scientific basis for any alternate strategy will include an objective scientific evaluation of the events causing rapid ozone formation and potential measures not previously identified for the Houston-Galveston area.

To assist with the expedited project, the TNRCC established an interim science coordinating committee that includes leading ozone researchers from

Compliance is tougher because the longer monitoring period provides for more opportunities to capture the consequences of high-volume traffic and industrial activities.

The 8-hour standard would most affect the “near-nonattainment” areas of Austin, San Antonio, Tyler-Longview-Marshall, Corpus Christi, Victoria, and several counties around the Dallas-Fort Worth area. All of these areas are being monitored under the newer standard, as are the four existing nonattainment areas.

However, the federal 8-hour program has been placed on hold for now. Although the EPA began instituting the 8-hour standard in 1997, a series of legal challenges eventually postponed enforcement. In early 2001, the U.S. Supreme Court upheld EPA’s right to adopt the 8-hour standard, but objected to the federal agency’s implementation policies. A federal circuit court in Washington, D.C., is addressing the issues remanded by the Supreme Court.

While the 8-hour standard remains in legal limbo, many Texas cities have begun to tackle their ozone problems, despite the existing uncertainty. Some local officials have discussed the possibility of voluntarily electing to inspect tailpipe emissions, if needed.

Several areas have promoted the use of carpools and flexible work schedules for commuters, and some local government fleets have begun using alternative fuels. The Central Texas Clean Air Force has teamed with the Greater Austin Chamber of Commerce to track voluntary emission reductions from a variety of businesses. San Antonio has recruited experts to develop a sophisticated technical analysis team.

Each of the near-nonattainment areas has worked on modeling air emissions and developing control strategies. In an unusual project, Austin, San Antonio, Victoria, and Corpus Christi have joined to analyze a single high-ozone day in 1999 to develop a better understanding of the emissions inventory and the impact of weather. The four urban areas are studying what measures could be enacted now to avoid high-ozone events in the future. The Tyler-Marshall-Longview area, which has different weather conditions, is working on a separate 1999 modeling episode with the same goal.

City and county officials say they would rather institute action plans than face the possibility of mandatory measures from the EPA. The Legislature

approved \$5 million this biennium, an increase of \$2 million, to assist the near-nonattainment areas with air improvement plans.

Water Quality

Texans need clean water for drinking, recreational activities, and animal and aquatic habitat. But many rivers, streams, and lakes are contaminated with bacteria, pesticides, and other chemicals. The source of these pollutants can be traced to storm water runoff, wastewater, and natural or manmade sources.

The TNRCC administers water quality management programs with the goal of protecting, maintaining, and restoring water resources. To meet this

Pollution Solutions

Water pollution generally has two origins: point source and nonpoint source.

Point source pollution comes from a single, identifiable source, such as a pipe from a factory. On the other hand, nonpoint source pollution can occur over a large area, entering water bodies at numerous locations. Nonpoint source pollutants come in numerous forms: fertilizers, pesticides, animal wastes, engine oil, eroded soil, and sewage sludge.

Since passage of the federal Clean Water Act in 1972, many states have made strides in reducing point source pollution through the implementation of the National Pollution Discharge Elimination System, a permitting program for industrial and municipal dischargers. If lower pollution levels from point source pollution are required for a water body, discharge permits can be adjusted.

Nonpoint source pollution is more difficult to analyze and control; as a result, it is responsible for the majority of polluted water bodies in Texas and the United States.

The development of “best management practices”—land-use and industry-specific practices—have proved to be the most practical and cost-effective methods of addressing nonpoint source pollution. Examples are vegetative filter strips that protect streams by removing pollutants from agricultural runoff, and sediment control fences that catch runoff from disturbed areas, such as construction sites.

Legacy Pollutants

The TMDLs approved for the Fort Worth area are the first in Texas to address legacy pollutants—banned or severely restricted chemicals that continue to affect the environment years after their use has been curtailed.

Each of the five Fort Worth water bodies is affected by one or more of these legacy pollutants: PCBs, chlordane, dieldrin, DDD, DDE, and DDT. PCBs are used as coolants and lubricants; the other chemicals are insecticides or the degraded products of insecticides. The primary origin of contaminants at these locations is believed to be nonpoint source runoff.

Fish tissue sampling over the past decade determined that these pollutants exceeded state standards at Lake Como, Fosdic Lake, Echo Lake (a portion of the Clear Fork Trinity River below Benbrook Lake), and a portion of West Fork Trinity River below Lake Worth. Those findings prompted the Texas Department of Health to issue fishing bans.

Recent fish and sediment sampling in these Fort Worth water bodies suggests that legacy pollutant levels are diminishing, and this trend is expected to continue as the concentrations of pollutants decline.

Other legacy pollutant projects were completed in fiscal 2001 and await EPA's approval. Among those projects are the Arroyo Colorado near Harlingen and Clear Creek in Houston.

Program also developed improved monitoring and quality assurance practices that will increase the quality and consistency of water quality data collection and reporting. New reporting requirements were developed, and any laboratory analyzing data for the CRP must have a quality assurance plan in place. Training in these new requirements was provided to a number of agencies that

goal, the TNRCC calls on a variety of programs and resources, and enlists the cooperation of stakeholders. The job of restoring and maintaining water quality requires the TNRCC to collect data on the quality of water bodies and use the information to formulate cleanup plans.

Surface water: The TNRCC oversees surface water quality planning, assessments, and watershed restoration projects. The Texas Clean Rivers Program, working in partnership with the TNRCC, other state agencies, local governments, and stakeholders, coordinates the efforts of 15 regional planning agencies to monitor water quality at more than 1,500 sites throughout Texas. These sites are monitored on a monthly or quarterly basis for water chemistry and field measurements. Additional monitoring is conducted at many stations for a variety of factors, including toxic substances, bacteria, temperature, and the quality of wildlife habitat.

In fiscal 2001, the Clean Rivers

monitor water quality data in cooperation with the TNRCC.

Groundwater: Groundwater can be contaminated when pollutants on or near the surface of land migrate through the soil or encounter an opening, such as a well or sinkhole, that connects directly with an aquifer. The TNRCC is responsible for the state's management plan to prevent pesticide contamination of groundwater, and it manages the state's program to identify and assess priority groundwater management areas.

The TNRCC's Groundwater Planning and Assessment Program completed a pilot project to test a new means of detecting pesticide contamination of groundwater. The immunoassay method can identify contaminated areas quickly and cheaply. This streamlined test comes in a portable kit that enables testing to be conducted in the field or in TNRCC offices. Testing is restricted to one pesticide at a time, but the cost is a fraction of what would be spent sending field samples to a contract laboratory.

In cooperation with the Texas Water Development Board (TWDB) and the High Plains Underground Water Conservation District No. 1, the TNRCC analyzed 660 groundwater samples from the Panhandle/High Plains Aquifer region for the presence of atrazine, a pesticide often used in agriculture. The survey found 22 samples that were positive, most in an 11-county area in the central Panhandle. Testing hundreds of water wells would otherwise have been prohibitively expensive.

A similar effort with the TWDB was getting under way to detect pesticide contamination of groundwater aquifers along the Gulf Coast from Louisiana to Mexico. More than 300 samples are expected to be tested for the pesticides atrazine and metolachlor.

Restoring Impaired Waters

The Total Maximum Daily Load (TMDL) Program aims to restore water quality in surface waters that do not meet their designated uses, such as swimming, fishing, or supplying drinking water.

A TMDL is a technical analysis that determines the maximum volume of specified pollutants a body of water can receive and still meet its water quality standards.

The federal Clean Water Act requires all states to identify the water

bodies in their jurisdiction that do not meet water quality standards. This list of “impaired” water bodies, called the 303(d) list, is developed in Texas by the TNRCC using water quality data from various sources. All freshwater and marine water bodies—with sufficient water quality data to assess at least one designated use—are evaluated.

According to the latest water quality inventory, 54 percent of the 516 assessed water bodies in Texas have been found to fully meet acceptable state water quality standards. For the water bodies that do not meet all standards, the TNRCC must either demonstrate that the impairment listing is no longer valid or perform a technical analysis to develop a TMDL.

As part of the TMDL process, the TNRCC may conduct additional monitoring and data collection to better understand the water quality concerns. This information is used to further analyze the water bodies in question for point source and nonpoint source pollution (see sidebar, page 25). All TMDLs involve public participation. Each TMDL adopted by the TNRCC must also be submitted to the EPA for approval.

After a TMDL has been established for a particular water body, the TNRCC develops an implementation plan with the participation of local stakeholders, describing the voluntary and regulatory measures needed to achieve the pollution reduction detailed in the TMDL. The plan may address reductions in point source pollutants through adjustments to wastewater discharge permits. Pollution from nonpoint source pollution may be addressed through measures called “best management practices.” The TMDL and implementation plan together constitute a watershed action plan.

Throughout the TMDL process, stakeholder work groups or existing community forums are used to obtain public input. These stakeholders provide valuable comments and are instrumental in putting remedies into place. Local, state, and federal agencies are regularly consulted, along with other TNRCC water quality-related programs. When agricultural non-point source pollution is involved, the TNRCC works with the Texas State Soil and Water Conservation Board to establish the TMDLs and implementation plans, drawing on that agency’s expertise in agricultural best management practices.

In 1998, the TNRCC committed to developing TMDLs for all impaired water bodies within 10 years of each being first placed on the 303(d) list. In

2000, that included 240 water bodies with 336 impairments.

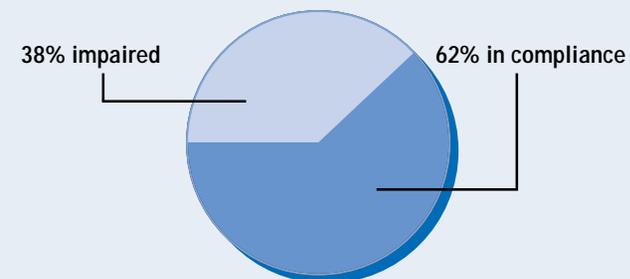
The TMDL program has made significant progress. By the end of fiscal 2001, there were 169 different TMDLs in various stages of development for 125 different water bodies. Other water bodies on the 303(d) list were undergoing intensive monitoring to further pinpoint the source or cause of the impairment prior to the TNRCC’s initiating a TMDL project.

Among the achievements in 2001, the TNRCC won EPA’s approval of 11 TMDLs for various legacy pollutants in five Fort Worth-area water bodies (see sidebar, page 26).

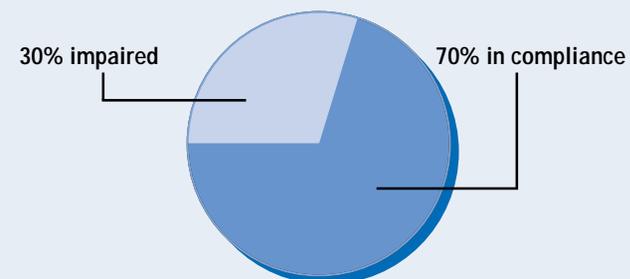
The EPA also approved two TMDLs for chlordane in Clear Creek near Houston, four TMDLs for legacy pollutants in the upper portion of the Arroyo Colorado and the Donna Reservoir in Hidalgo and

Meeting the Standards

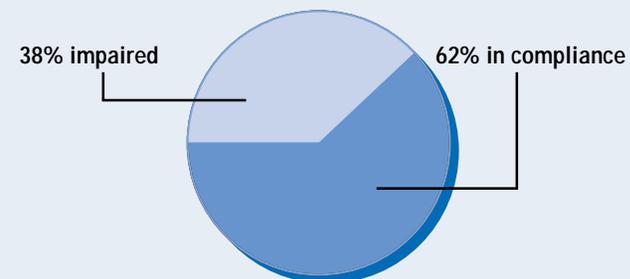
The TNRCC and its contractors have assessed 78 percent of total reservoir acres, 83 percent of total estuary square miles, and 8 percent of total stream and river miles in Texas. Of the acres assessed for water quality, the following rates of compliance were recorded.



1.5 million reservoir acres assessed



15,082 stream and river miles assessed



1,993 estuary square miles assessed

TMDLs Adopted by the TNRCC, Fiscal 2001

Project and Location	Number of Water Bodies Affected	Designated Uses	Pollutants of Concern	Number of TMDLs
Fort Worth segments (Tarrant and Dallas counties)	5	Fish consumption	Chlordane, dieldrin, DDE, PCBs	11
E. V. Spence (Coke County)	1	General water quality use	Sulfate, TDS	2
Lake Austin (Travis County)	1	Aquatic life	DO	1
Dallas County segments	3	Fish consumption	Chlordane, dieldrin, DDD, DDE, DDT, PCBs, heptachlor epoxide	9
Arroyo Colorado above Tidal and Donna Canal (Hidalgo and Cameron counties)	2	Fish consumption	Chlordane, toxaphene, DDE, PCBs	4
Clear Creek (Galveston, Harris, Fort Bend, and Brazoria counties)	2	Fish consumption	Chlordane	2
Clear Creek (same counties as above)	2	Fish consumption	Dichloroethane, trichloroethane (VOCs)	4
Aquilla Reservoir (Hill County)	1	Public drinking water	Atrazine	1
North Bosque River (Erath, Hamilton, Bosque, and McLennan counties)	2	Aquatic life	Nutrients	2

Status of Texas TMDL Program, August 2001

FY 2001	TMDL projects initiated	TMDL projects adopted by Commission	TMDL projects approved by EPA	Implementation plans initiated	Implementation plans approved by Commission
Water Bodies*	40	17	12	31	24
TMDLs**	42	36	26	50	5

*Sometimes an entire river or lake is not impaired, just a portion. Therefore, the term “water body” often refers to a specific segment of a larger body of water.

**A TMDL is a process that assigns limits to pollutants. Therefore, several TMDLs may be required for the same water body if there are multiple sources or multiple pollutants.

Cameron counties, and nine TMDLs for legacy pollutants in three Dallas-area water bodies.

The TNRCC also launched the ambitious Gulf Coast Oyster Waters project, a long-range plan to create TMDLs and implementation plans for 20 bays and estuaries restricted from shellfish harvesting because of high levels of bacteria. The TNRCC has established an interagency work group to compile data and prioritize projects, and is forming stakeholder work groups and determining data collection needs. The goal is to restore the water quality to levels that will meet public health standards for safe shellfish consumption.

As more TMDLs are completed, the TNRCC focuses increasingly on developing implementation plans. By the end of fiscal 2001, the Commission had approved five implementation plans, and many more were being prepared.

Water Availability

On the heels of the drought of 2000—one of the driest periods in years—most regions of Texas were celebrating plentiful rains over the winter of 2001. By spring, the majority of rivers had been restored to decent flow conditions, and the crop outlook was improved.

Then Tropical Storm Allison unleashed torrents of rain on Southeast Texas, paralyzing Houston and nearby communities in early June. Like most

tropical weather systems, Allison dumped a prolific amount of rain in a short time over a confined area. But, for most of the state, that same month was unusually dry.

By August 2001, the majority of the state was in at least a mild drought, the Trans-Pecos, North Texas, and South Texas regions were in a severe drought, and the Lower Rio Grande Valley was classified as in extreme drought. A total of 130 public water systems throughout the state had notified customers to limit water usage through restrictions; of those, 55 systems imposed mandatory restrictions, and the rest were voluntary.

Whatever future summers bring in Texas, community water suppliers will be better prepared for weather that is unusually hot and dry. The state’s 236 largest retail water utilities (those serving more than 3,330 connections) have all prepared and adopted drought contingency plans, as required by state law. The 300 wholesale suppliers to retail water systems also have adopted the required plans.

TNRCC staff check for these contingency plans as part of annual inspections of the state’s 4,500 retail water suppliers. The agency emphasizes that having to implement drought contingency measures, when warranted, is not a sign of a failing public water system, but simply a part of responsible, professional utility management.

Lower Rio Grande Valley

While many parts of the state have had to tough out long dry spells in recent years, no region has suffered as much as far South Texas.

Rainfall has been at critically low levels for eight years. Both the Amistad and Falcon reservoirs have experienced ongoing depletion of water due to lack of inflows and rainfall.

Demand on the Rio Grande has grown with urbanization and industrialization. Communities on both sides of the river, along with agricultural operations, rely on the river and its tributaries. Valley farmers predict large economic losses without sufficient irrigation water, and border cities, which have priority over farms, worry about projected water deficits.

Meanwhile, the Rio Grande has been plagued with more than drought. Non-native weeds are flourishing, creating a crisis as silt builds up and chokes off water flow.

Because of a combination of low flows and the compounding weed problem, the Rio Grande stopped flowing into the Gulf of Mexico in June, requiring work crews to dredge out a channel to restore flow to the sea. In midsummer, the taps ran dry in Matamoros when the Rio Grande dipped lower than the city's intake pumps. The TNRCC and the Brownsville Public Utility Board helped their southern neighbor by providing short-term municipal water needs. Brownsville was not affected.

By summer's end, mechanical removal of water hyacinth and hydrilla was under way, with the help of \$50,000 from the TNRCC.

Water availability has been further complicated by an ongoing disagreement between the U.S. and Mexican governments over how Mexico should achieve compliance with water allocations spelled out in a 1944 treaty. The state of Texas is working with the federal government through the U.S. section of the International Boundary and Water Commission, seeking to work out a plan for Mexico to make current deliveries and to make up a deficit in water deliveries that has grown to about 1.4 million acre-feet in nine years. An acre-foot is equivalent to the amount needed to cover an acre of land with one foot of water.

The TNRCC's Rio Grande Watermaster Office in Harlingen continues to monitor diversions on the U.S. side to ensure that only authorized water is being used. The office also is cooperating with the International Boundary and Water Commission to identify any unauthorized diversions on the Mexican side.

Long-Term Outlook

While some regions worry about immediate water needs, the state is reshaping water management policy with an eye to the future. Sixteen water planning groups, reflecting local communities around Texas, have worked for several years analyzing regional water needs and drafting long-term solutions. The TWDB will incorporate these regional water plans into a state water plan. Once formally adopted by the TWDB, the state water plan will serve as a

guide to setting state water policy. The Legislature in 2003 is expected to consider a long-range management plan.

With demographic trends suggesting the state's population will double by the middle of the century, the regional planning groups have been evaluating the feasibility and effectiveness of measures ranging from conservation programs to water infrastructure projects—or any combination of programs that will support municipal needs and economic development in each region. Their work has already highlighted two areas of the state that have acute water problems: El Paso and the Rio Grande Valley. The El Paso area is expected to cause two major aquifers to become depleted of freshwater by 2030, and implementation of all recommended water management strategies will still leave the Rio Grande region with unmet water needs.

The TNRCC has supported the regional planning process by preparing water availability models and guidelines for the development and documentation of groundwater models. State law requires groundwater districts to generate management goals and implementation strategies.

Waste Issues

A routine day of working and tending to home and family generates more waste than most people realize. Waste is produced by households, businesses, and manufacturing and industrial plants. The refuse includes everything from yard trimmings and computer ink cartridges to petroleum byproducts and toxic substances.

The TNRCC strives to protect health and the environment by ensuring responsible management of hazardous and nonhazardous waste. This requires conducting programs that cover a broad range of activities associated with waste management and cleanup.

Superfund Program

Superfund is the name given to the federal law that enables the EPA to take care of sites contaminated by hazardous substances. Passed by Congress in 1980, this law provides the EPA the legal power and resources to clean up sites that are considered to be the worst abandoned or inactive hazardous properties.

The name Superfund comes from a trust fund that provides money for investigating and cleaning up the sites.

Before federal and state laws existed to control how hazardous chemicals were handled, much hazardous waste was dumped on the ground, poured into rivers and lakes, or buried underground. These careless practices produced contaminated sites throughout the country, many of which were located near where people live and work.

From the inception of the federal program, Texas has actively participated in leading the cleanups or supporting the EPA. In 1985, the Legislature created a state Superfund program in Texas to deal with sites that were ineligible for the federal program. Proposing a site to the state Superfund registry enables the TNRCC to use state funds for cleanup operations at the contaminated property, if no responsible parties exist to perform the cleanup.

In fiscal 2001, Texas had a total of 91 sites in the state and federal Superfund programs, including eight new sites proposed to the state Superfund registry: one each in Anderson, Gregg, Guadalupe, Harris, Hays, and Navarro counties, and two in Brazoria County.

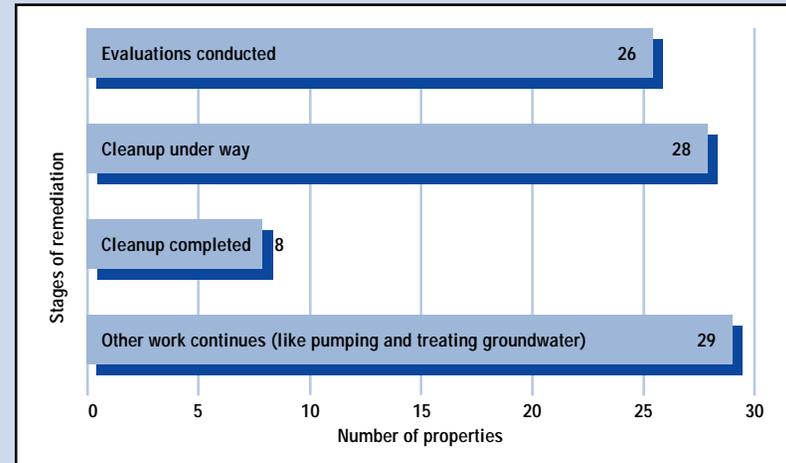
After a site is proposed for the Superfund program, the responsible party or the TNRCC proceeds with a remedial investigation, during which the agency collects and analyzes information to determine the extent and nature of the contamination. A feasibility study follows to identify and evaluate possible cleanup remedies for the site.

Then the general public is encouraged to comment on the proposed cleanup remedy. During this 30-day comment period, the TNRCC must publish a notice of the opportunity to comment on the proposed remedy in a local newspaper. A public meeting is held in the community to explain the proposed remedy and to take comments. After reviewing the public comments, the TNRCC selects a remedial plan and moves forward with implementation.

Projects that enter the Superfund program are prioritized by risk, with the most hazardous sites placed at the top of the list. The need to locate the responsible parties and to resolve legal matters, such as access to the site, takes time. Therefore, it takes several years for most sites to be fully investigated and properly cleaned up.

Superfund Cleanups in Texas

By the end of fiscal 2001, there were 91 properties in various stages of remediation in the state and federal Superfund programs.



One Superfund site closed out in the 1990s generated headlines again in 2001. A federal district court accepted a \$120 million cost-recovery settlement in connection with the Sikes Disposal Pits in Harris County, a property once named among the most polluted in the country.

In the settlement, 28 oil and petrochemical companies agreed to pay \$8.7 million to the state and the remainder to the federal government for the cost of cleaning up thousands of tons of toxic chemical wastes dumped at the site near Crosby. The TNRCC and the EPA had incurred the costs during a lengthy cleanup.

The Sikes site is good example of how business practices before passage of environmental laws created contamination problems that can persist for decades. In the 1960s, the Sikes property in northeast Harris County was used as a dump site for chemical wastes. Companies paid to unload wastes containing organic chemicals into abandoned sand and gravel pits.

By 1990, remediating that property became a priority for the federal

Superfund program because petrochemical wastes were leaching into the sandy soils of the San Jacinto River with a potential for traveling into Galveston Bay. Also the site was located within the river's 100-year floodplain.

The TNRCC assumed the lead role in the cleanup, which was the most extensive in the history of the federal Superfund program at that time. The TNRCC hired consultants to excavate and incinerate more than 1 billion pounds of wastes, soil, and sludge, and treated 350 million gallons of water, thus eliminating the threat to human health and the source of contamination to the groundwater. Restoration was completed in 1994.

Petroleum Storage Tanks

The contamination of groundwater and soil due to leaking petroleum storage tanks (PSTs) is an environmental problem known to all regions of the state. This contamination can be traced to thousands of underground and aboveground PSTs. The TNRCC oversees PST cleanups and reimburses eligible parties who take appropriate action when leaks are discovered.

In all, 22,823 leaking petroleum storage tanks—primarily those at gasoline stations—had been reported to the TNRCC by the end of fiscal 2001; of those, cleanup at 16,176 sites had been completed, and corrective action was under way at 6,647 sites.

Leaking PSTs can be discovered when the tank owner or operator upgrades tanks or removes them for replacement, when an adjacent property owner is affected, or when the tank leak detection system signals a problem. Sometimes leaks are detected during construction or utility maintenance. Most tank systems that begin leaking are corroded, were installed incorrectly, or were damaged during construction or repairs.

Contamination can result from problems other than system failures or damage during construction—for example, from repeated spills when vehicles are overfilled with fuel.

Tank owners and operators are required by state law to clean up releases from PSTs. The state reimburses eligible remediation costs through bulk delivery fees. Cleanup begins with a site assessment, which includes drilling monitor wells and taking soil and groundwater samples. The TNRCC oversees the remediation until the cleanup is complete. TNRCC staff also oversee

the storage, treatment, and reuse of petroleum-contaminated soil.

Under state law, leaking tanks discovered on or after Dec. 23, 1998, are not covered under the Petroleum Storage Tank Remediation Fund. Subsequent cleanups are paid for by the owners' environmental liability insurance or other financial assurance mechanisms.

To avoid accidental releases, tank owners and operators are required to properly operate and monitor their storage tank systems, to install leak detection equipment and corrosion protection, and to take spill and overflow prevention measures.

The state continues to clean up sites at which the responsible party is unwilling or financially unable to do the work. State and federal funds are used to pay for the corrective actions. State statutes allow cost recovery from the current owner or any previous responsible owner. From August 2000 through August 2001, more than \$500,000 was recovered.

The remediation fund, which was extended by the Legislature in 2001, will no longer be used for reimbursement purposes for any tank owners and operators after September 1, 2006. Other parts of the PST program will continue beyond the September 2006 cessation of the reimbursement program.

Waste Management

Texans disposed of 28.6 million tons of municipal solid waste in 2000, according to the latest available data. That amount of disposal equaled 7.5 pounds per person per day. These numbers continue to grow as the state expands in population and business activities.

By the end of 2000, municipal solid waste capacity in Texas had reached 904 million tons, representing about 30 years of disposal capacity.

Texas had 183 active municipal solid waste landfills in 2000; of those, five received permit amendments to expand. These expansions indicate a trend toward more regional landfills serving larger areas. Statewide, there appears to be adequate disposal capacity for the coming decades; however, capacity needs vary substantially from region to region.

To address solid waste issues, the TNRCC manages a statewide planning program designed to ensure the state will have the landfill space that it needs in the long term. Every four years, the TNRCC develops a state plan, in which

regional plans developed by the 24 Councils of Government (COGs) are updated. The next state plan is due for release in 2004.

To assist the COGs, the TNRCC issues grants that are funded by fees paid by municipal solid waste disposal facilities. For the 2000-2001 grant period, the grants funded 500 local and regional projects that ranged from collection stations in underserved areas to education programs and enforcement against illegal dumping.

Waste Permitting

The Commission adopted a new rule that exempts certain nonhazardous industrial wastes from the definition of solid waste—if they meet eight criteria spelled out in the rule. This “eight-nonwaste-criteria rule” allows such wastes to be recycled, for example, by being applied to land, as in road construction, or used in products that are applied to land, such as materials used in concrete. The rule, which took effect in June, is designed to remove

the long-standing stigma attached to these materials when they are regulated as solid waste. That label sometimes hampers materials from being used in construction projects.

This new exemption will encourage and promote the legitimate recycling of many kinds of wastes, such as fly ash and bottom ash from burning coal, that are generated in high volumes but are low in toxicity.

The TNRCC also proposed new rules on modifying municipal solid waste permits.

Using input obtained from regulated entities and representatives of environmental organizations, staff developed the proposed rules that would provide permittees and registrants greater flexibility in making operational changes.

These rules would add to the types of changes that can be made to a waste permit or waste registration through the modification process, and would broaden public notice requirements for some permit changes.

Chapter 3

Agency Operating Structure

Two years after a major reorganization, the Texas Natural Resource Conservation Commission is seeing the results of a comprehensive effort to blend the agency's air, water, and waste responsibilities, so that agency departments view environmental regulation as a whole, not in fragments.

The 1999 restructuring moved all permitting functions into a more efficient administrative framework, giving the public and regulated entities direct access to agency permitting programs. It also enabled the agency to conduct cross-analyses of air, water, and waste issues, thereby allowing staff and management to take a broader view of policy issues and understand the ramifications of implementing laws and regulations.

Finally, the move eliminated the last vestiges of what once were separate environmental agencies and programs. The Legislature in 1993 intended to create a single, comprehensive environmental regulatory agency. The Commission and executive management have made that vision a reality.

The offices of the commissioners and executive director top the organizational structure, with several divisions lending direct support (see organizational



The TNRCC in Brief: Office of the Commissioners

Three full-time commissioners are appointed by the governor to establish overall agency direction and policy and to make final determinations on contested permitting and enforcement matters. They are appointed for six-year terms with the consent of the Senate. Chairman Robert J. Huston, Commissioner R.B. "Ralph" Marquez, and Commissioner John Baker served together through fiscal 2001. Baker retired at the end of the fiscal year, and Gov. Rick Perry appointed Kathleen Hartnett White to the Commission.

The following offices report directly to the commissioners:

The **General Counsel** is the chief legal adviser for the three-member Commission and the chief ethics officer for the agency. The general counsel provides legal assistance to the commissioners for their review of permits, proposed enforcement actions, rules, litigation, and other matters, in addition to managing the administrative affairs of the commissioners' office.

Alternative Dispute Resolution assists permit applicants and persons who request contested hearings in resolving their differences informally, if possible. This alternative avoids the time and expense of an evidentiary hearing. Alternative dispute resolution procedures are voluntary, and participation does not forfeit a person's right to a hearing if a settlement is not achieved.

The **Chief Clerk** is responsible for posting required notices of applications, public hearings, and meetings in the *Texas Register*. The chief clerk also prepares the Commission agendas, transmits final decision documents to applicants and other parties, and maintains the official records of Commission proceedings.

Internal Audit helps the Commission and management meet agency goals and objectives by evaluating agency control systems and auditing program, management, and electronic data operations for economy and effectiveness.

Public Assistance answers questions about TNRCC permits, explains how the agency makes permitting decisions and how citizens may participate in the permitting process, and conducts frequent public meetings around the state on permit applications. Staff also are available to help minority and low-income communities work through environmental equity problems with industries and facilities near their homes.

The **Public Interest Counsel** was created to ensure that the public's interest is represented in issues considered by the Commission. The Office of Public Interest Counsel, however, does not formally represent individuals at Commission proceedings.

chart, page 49). The primary environmental programs and administrative services are represented by five major offices, all of which have broad responsibilities. Under each of those offices are divisions with clearly defined duties.

Though headquartered in Austin, the TNRCC has a frontline presence throughout the state, thanks to regional and specialty staffs that conduct field work and deal directly with individuals and communities (see regional map, page 50).

All of these components form the framework for the state's environmental regulation.

Office of the Commissioners

The agency's three commissioners not only set policy for the TNRCC, but they ensure that the agency's mission is clear and carried out.

Chairman Robert J. Huston served as point man on several key legislative issues, including the Sunset review and agency reauthorization. Huston testified at legislative hearings and helped develop solutions to environmental issues, such as financial incentives for nonpolluting vehicles. Commissioner Ralph Marquez continued his lead role in crafting the State Implementation Plan (SIP) for improving air quality in Texas communities, meeting with stakeholders and working out compromises to thorny issues. And Commissioner John Baker, before the end of his term, directed the agency's strategy for resolving the impasse between dairies and municipalities over water quality issues in the North Bosque watershed near Waco.

Along with all this came the ongoing job of considering permit applications, enforcement orders, and rule packages.

That job became more complex in fiscal 2001, as the public participation process expanded with full implementation of House Bill 801 (see sidebar, page 37) from the 1999 legislative session. The offices of Chief Clerk and Public Assistance, both of which report directly to the commissioners, bore the brunt of the increased workload. In rising to the challenge, the two offices employed creative solutions, such as changing the team structure, work assignments, and schedules and having directors working alongside staff to

get the job done. Both kept up with the ever-increasing workload without slowing the permitting process or creating a backlog.

In fiscal 2001, 20 percent of the permit applications falling under HB 801 rules generated comments, with an average of 24 comments and/or hearing requests filed for each application generating public correspondence. In comparison, 18 percent of such applications in fiscal 1999 generated an average of eight comments and/or hearing requests.

Moreover, the estimated 14,500 letters received by the Chief Clerk was more than triple that of 1999, when 4,000 were received. Similarly, the number of public meetings soared: 89 in 2001, compared to 14 in 1999.

The TNRCC continues to work with lawmakers to enhance public participation in agency processes. The role and authority of the Office of Public Interest Counsel, which also reports directly to the Commission, is the focus of an interim study that will be presented to the Legislature in 2003. The Sunset review contained several recommendations for ensuring that OPIC does the best possible job of representing the public's interest in all issues considered by the Commission.

Executive Director's Office

In fiscal 2001, the Executive Director's Office focused on important policy issues that were at the forefront of the legislative session: the agency's Sunset review, the SIP, and water planning. Executive Director Jeff Saitas and Deputy Executive Director Glenn Shankle led the effort to analyze and increase understanding of these issues, with support from the Intergovernmental Relations and the Agency Communications divisions.

Intergovernmental Relations organized briefings for legislative staff on the issues and possible solutions as a prologue to the session, then followed up with technical assistance to lawmakers crafting such new approaches as Senate Bill 5 (providing incentives for clean engines) and SB 2 (strengthening groundwater management provisions and providing for interim study of water marketing and infrastructure financing mechanisms).

Meanwhile, Agency Communications met the need for information on timely environmental issues needs by stepping up publication of the quarterly

Avenues Open for More Public Participation

House Bill 801, which was enacted by the Legislature in 1999, dramatically changed procedures for getting the public involved in environmental permitting procedures. The law encourages early public participation in the TNRCC permitting process and streamlines the contested case hearing process.

Under these changes, a Notice of Intent to Obtain a Permit must be published within 30 days after an application is declared to be administratively complete.

HB 801 applies to facilities subject to contested case hearings, such as those seeking permits for wastewater, municipal solid waste, underground injection control, industrial hazardous waste, and air/new source review. Those facilities must provide published notice of their intent to apply for a permit and notify the local community how to contact the TNRCC about the permitting process.

A second public notice—the Notice of Application and Preliminary Decision—is required after a technical review for solid waste and water quality applications. This notice also is required for certain air applications.

The public can request a public meeting on the permit; the TNRCC executive director can elect to hold one or more meetings if there is significant public interest in the proposed permitting activity. Public meetings will be held upon request of the state legislator representing the general area in which the facility is located. Certain types of permit applications automatically trigger a public meeting—for example, an application for a new hazardous waste management facility or a new municipal solid waste management facility.

The law requires the TNRCC executive director to mail a Decision and Response to Comment on the permit application to the applicant, persons on the mailing list, persons who commented or requested a hearing by the deadline, the Public Interest Counsel, and the Office of Public Assistance. That notice includes a response to all timely comments received and provides additional opportunity, in some cases, to ask the Commission for a contested case hearing on the matter or reconsideration of the Commission's decision.

Natural Outlook to monthly. From February 2000 through January 2001, the newsletter updated readers on key environmental issues, with a focus on air quality, water quality, and persistent drought. Each issue was presented from a variety of perspectives to provide a more comprehensive picture of public policy discussions.

The Small Business and Environmental Assistance (SBEA) Division focused on local implementation of policy through compliance with rules and regulations. The goal is to update local governments, businesses, and

The TNRCC in Brief: Office of the Executive Director

This office manages the daily operations of the agency. Major responsibilities include implementing Commission policies, making recommendations to the commissioners about contested permitting and enforcement matters, and approving uncontested permit applications and registrations. Executive Director Jeff Saitas and Deputy Executive Director Glenn Shankle have worked together since 1998 to direct TNRCC management.

Five primary office clusters—organized by function and reporting directly to the executive director—carry out the agency’s regulatory and administrative responsibilities. In addition, the executive director directly oversees the divisions of Intergovernmental Relations, Agency Communications, and Small Business and Environmental Assistance.

Intergovernmental Relations coordinates the agency response to legislative inquiries and constituent issues, legislative initiatives, and interim committee studies. Staff also coordinate the agency’s testimony and participation during legislative sessions and ensure that the Legislature is informed of the TNRCC’s initiatives and activities.

Agency Communications strives to improve and streamline the delivery of print and Internet information to the public. This division coordinates the agency response to media inquiries, prepares agency news releases, and coordinates news conferences. The division includes the TNRCC library and a publishing unit that coordinates and distributes regulatory and general information materials on environmental subjects.

Small Business and Environmental Assistance helps small businesses, local governments, and other agency customers conserve resources, prevent pollution, and comply with regulations through seminars, trade fairs, workshops, toll-free hot lines, and on-site technical assistance. The division recognizes environmental achievements and inspires successes through voluntary programs, awards, and special events; provides educational information and recycling and disposal opportunities for Texans; promotes recycling and composting through market development; provides technical assistance to small businesses and local governments; promotes regulatory flexibility; administers the reporting requirements for the Waste Reduction Policy Act; reviews applications for pollution control property tax exemptions; and works to make businesses aware of innovative technology that may prevent pollution.

community organizations on their environmental responsibilities and to help them implement the most cost-effective means of complying with the rules.

Through a toll-free hotline and office visits, the division responded to more than 4,800 inquiries from small businesses and local governments. Staff trained more than 1,200 people on environmental regulations through workshops offered around the state.

Among the policy issues to come to the forefront for the executive director has been the matter of homeland security. Domestic terrorism has

become an issue for most state agencies as security concerns have escalated around the country.

As the agency charged with protecting the state’s natural resources, the TNRCC is responsible for safety threats or risks that could affect air and water quality or management of waste.

In this role, the TNRCC has worked closely with the regulated community to determine whether any entities are vulnerable to actions that could pose a risk to human health—for example, through contamination of the air or damage to water supplies.

To be effective in this arena, the agency formed the Homeland Security Coalition of key TNRCC staff to conduct the following functions:

- determine what role, if any, the TNRCC has in helping regulated entities determine their vulnerability and increase their security,
- identify and mobilize resources for this response,
- establish specific TNRCC contacts for communications with other government agencies on homeland security matters,
- identify measures needed to improve the security of the TNRCC’s own facilities, and
- support the Governor’s Task Force on Homeland Security.

In keeping with increased security awareness, the agency has re-examined its involvement in air quality permitting, drinking water supplies, wastewater treatment plants, hazardous waste facilities, and dam safety.

For example, applicants for air permits already must consider worst-case scenarios for release of contaminants from the planned facility. Inspectors check these disaster mitigation measures every time they visit a facility. For water supplies, the TNRCC is working with the Environmental Protection Agency (EPA), water utilities, and water-related interest groups to share information and ensure that water systems consider their vulnerabilities and what actions they can take.

For smaller communities that do not have their own hazardous materials units to deal with possible leaking or escaping hazardous materials, the TNRCC already contracts with emergency response teams to respond to such situations when concerns arise.

The TNRCC is prepared to assist any private business or local government in determining their most effective options for mitigating security risks.

Office of Permitting, Remediation & Registration

Fiscal 2001 was business as usual for the Office of Permitting, Remediation & Registration, which meant processing a high volume of air, water, wastewater, and waste permits and registrations, and overseeing contaminated sites around the state as they are cleaned up and returned to productive use. Along with all that, the office developed and implemented plans to support such projects as the SIP, the Central Registry, and petroleum storage tank (PST) self-certification.

The Air Permits Division played a crucial supporting role in the SIP by developing the Emissions Cap-and-Trade Program that will allow facilities in the Houston-Galveston area to use a market-based approach in achieving compliance with emission reduction strategies. Under this program, the TNRCC will annually allocate an emissions allowance to stationary facilities that emit nitrogen oxide (NO_x). This allowance will be lowered so that NO_x emissions from all facilities subject to the program will be reduced up to 90 percent. Each facility that is subject to the cap gains operational flexibility in these ways: it can purchase or sell allowances or bank any unused portions of its annual allowance to carry over to the next year. New facilities will not

The TNRCC in Brief: Office of Permitting, Remediation & Registration

This office is responsible for implementing the federal and state laws and regulations governing all aspects of permitting for air, water, and waste programs; oversees the investigation and cleanup of hazardous pollutants released into the environment; registers and manages reporting requirements for certain facilities; and implements the petroleum storage tank reimbursement program. In addition, toxicology and risk assessment staff evaluate conditions that may have the potential to cause adverse health effects.

The **Air Permits Division** has primary responsibility for processing permits of facilities that will emit pollutants into the air, including new source review and Title V federal operating permits. The new source review staff process permit applications and standard exemption registrations for all new and modified sources of air emissions. These permits codify all state and federal air emission regulations applicable to the site. This division also oversees the Emission Reduction Credit Banking and Trading Program.

The **Waste Permits Division** is responsible for managing and administering waste-related programs and the requirements for permitted facilities that store, process, and/or dispose of industrial and hazardous waste, nonhazardous industrial waste, municipal solid waste, special waste, and maquiladora waste from Mexico. Staff also perform audits on self-classifications of industrial and hazardous waste; permit Class 1 underground injection control wells used for the disposal of industrial and municipal waste fluids; inspect all uranium Class I and Class III injection wells; review license applications for disposal of most radioactive materials and low-level radioactive wastes; and provide groundwater protection recommendations for other types of wells through the surface casing program.

The former Water Permits and Resource Management Division has been split into two divisions to better address the complexities of water programs and to strengthen service to the public.

The new **Water Quality Division** is responsible for issuing wastewater permits under the Texas Pollutant Discharge Elimination System, developing surface water quality standards, updating the water quality management plan, overseeing concentrated animal feeding operations and storm water runoff, and conducting state water quality certification reviews.

And the new **Water Supply Division** implements the federal Safe Drinking Water Act and oversees all public drinking water systems. The division issues water rights permits, develops water availability models for river basins, and evaluates water conservation and drought contingency plans. As part of its utility regulation duties, the division processes applications concerning certain rate changes and applications related to utility service areas and services. The division also is responsible for reviewing applications concerning water districts, ranging from the creation of new districts to the issuance of bonds, and it exercises the state's supervisory authority over water districts.

The **Remediation Division** oversees the investigation and cleanup of hazardous substances and pollutants released into soil, water, or air, and seeks reparation when natural resources are damaged by contaminants. The division also oversees programs concerned with helping once-polluted land to become viable commercial properties, safeguarding and restoring natural resources, cleaning up and finding the responsible parties for leaking petroleum storage tanks and for abandoned or inactive hazardous sites that become part of the state and federal Superfund.

The **Registration, Review, and Reporting Division** receives notifications of registrations, incoming permit applications, and reports for review and processing. Duties include the administrative completeness initial review of most air, water, and waste permits and authorizations; reimbursement of eligible petroleum storage tank (PST) cleanup costs; industrial and hazardous waste registrations and reports; used oil and used oil filter registrations and reports; scrap tire registrations and reports; medical waste registrations and reports; sludge transportation registrations and reports; PST facility registrations, notifications, self-certification of compliance, and technical support; Stage II vapor recovery; and the Central Registry.

receive allowances. Instead, they must obtain allowances equal to their NO_x emissions from facilities that already own allowances. This policy will eliminate growth in NO_x emissions locally and encourage cleaner technologies and more efficient emissions controls.

The division also completed a plan for permitting and reducing emissions from marine facilities; received and began reviewing all the applications for the Voluntary Emissions Reduction Program for permitting grandfathered facilities; submitted the Title V Federal Operating Permit Program to the EPA for approval; and coordinated with the Field Operations Division to develop a comprehensive policy for dealing with emissions from upset and maintenance activities.

The Waste Permits Division worked to ensure that used oil and used oil filter handlers comply with financial assurance requirements. Financial assurance provides funding for cleanup in case of soil or water contamination. Prior to fiscal 2001, less than one-third of used oil and used oil filter handlers complied with financial assurance requirements. But compliance rates jumped to 70 percent in 2001, making an additional \$6.5 million in financial assurance available to the agency for any necessary remediation at these facilities.

Staff also completed an initiative to provide Texans with better access to information on all pending waste permit applications. The project began in fiscal 2000 with the online posting of databases listing pending municipal solid waste and industrial and hazardous waste applications. A database of pending underground injection control (UIC) applications was added to the agency's Web site in fiscal 2001. The UIC database affords easy access to information on pending or recently approved permit applications, including the status of an application and technical information on an injection well.

In the former Water Permits & Resource Management Division, before it was split into two divisions, the Texas Pollutant Discharge Elimination System (TPDES) continued to be a priority matter as staff finalized the multi-sector general permit, which regulates storm water runoff from different types of industries. Work progressed on other storm water general permits covering discharges from construction sites and municipal separate storm sewer systems. Staff also developed revised permitting procedures for the state's

updated surface water quality standards, and implemented a streamlined approach for conducting Section 401 certification reviews of U.S. Army Corps of Engineers permit applications for the discharge of dredged or fill materials into U.S. waters.

With all these efforts, a key component was customer service, such as stakeholder meetings, training workshops, and new and improved Web-based information.

Customer service is important in all programs. Based on the success of quarterly meetings with the agricultural community, Water Permits and Resource Management initiated quarterly water quality seminars and created the Water Rights Advisory Work Group. Members representing citizen groups were added to the Drinking and Water Quality advisory groups, and consumer focus group sessions and stakeholders meetings were held to help improve the rate application process. The division also reorganized certain internal functions to boost efficiency in the application review process.

The agency's Web site was expanded to incorporate wastewater treatment plans and specifications, as well as permit tracking information. A comprehensive database, combining information on water systems, districts, and utilities, will be unveiled in fiscal 2002.

In the field, Water Permits and Resource Management mapped out a long-term project to provide smaller water systems with additional highly specialized technical assistance on facility planning and audit requirements. In a report to the EPA, the TNRCC detailed the various steps that have been taken to deal with utilities having compliance problems.

The Remediation Division in fiscal 2001 scored these accomplishments:

- closed more than 780 leaking petroleum storage tank cases;
- issued 94 Voluntary Cleanup Program certificates for once-polluted properties that were returned to productive use;
- issued 37 Innocent Owner/Operator Program certificates to verify that property owners or operators were not responsible for contamination on or near their property;
- proposed eight new sites for the state Superfund Registry, deleted two state Superfund sites, and worked with the EPA to add two sites to the federal Superfund list;

- completed 11 projects requiring removal of waste and contamination (some in residential areas), which posed an immediate risk to human health or the environment;
- approved cleanup efforts at 401 industrial and hazardous waste sites;
- completed four projects involving restoration of coastal marshes in Galveston Bay, and approved plans for an additional nine restoration projects under the Natural Resource Trustee program.

In fiscal 2001, remediation was completed at eight state Superfund sites (routine monitoring continues at some), and more than 300 industrial solid waste projects satisfied cleanup goals.

The division worked to ensure that Texans could find more information about remediation projects. Staff redesigned the division's Web pages and Web-based information systems by adding photo documentation and reference materials. Some of those Web pages now link to Spanish translations and readability by voice synthesizers for the visually impaired.

Remediation also constructed a corrective-action site query function, allowing the public and interested parties to retrieve online information and status reports on sites being cleaned up. And the division created an online messaging system to alert the regulated community when guidance documents are issued.

The Registration, Review & Reporting Division oversaw the debut of two major programs: the Central Registry database that stores in a centralized location the names, addresses, phone numbers, and other contact information for each customer and regulated entity, and the PST Self-Certification, which certified which tank owners were eligible to continue receiving shipments of gasoline. To aid the self-certification program, the division added an online feature allowing PST operators and the general public to check the certification status of any facility.

Office of Compliance & Enforcement

Technology has become the key word for the Office of Compliance and Enforcement (OCE). Real-time monitoring of air and water resources,

The TNRCC in Brief: Office of Compliance & Enforcement

This office oversees enforcement, emergency response, dam safety, monitoring activities, and the operation of 16 regional offices.

The **Monitoring Operations Division** is responsible for monitoring air and water quality within the state and for reporting the results to the public. Staff examine and interpret the causes, nature, and behavior of air and water pollution in Texas. The division also operates central and mobile laboratories based in Austin and a laboratory in Houston that provide analytical services for air, water, and waste samples. The division also issues forecasts of possible ground-level ozone concentrations in Texas cities.

The **Enforcement Division** is responsible for ensuring that violations of state environmental laws are corrected. The division develops formal enforcement cases in accordance with state statutes and agency rules and in keeping with the agency's philosophy that enforcement, when necessary, be swift, sure, and just. Specifically, the division drafts proposed enforcement orders that include appropriate penalties and orders for the Commission's consideration and approval.

The **Field Operations Division** consists of 16 regional offices and two special project offices, in addition to a central office in Austin. These frontline employees are the first to respond to emergency spills or unscheduled air emissions events around the state. Regional responsibilities include conducting compliance investigations at permitted and registered air, water, and waste facilities; investigating complaints at permitted and nonpermitted facilities and operations, based on requests for public assistance; and developing enforcement actions for most types of air, water, and waste violations identified during investigations. Staff also monitor local and statewide air quality, drinking water for the protection of public water supplies, and surface water to ensure the continued quality of streams, lakes, and rivers. It also falls to Field Operations to oversee compliance with water rights and, during drought conditions, to allocate the limited water resources in certain areas of the state. Regional offices also approve pollution abatement plans to protect underground water supplies (aquifers), and administer the Dam Safety Program.

The **Compliance Support Division** administers several occupational licensing and registration programs, including those for water and wastewater facility operators and underground storage tank, landscape irrigation system, and onsite sewage facility installers. In addition, this division manages the on-site sewage facilities and landscape irrigation programs, oversees the quality assurance program for federally funded activities, and inspects environmental laboratories. Staff began developing the new environmental laboratory accreditation program and administering the state's certification program for drinking water laboratories.

computer-based information systems, Internet-accessible data, enhanced sampling techniques, fuel cell power supplies—these are some of the advancements that OCE and its divisions used to their advantage.

The Monitoring Operations Division, in particular, employed recent technology to expand the range and intensity of its activities.

In the air arena, the division deployed new ozone monitoring stations in the Dallas-Fort Worth area that will allow for more accurate mapping of how ozone develops and drifts. Other new stations will provide continuous monitoring of small particulate matter and real-time assessment and analysis.

In water, the division developed the capability to continuously monitor lakes and rivers for several measurements of water quality, then display those data in near real time on the Internet. First on the list for continuous water monitors: impaired segments of the Bosque and Leon rivers, where total maximum daily loads (TMDLs) are being developed. These technical analyses determine the limits to be set for each potential pollutant entering these rivers.

Meanwhile, Monitoring Operations turned to the newest in technology to temporarily power an Austin air quality monitoring station with a 3,000-watt hydrogen fuel cell. The demonstration project, sponsored by a partnership of public and private organizations, was a first for Texas.

In the summer, the division began deploying a new generation of air samplers that are triggered when hydrocarbon or other pollutant levels exceed a preset threshold. The samplers, which can be activated either remotely on the Internet or by a continuous analyzer, were specially designed according to division specifications for use during peak ozone periods and unscheduled industrial upset and maintenance emissions.

Unscheduled air emissions also were the focus of major activities elsewhere, as new legislation requires the TNRCC to implement a program tracking and reducing upsets, maintenance, startup, and shutdown emissions. In response, the Enforcement and Field Operations divisions teamed up to develop new rules about the reporting of upset and maintenance activities. The divisions also ran a pilot project on enforcing the new rules, and created an outreach program to inform the regulated community about the new rules and to assist facilities in reducing upset and maintenance activities (see sidebar, this page).

Region 14 Tackles Air Events

When the issue of air emissions from upset and maintenance activities heated up along the Gulf Coast, the TNRCC's regional offices in Corpus Christi, Houston, and Beaumont were asked to find better ways to identify and control these unexpected and unauthorized releases of air pollution.

The Region 14 staff helped design a new upset and maintenance database, standardized forms, and investigation protocols as part of the Gulf Coast pilot project. They also approached the project with aggressive enforcement. From March 2000 through January 2001, the team reviewed 576 reports involving 449 incidents, conducted 85 investigations, and cited a total of 52 violations (in six notices of violation and eight notices of enforcement).

Just as importantly, team members reached out to educate the regulated community about upsets events, participating in the Upset/Maintenance Rules and Tools workshops that drew some 140 representatives from local industry. Lessons from the pilot program helped shape the Office of Compliance & Enforcement's new statewide program on upset and maintenance emissions and earned the Region 14 team special recognition as a TNRCC "Team of the Year."

Enforcement and Field Operations also worked together to develop a consolidated database of compliance and enforcement activities. This database will help support agency implementation of legislation requiring compliance history to become a more significant component of permitting and enforcement actions.

Alleged environmental violations discovered during TNRCC investigations are appropriately addressed in response to notices of violations. The agency takes formal enforcement action only when the violator is unable or unwilling to correct the violation in a timely manner, or when the nature of the violation is significant.

In fiscal 2001, the Enforcement Division issued a total of 850 administrative enforcement orders that required payments of \$4.3 million in administrative penalties and approved an additional \$1.3 million worth of supplemental environmental projects. Of all the administrative enforcement orders, 250 were issued in the air program, 393 in the water program, and 207 in the waste program.

The Compliance Support Division gained legislative support to

consolidate licensing procedures for 10 of the environmental professions regulated by the division. Previously, licensing and renewal requirements varied considerably, statutory authority was unclear for some professions, and administrative requirements hampered efficient management. The new legislation addressed these problems by allowing the division to further streamline licensing processes and strengthen enforcement.

The division got off to a quick start by consolidating certification rules for water and wastewater operators. In the process, the division also revised the rules for water operator certification to make them consistent with federal operator certification guidelines.

In other efforts, Compliance Support completed revisions to on-site sewage facility rules. With this overhaul, the rules now are clearer and more enforceable.

Office of Legal Services

The Office of Legal Services (OLS) performs a wide range of services, such as providing legal counsel on all aspects of environmental law, in rule-making and in contested case hearings, as well as pursuing agreed orders or contested enforcement orders for environmental violations.

Like other offices, OLS provided important support in the job of developing the SIP. The Environmental Law Division played a key role in the process of adopting the Houston SIP and associated rules and transmitting them to the EPA. The division also supported the Texas Attorney General in connection with 10 lawsuits filed against the Dallas and Houston SIP rules and in negotiations with the EPA on SIP issues.

Besides air quality initiatives, such as upset and maintenance emissions, Title V federal operating permits, the banking cap-and-trade program rules, and NO_x point source rules, Environmental Law was involved in developing and promulgating other major rulemaking projects: amendments to municipal solid waste permit modifications, salt dome disposal, and solid waste surface facility rules.

Meanwhile, the Litigation Division established a new record for obtaining convictions involving environmental crimes. In fiscal 2001, the

The TNRCC in Brief: Office of Legal Services

This office manages the agency's legal and litigation coordination services and provides general legal services for agency operations. The office's mission is to provide legal counsel and support to the executive director, to the agency's program areas, and, in conjunction with the offices of the General Counsel and Public Interest Counsel, to the commissioners. The primary goals are to ensure that Commission decisions follow the law and that rules developed by the agency comply with statutory authority and are applied consistently.

The **General Law Division** primarily supports the Office of Administrative Services and provides legal counsel on issues related to personnel, ethics, and employment law, contracts, public information processing and distribution, and records retention. The division also prepares the administrative records for appeals under the Administrative Procedures Act and provides the Office of Legal Services with administrative support.

The **Environmental Law Division** supports the agency's air, water, and waste programs. The division provides legal counsel to the agency in all areas of permitting and rulemaking, and represents the executive director in contested permitting matters.

The **Litigation Division** provides legal representation and support to the Office of Compliance and Enforcement and to the Financial Administration and Remediation divisions. Staff also negotiate agreed enforcement orders, litigate enforcement actions, pursue delinquent fee and penalty payments, and give advice on cleanup standards and cost recovery. The division also coordinates supplemental environmental projects and environmental audits and, through the Special Investigations staff, investigates and assembles evidence for potential environmental cases.

division secured 28 convictions—up from 21 the previous year—including the largest criminal penalty ever assessed in the state. The division has stepped up outreach efforts to promote awareness of environmental crimes and the harm created by illegal dumping and other illegal activities. The division hosted the second annual “Environmental Crimes Awareness Week in Texas,” an event that attracts widespread attention.

Litigation also stepped up outreach activities for the Supplemental Environmental Program (SEP), which allows violators to offset administrative penalties for environmental violations by funding or implementing environ-

mentally beneficial projects, typically in the community where the violation occurred. Presentations by the division to industries, trade groups, local governments, and other interested parties have generated substantial growth in the program.

Much of this growth occurred among third-party agreements. Under this type of arrangement, an environmental project coordinated by a nonprofit group or governmental entity is authorized to receive SEP funds for the project. In fiscal 2001, the Litigation Division completed 11 new third-party SEP agreements covering 12 counties not previously part of any agreement. SEPs were available through third-party agreements in 172 of Texas' 254 counties.

In all, the Commission approved 105 new SEPs in fiscal 2001, a substantial increase over recent years: 44 in fiscal 1999 and 87 in 2000. The overall value of SEPs approved in 2001 represented \$1.3 million.

The Litigation Division also coordinates implementation of environmental audits conducted pursuant to the Texas Environmental, Health, and Safety Audit Privilege Act. In this "self-audit" program, regulated entities inspect their facilities for compliance with environmental laws. Such audits can turn up problems that might not be discovered during an agency investigation. Violations reported as a result of the self-audit may be immune from penalties, provided the company complies with the act. The audit report may not be used against the company in civil and administrative hearings. The TNRCC works with the entities disclosing violations to ensure that all violations are corrected.

In fiscal 2001, the TNRCC received 406 notices that facilities planned to conduct audits under the act; the disclosures of violations totaled 195. Participation in environmental audits under the act was greater in fiscal 2001 than in each of the prior six years.

The General Law Division supported efforts to implement the SIP by overseeing the Texas DataLink Service contract, an essential component of the state's expanded vehicle inspection and maintenance program, due to begin in May 2002. Key data from vehicle inspections will have to be maintained in a vendor-run database. General Law led all negotiations with the vendor and provided legal counsel on all aspects of the procurement.

Wearing the hat of personnel adviser, the division had a leading role in reducing the number of personnel-related lawsuits filed against the TNRCC. Agency lawyers work with managers on conducting proper evaluations, addressing employee complaints, and conducting prompt investigations and corrective actions. Being proactive in personnel matters has resulted in almost eliminating personnel-related lawsuits: the number is down from six in 1998 to one in 2001.

Also state and federal agencies reviewing charges made under equal employment opportunity laws have issued "no cause" findings on all complaints in recent years.

Office of Administrative Services

The Office of Administrative Services (OAS) fulfills the critical supporting role of providing financial management, recruitment and retention, employee training, records management, fiscal analysis and reporting, computer support, and contract management to the agency.

In fiscal 2001, OAS aided development of the SIP by providing timely and detailed fiscal impact assessments of 18 complex rule packages considered by the Commission.

Such expertise did not go unnoticed: OAS was invited by the Governor's Office to serve on the Uniform Grant Management Standards Committee and the Electronic Grant Technical Assistance Work Group to develop and implement a statewide "single portal" by which stakeholders can access the availability of state agency grant programs.

The office also gained the TNRCC recognition from the former Texas General Services Commission as one of only 10 state agencies whose total contracts with historically underutilized businesses are valued at more than \$5 million.

In addition, OAS worked with the Texas Comptroller of Public Accounts to provide customers the ability to register and pay for TNRCC seminars through the Texas Online system.

OAS put the same outreach and technical expertise to work for TNRCC employees. Among other achievements, the office launched an agency-wide

The TNRCC in Brief: Office of Administrative Services

This office is responsible for many of the functions that are essential to any large government organization. These services include strategic planning, budgeting, human resources, financial administration, administrative audits, financial assurance, computer resources, and facilities support and maintenance.

The **Chief Financial Officer** oversees all budgeting and financial matters in the agency. This office develops and submits the agency's strategic plan, biennial appropriations request, and quarterly performance reports to the Legislature and the Governor's Office. The financial office also prepares, submits, and monitors all of the agency's federal grant applications and work plans, providing centralized grants management in support of TNRCC programs. In addition, the office audits contracts, grants, and fee revenue; ensures compliance with contract and grant regulations; provides risk assessments; and serves as a state/federal audit liaison. The office also monitors revenue and estimates revenue collections.

The **Budget and Planning Division** develops and monitors the TNRCC's annual operating budget and assists in the development of the agency's biennial legislative appropriations request. The division also performs special analyses throughout the year to ensure that appropriated funds are spent effectively and efficiently to achieve agency goals and priorities.

The **Financial Administration Division** is responsible for managing the agency's financial transactions, ensuring the integrity of the accounting records, and maintaining adequate internal controls to safeguard the agency's financial assets. The division is composed of four sections—Disbursements, Revenue, Contracts, and Financial Reporting—each with various responsibilities for payroll, payments to

employees and vendors, billing and collection of fees and federal grants, financial assurance, procurement of goods and services, monitoring participation by historically underutilized businesses (HUBs), and providing financial reports.

Human Resources and Staff Development performs a wide range of personnel services. For example, the division recruits qualified staff to fill openings; designs, develops, and delivers needs-based training; administers employee benefit programs, such as health insurance and retirement plans; and ensures compliance with state and federal laws on equal opportunity and fair labor practices. As part of its training responsibilities, the division evaluates and implements emerging technologies, such as satellite broadcasts, computer-based training, and online training.

The **Information Resources Division** provides systems management support for all agency computers and develops and supports software to meet internal and external customer needs. Staff maintain agency records facilities and serve as a clearinghouse for providing agency database information to the public and other government agencies. Staff also coordinate the preparation of the Information Resources Strategic Plan and the Biennial Operating Plan.

The **Support Services Division** maintains facilities and equipment for other TNRCC programs, handles risk management and workers' compensation claims, and conducts safety training and inspections. Additionally, the division provides security for agency facilities and copying and mail service, and manages all of the agency's physical assets.

online training program that is available to all staff, including the 16 regional offices. It also coordinated development of a comprehensive yet practical respiratory protection plan for agency employees (see sidebar, page 46).

Office of Environmental Policy, Analysis & Assessment

Supporting the TNRCC's core regulatory and administrative functions is the Office of Environmental Policy, Analysis and Assessment (OEPAA). This office takes on big-picture issues, formulating a regional and statewide view of environmental trends, evaluating data for use in decision making, guiding the process of turning legislation into rules, and administering federally required planning programs for air and water and for certain bays and estuaries.

But OEPAA staff also know that the big picture is loaded with details.

The Strategic Assessment Division received approval of 37 TMDL assessments and five implementation plans for impaired water bodies in fiscal 2001. Each plan to set pollution limits is based on a thorough analysis of five years of water quality monitoring data, close consultation with stakeholders, and input from the public. And that's just the prelude to the implementation phase.

The division also finished revisions to the Houston-Galveston component of the SIP for control of ground-level ozone following 18 public meetings held around the state and the receipt of thousands of comments. To round out its efforts, the division also completed the Municipal Solid Waste Strategic Plan and Capacity Assessment, as well as the Hazardous Waste Needs

Teamwork Yields Respiratory Protection Plan

When the federal Occupational Safety and Health Administration revised the respiratory protection standard for employees exposed to contaminated air, employers were required to develop and implement a program with work-site specific procedures for using respirators.

For most employers, a single procedure would suffice. For the TNRCC, however, different procedures were necessary because so many employees work in a multitude of duties: working in agency labs, conducting investigations at regulated or abandoned facilities, responding to complaints about illegal or unauthorized waste sites, and overseeing chemical spill cleanups.

A team of TNRCC volunteers accepted the challenge. They spent many hours researching highly technical standards, then met to share their information and develop a comprehensive and usable document. In just 14 months, they completed the job and received final agency approval. In recognition of their work, the group was named a TNRCC "Team of the Year."

Assessment. Together, the assessments identify long-term waste disposal needs in Texas and chart strategies for meeting those needs.

The Policy and Regulations Division had a full year of activities. Among those were:

- implementation of 169 new laws from the 1999 legislative session, a process that included adoption of some 30 rule projects between September 1999 and August 2001;
- review of more than 1,167 bills proposed during the 2001 legislative session to identify required changes to agency operations;
- 128 projects initiated to implement 60 new laws from the 2001 session;
- improvements in the rulemaking process, completion of 84 rule packages, and enhanced opportunities for early stakeholder involvement. The division began posting more rules in initial draft form to solicit early comments and began accepting e-mail comments.

Within the division, the Galveston Bay Estuary Program completed 23 projects to restore or protect Galveston Bay. Accomplishments included

saving more than 700 acres of vital habitat; developing a model storm water management plan for local governments; completing a comprehensive seafood risk assessment for Galveston Bay; developing a Web-based report to update the status and trends of key environmental indicators; and educating some 1,000 area residents through community-based outreach and education grants. Local governments contributed \$110,000 in fiscal 2001 to implement the Galveston Bay Plan.

In addition, the Coastal Bend Bays & Estuaries Program, which is funded by the TNRCC and managed by local governments, has initiated more than 20 projects to protect and restore Corpus Christi Bay and its surrounding bay systems. Projects include acquisition and protection of 350 acres of emergent salt marsh habitat, comprehensive monitoring of water and sediment quality, and community outreach to Coastal Bend residents on managing nonpoint source pollution. Local governments and private industry contributed in excess of \$300,000 for implementing Coastal Bend Bays projects.

For the Technical Analysis Division, understanding the big picture means addressing the details—thousands of pieces of information. And for much of fiscal 2001, those details involved air and water quality.

Because of the highly complex photochemical computer modeling and data analysis required, technical development of a SIP to control air pollution can take years. The long-term efforts of this division helped produce SIP components for Houston-Galveston, Dallas-Fort Worth and Beaumont-Port Arthur—all in one year. Each component is tailored to meet the demands of that urban area.

The division also was instrumental in the Texas 2000 Air Quality study, an unprecedented examination of the formation and movement of ozone along the Gulf Coast and eastern half of the state.

Technical Analysis also has taken the lead in the effort to control vehicle emissions by developing a new vehicle inspection and maintenance program for the Dallas-Fort Worth and Houston-Galveston areas. Vehicles kept in good mechanical condition burn fuel more efficiently and emit fewer pollutants. Two methods of diagnosing engine problems—acceleration simulation technology and onboard diagnostic testing—will be used to identify polluting vehicles.

The TNRCC in Brief: Office of Environmental Policy, Analysis & Assessment

This office has four major functions: strategic environmental analysis and assessment; coordination of all agency policy development and rulemaking; coordination of border affairs; and technical analysis of data to support these functions.

The office also handles a number of important projects having agency-wide impact, such as developing legislative implementation strategies and conducting monthly regulatory forums for exchanging information with interested groups. Staff also coordinate bill reviews and the executive review of documents communicating the agency's national policy positions to the EPA, Congress, federal agencies, and national environmental organizations.

The **Strategic Assessment Division** researches regional and statewide environmental issues to set priorities and develop strategies to improve and protect the state's environment. The division assesses environmental conditions, including the development of better ways to measure environmental trends to determine whether conditions are improving.

Within the division, the Strategic Environmental Analysis group produces the TNRCC's *State of the Environment Report*, which is part of the agency's Strategic Plan. It also conducts evaluations of agency strategies and their impact on environmental conditions. The division takes a lead role in developing provisions in clean air plans, solid waste planning, and the TMDL program to address impaired surface water bodies.

The **Policy and Regulations Division** handles both sides of the regulatory coin: policy development and rulemaking. Staff coordinate and develop agency policy positions and regulations to meet state and federal requirements, to respond to emerging environmental challenges, and to ensure conformance with the agency's philosophy. The division performs a variety of activities, including coordinating regulatory forums, commissioners' work sessions, and statewide public hearings; publishing agency rules in the *Texas Register*; developing memoranda of understanding with other state agencies; maintaining the online Rules Tracking Log; processing rule petitions; and coordinating with an internal agency rule liaison and management group to assist the rule development process. The division oversees implementing changes in operations or rules

related to new state legislation. It also heads up the Texas Groundwater Protection Committee and coordinates the activities of the Coastal Bend Bays Estuary Program and the Galveston Bay Estuary Program.

The **Technical Analysis Division** assesses the quality of the state's air and water resources, plans for their management, and administers programs that support clean air and water. It develops and updates the emissions inventory for all major point, mobile, and area sources of air contaminants. Staff also provide information about the Toxics Release Inventory. Technical Analysis provides computer modeling and data analysis to support pollution control strategies and designs, and implements mobile source pollution reduction programs, such as the vehicle inspection and maintenance program. The division also provides information and advice on voluntary strategies for reducing mobile source emissions.

Also the division performs surface water quality planning, assessments, and watershed restoration under the Texas Clean Rivers and the Nonpoint Source Pollution Management programs, and supports development of the impaired waters 303(d) list. It also performs groundwater quality planning and assessments, assists the Texas Groundwater Protection Committee, and identifies priority groundwater management areas. Staff are involved in implementing the state plan for prevention of groundwater pollution from pesticides.

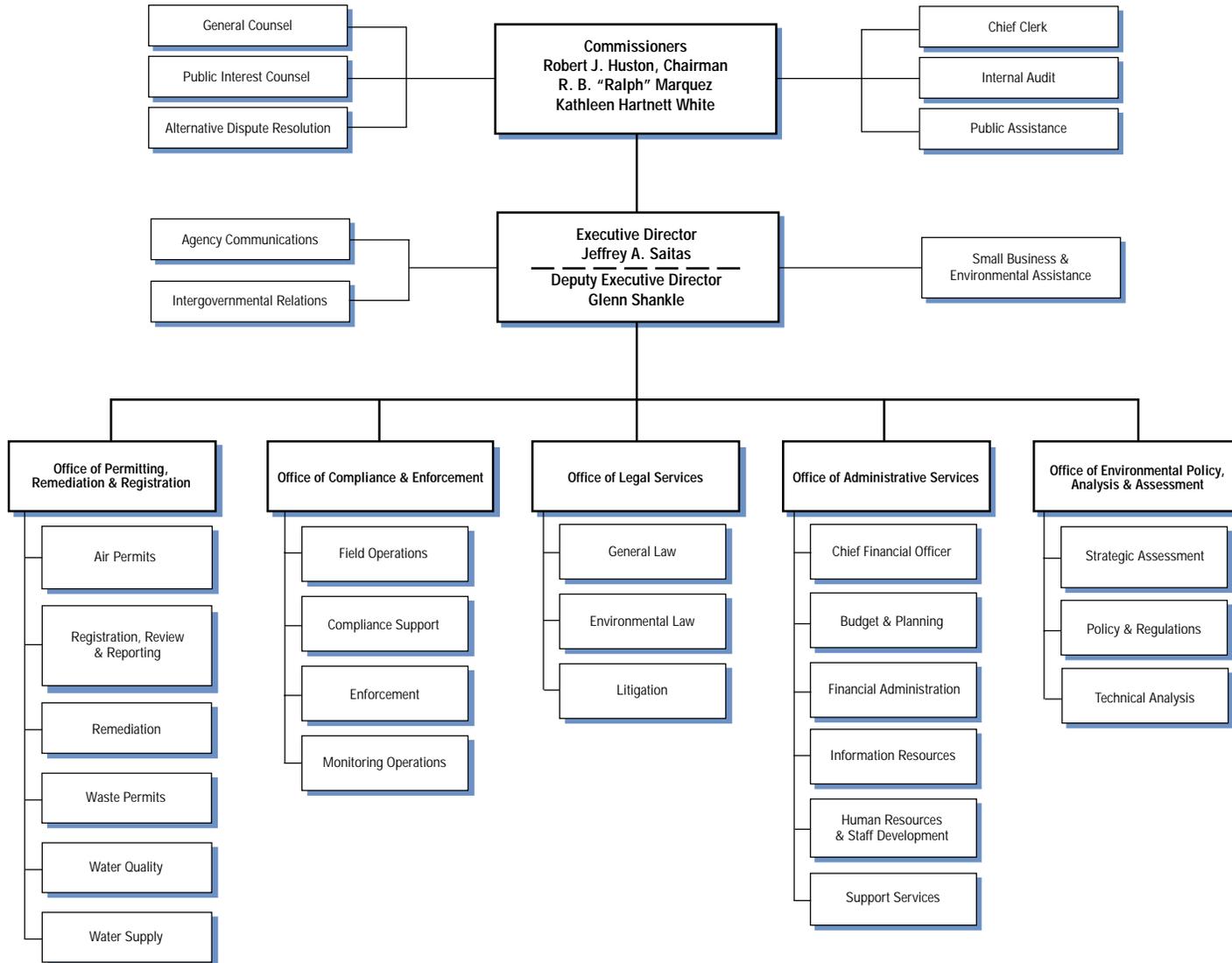
Within the Office of Environmental Policy, Analysis and Assessment, the Border Affairs group works closely with TNRCC regional offices in Laredo, Harlingen, El Paso, and San Antonio to resolve concerns for border residents. As an information clearinghouse, the group has daily contact with government officials on both sides of the border. Border Affairs has helped foster cross-border environmental agreements and programs with Mexican counterparts at the local, state, and federal levels and with stakeholders in the private sector. It has worked on environmental infrastructure matters with the Border Environment Cooperation Commission and the North American Development Bank. Through the Western Governors Association and the Border Governors Conferences, staff explore policy issues that are common to all U.S. border states.

As part of the Office of Environmental Policy, Analysis and Assessment, the Border Affairs program continued to work with the environmental agencies of the other nine border states in the U.S. and Mexico to develop a follow-up plan to the Border XXI Program—the binational environmental plan for the U.S.-Mexico border. The revised Border XXI plan would create regional work groups along the border to address air, water, and waste issues. To determine local priorities for the next phase of binational border protection, Border Affairs and the EPA co-hosted meetings in El Paso, Laredo, Edinburg, and Brownsville to get ideas and comments from local stakeholders. The revised plan has been presented to the EPA and SEMARNAT, Mexico’s federal environmental agency, for comment and implementation.

In a new initiative, Border Affairs found an effective way to reach out to the public with inauguration of a Spanish-language electronic newsletter. *El Informe* (Spanish for *The Report*) is aimed at Mexican environmental agencies, maquiladora managers, and non-governmental organizations in the four neighboring Mexican states. Readers on both sides of the border can find out about upcoming conferences, training, technical assistance workshops, and special events related to environmental issues. Events hosted by organizations other than the TNRCC are included in the quarterly.

The response to *El Informe* has been enthusiastic. Each quarter, Border Affairs receives requests from border residents and U.S. and Mexican government agencies and companies to be added to the distribution list.

TNRCC ORGANIZATION



TNRCC REGIONS

(including counties in each region)

Region 1 - Amarillo 806/353-9251	
Armstrong	Hemphill
Briscoe	Hutchinson
Carson	Lipscomb
Castro	Moore
Childress	Ochiltree
Collingsworth	Oldham
Dallam	Parmer
Deaf Smith	Potter
Donley	Randall
Gray	Roberts
Hall	Sherman
Hansford	Swisher
Hartley	Wheeler

Region 3 - Abilene 915/698-9674	
Archer	Kent
Baylor	Knox
Brown	Mitchell
Callahan	Montague
Clay	Nolan
Coleman	Runnels
Comanche	Scurry
Cottle	Shackelford
Eastland	Stephens
Fisher	Stonewall
Foard	Taylor
Hardeman	Throckmorton
Haskell	Wichita
Jack	Wilbarger
Jones	Young

Region 8 - San Angelo 915/655-9479	
Coke	Menard
Concho	Reagan
Crockett	Schleicher
Irion	Sterling
Kimble	Sutton
Mason	Tom Green
McCulloch	

Region 4 - DFW 817/588-5800	
Collin	Johnson
Cooke	Kaufman
Dallas	Navarro
Denton	Palo Pinto
Ellis	Parker
Erath	Rockwall
Fannin	Somervell
Grayson	Tarrant
Hood	Wise
Hunt	

Region 5 - Tyler 903/535-5100	
Anderson	Marion
Bowie	Morris
Camp	Panola
Cherokee	Rains
Cass	Red River
Delta	Rusk
Franklin	Smith
Gregg	Titus
Harrison	Upshur
Henderson	Van Zandt
Hopkins	Wood
Lamar	

Region 10 - Beaumont 409/898-3838	
Angelina	Polk
Hardin	Sabine
Houston	San Augustine
Jasper	San Jacinto
Jefferson	Shelby
Nacogdoches	Trinity
Newton	Tyler
Orange	

Region 11 - Austin 512/339-2929	
Bastrop	Hays
Blanco	Lee
Burnet	Llano
Caldwell	Travis
Fayette	Williamson

Region 2 - Lubbock 806/796-7092	
Bailey	King
Cochran	Lamb
Crosby	Lubbock
Dickens	Lynn
Floyd	Motley
Garza	Terry
Hale	Yoakum
Hockley	

Region 12 - Houston 713/767-3500	
Austin	Harris
Brazoria	Liberty
Chambers	Matagorda
Colorado	Montgomery
Fort Bend	Walker
Galveston	Waller
	Wharton

Region 6 - El Paso 915/834-4949	
Brewster	Hudspeth
Culberson	Jeff Davis
El Paso	Presidio

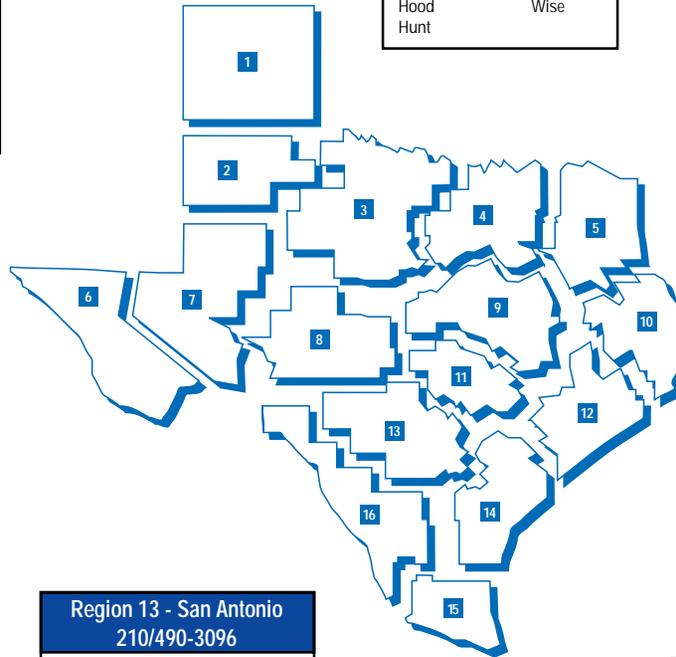
Region 9 - Waco 254/751-0335	
Bell	Limestone
Bosque	Lampasas
Brazos	Leon
Burleson	Madison
Coryell	McLennan
Falls	Milam
Freestone	Mills
Grimes	Robertson
Hamilton	San Saba
Hill	Washington

Region 13 - San Antonio 210/490-3096	
Atascosa	Karnes
Bandera	Kendall
Bexar	Kerr
Comal	Medina
Edwards	Real
Frio	Uvalde
Gillespie	Wilson
Guadalupe	

Region 15 - Harlingen 956/425-6010	
Brooks	Kenedy
Cameron	Starr
Hidalgo	Willacy
Jim Hogg	

Region 16 - Laredo 956/791-6611	
Dimmit	McMullen
Duval	Val Verde
Kinney	Webb
La Salle	Zapata
Maverick	Zavala

Region 14 - Corpus Christi 361/825-3100	
Aransas	Kleberg
Bee	Lavaca
Calhoun	Live Oak
De Witt	Nueces
Goliad	Refugio
Gonzales	San Patricio
Jackson	Victoria
Jim Wells	



Chapter 4

Agency Resources

The overall size of TNRCC staff has remained fairly consistent in recent years—around 3,000 full-time equivalent (FTE) positions. While traditionally most employees are concentrated at the Austin headquarters, the agency has taken steps to shift the balance somewhat by placing more staff in the 16 regional offices

From 1999 to 2001, the ranks of the field staff grew by about 100 positions, most of those being transfers of positions from the Austin headquarters. By summer 2001, the TNRCC had about 900 FTEs in the field.

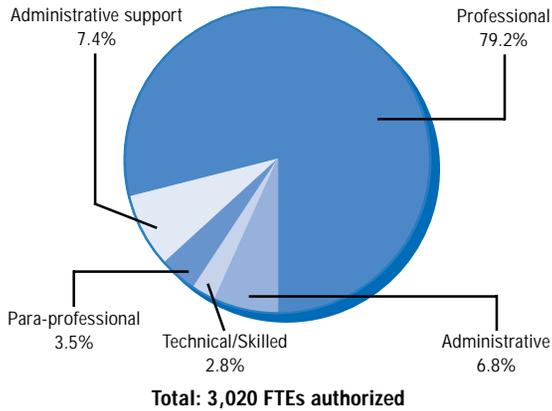
The shift in personnel slots reflects the Commission's desire—and the Legislature's encouragement—to locate more employees in regional offices where they can deal in person with the companies and other organizations regulated by the TNRCC.

Field staff have the crucial responsibility of dealing directly with municipalities, business and industry, and community groups. From El Paso to Beaumont, these frontline employees conduct investigations, answer emergency calls, and provide helpful information to citizens.

The agency's regional employees represent a broad spectrum of expertise—from investigators with technical backgrounds in air, water, and waste management to specialists in community outreach and education.



Agency Workforce



In combination with the field staffs, TNRCC employees in the central Austin office work to improve compliance with state and federal environmental laws and regulations.

Workforce

In fiscal 2001, the TNRCC was authorized for 3,029 full-time equivalent positions; of those, 2,919 were filled at the end of the year.

In comparison, 3,067 FTEs were authorized the previous fiscal year; of those, 2,766 were filled in August 2000.

To effectively and efficiently administer the state's environmental laws, the TNRCC relies on a competent and knowledgeable staff. Professionals and paraprofessionals represented 83 percent of the agency's entire workforce,

officials and administrators filled 7 percent of the positions, and the remaining 10 percent consisted largely of administrative and support positions.

The TNRCC's policy is to provide equal employment opportunities to all employees and qualified applicants, regardless of race, color, national origin, sex, sexual orientation, age, disability, or veteran status.

The agency is committed to recruiting, selecting, and retaining a diverse workforce that is representative of the state's labor force. In addition, all employees are provided training on equal employment opportunities to make them aware of state and federal employment laws and regulations.

In fiscal 2001, men represented 53 percent of agency employees; women, 47 percent.

By race and ethnicity, the workforce composition was: white, 69 percent; black, 10 percent; Hispanic, 15 percent; and other (including Asian), 6 percent.

In 1999, the Legislature began requiring each state agency to undertake an analysis of its workforce by race or ethnicity and gender. The TNRCC compares its workforce to the hiring goals set out in 1999 by the Texas Commission on Human Rights in its *Minority Hiring Practices Report*. The report contains information on the revised percentages by job category for blacks, Hispanics, and females within the statewide civilian workforce, as published by the federal Equal Employment Opportunity Commission (EEOC). These percentages are used by state agencies as hiring goals.

According to an analysis of the TNRCC workforce, at the end of fiscal 2001 the agency exceeded the EEOC hiring goals in top management (officials and administration) for blacks, Hispanics, and females.

In the job category for professionals, the TNRCC met or exceeded the black and Hispanic hiring goals, but was slightly below EEOC goals in hiring women.

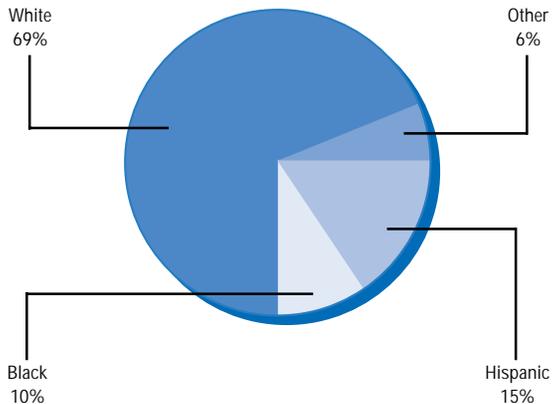
Finances

For fiscal 2001, the agency was appropriated \$373.4 million, of which \$289.3 million came from dedicated fee revenue; \$52.4 million from federal funds; \$26.6 million from the state's general revenue; \$4.9 million from interagency contracts; and \$220,000 from appropriated receipts. These appropriations included contingency riders and a salary increase authorized by state lawmakers.

The TNRCC is funded primarily by fee revenue. The categories producing the most revenue from September 1, 2000, to August 31, 2001, were:

Air emissions fee (\$35.9 million)—authorized to recover the costs of developing and administering the Title V Operating Permit Program; *Solid waste disposal fee* (\$33.9 million)—assessed against operators of municipal solid waste facilities for disposing of solid waste; and

Ethnicity of Employees



Motor vehicle inspection fee (\$29.2 million)—assessed per vehicle on the sale of state safety inspection stickers to inspection stations, auto dealers, and other service providers. The fee is collected by the Texas Department of Public Safety and deposited to the Clean Air Account.

Typically, the petroleum product delivery fee is one of the main revenue sources for the agency. But collections on that fee were suspended in March 2000 when the fund’s unobligated balance reached statutory limits. After legislative action, collections resumed in September 2001.

During the 2001 legislative session, the TNRCC’s general revenue appropriation for the 2000-2001 biennium was reduced by \$6.8 million. The TNRCC received additional fee revenue in the amount of \$5.4 million for fiscal 2001 to minimize the impact of this reduction.

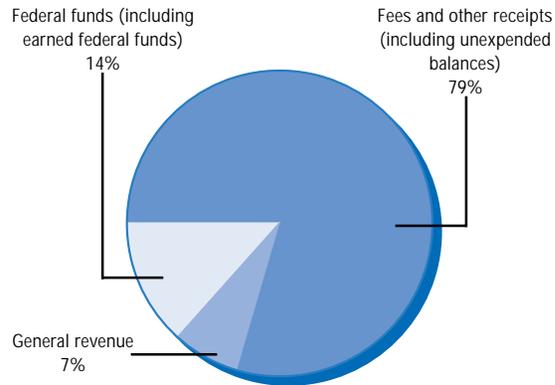
The TNRCC’s operating budget for fiscal 2001 was \$413.5 million, which included a carry-forward of outstanding contracts and awarded grants

from fiscal 2000. The carry-forward is the reason the operating budget appears to be greater than the appropriations authority.

For fiscal 2001, \$202 million was budgeted for pass-through funds. Pass-through funds are used primarily for grants, contracts, and reimbursements in the agency’s programs for petroleum storage tanks, Superfund cleanups, and municipal solid waste. The agency’s water and air programs also pass dollars on to local and regional units of government, but the amounts are not as significant.

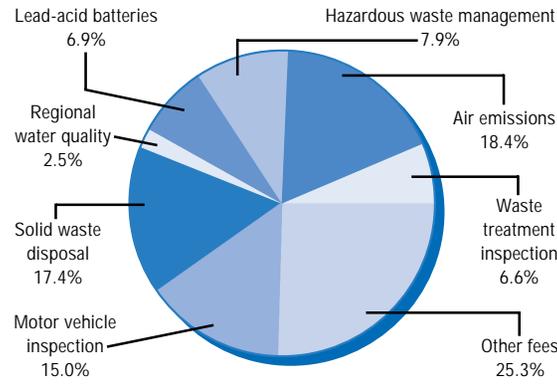
The operating budget included \$211.5 million for agency operations. Salaries represented 58 percent of the amount budgeted for operations. Other operating expenses, which included supplies, utilities, rent, travel, training, and capital, represented 42 percent of the agency’s operating budget.

TNRCC Appropriations Authority



Total: \$373.4 million (includes contingency riders)

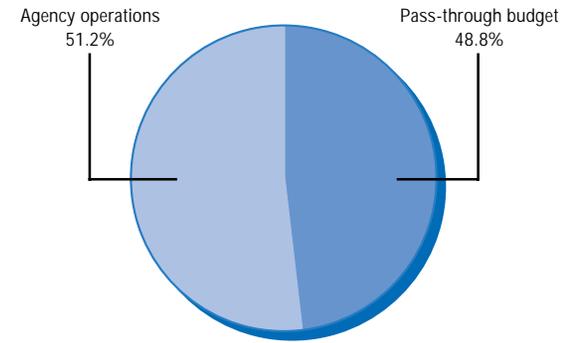
Fees Collected



Total: \$195.3 million

Note: The category for "other fees" includes the petroleum product delivery fee.

Operations vs. Pass-through Budget



Total: \$413.5 million

Note: The pass-through budget represents grants, contracts, and other reimbursements.



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TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
PO BOX 13087
AUSTIN TX 78711-3087