BIENNIAL REPORT TO THE 78th LEGISLATURE VOLUME II

A New Era in Environmental Stewardship

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY FY 2002

Sunset legislation passed in 2001 changed the name of the Texas Natural Resource Conservation Commission to the Texas Commission on Environmental Quality (TCEQ). The agency began using the new name on September 1, 2002. Conversion of agency Web pages into the new TCEQ design continues through fiscal 2003, so many Web addresses still use **www.tnrcc.state.tx.us**.

– How to reach the TCEQ –

By phone: 512/239-1000

By mail:
Texas Commission on Environmental Quality
PO Box 13087
Austin TX 78711-3087

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

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The TCEQ is a recipient of the Texas Star Award

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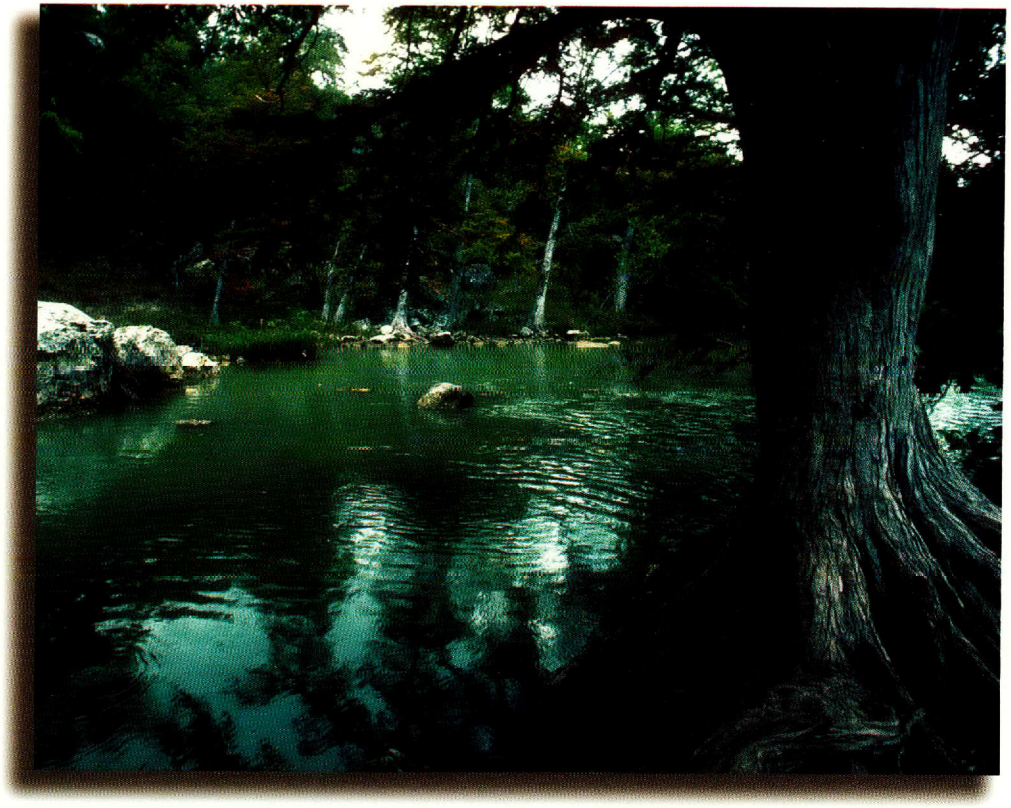

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From the Commission

For the commissioners and staff of the Texas Commission on Environmental Quality, fiscal 2002 was the year that introduced "a new era of environmental stewardship," the title of this report.

Not only did we implement a host of sweeping new environmental laws, but we also went through the unusual process of renaming the agency. The Commission then capped the year by selecting a new executive director. Under the new name TCEQ, we welcomed agency veteran Margaret Hoffman, succeeding Jeffrey A. Saitas.

In response to legislation, we identified 120 projects needed to implement 60 bills. So, in a little more than 12 months, the agency undertook 64 rule projects and 56 operational changes. Our rule-making workload was more than double that from previous legislative sessions.

This agency emerged from the Sunset review process more sharply focused on our mission and, at the same time, aware of the need for a new direction. In a major shift, we are crafting a more strategic approach to the regulatory structure, focusing on the environmental results rather than the process. This includes evaluating the compliance history of regulated entities and distinguishing among "poor," "average," and "high" performers when making decisions on permits, enforcement, and participation in innovative programs. All the components of this strategic approach will be fully developed and implemented in 2005.

Along with this forward-looking vision, we are bringing the public into more active participation in environmental programs, providing them with more user-friendly information, and enabling them to have an important role in the enforcement process.

With these changes and many others, our objective at the TCEQ remains one of applying common sense, good science, and risk management to all agency actions. Our job is still to protect the state's environmental quality and the public health by ensuring clean air, clean water, and the safe management of waste.

With authorization to continue as the state's leading environmental agency for the next 12 years, we welcome the opportunity to move into a new era of environmental stewardship.

Robert J. Huston, Chairman

R.B. "Ralph" Marquez, Commissioner

Kathleen Hartnett White, Commissioner

Our Mission

The Texas Commission on Environmental Quality 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.

Introduction

Fiscal 2002 was a year of high demands. Agency staff went about the rigorous duties of acting on thousands of permit actions, performing compliance investigations and investigations into alleged environmental violations, issuing administrative enforcement orders, operating air and water monitoring stations, and cleaning up contaminated properties.

On the heels of a legislative session, the year also was full of writing and implementing rules and regulations to comply with new environmental laws, many of those stemming from the agency's Sunset review.

On top of those assignments, the agency was going through the steps of assuming a new name and making all the administrative changes required for the transition from the Texas Natural Resource Conservation Commission to the Texas Commission on Environmental Quality.

As the agency carried out its responsibilities in air and water quality, water rights, and waste management, there was expanded emphasis on public outreach. This theme resonated throughout the major programs, as staff expended extra energy to get information out to communities around the state and to bring Texans into the decision-making process. For example, training seminars were held in 20 cities on the new citizen-collected evidence program, which sets minimum criteria for Texans collecting information on or documenting evidence of environmental violations.

The TCEQ has instituted a variety of programs to improve customer service and to get the public involved in agency issues. Some of the areas of emphasis are as follows:

Public participation. The activity levels of many divisions have escalated as members of the public exercise opportunities for input from the start of the permitting process until the issuance of the permit. Thanks to a robust public notice procedure that ensures wide notification of permit applications, the public is afforded broad opportunity to participate in agency decisions that affect them. Individual divisions provide outreach through meetings, training sessions, the agency Web site, and stakeholder involvement in permit development to ensure that the regulated community and the public stay informed of TCEQ activities.

Processing permits. To improve the efficiency of the permitting process, the TCEQ has devoted additional resources to shortening the time it takes to review and process major uncontested permits. Under instructions from the executive director, the new Permit Time-Frame Reduction Project must be carried out in a way that ensures the integrity of the permit review process, so that environmental protections are not sacrificed. The goals are to identify any barriers to more efficient permit processing and to eliminate backlogged applications for new authorizations by the end of December 2002. As of August 2002, about half of the 1,100 uncontested cases that were pending had been resolved and the permits issued.

Homeland security. After September 11, 2001, the agency formed a team to address issues of security and potential acts of terrorism. The TCEQ ensured that its divisions were prepared to handle information requests quickly and to provide guidance on reducing risk. The Water Supply Division, for example, made staff training available to

water supply companies. Staff also conducted a statewide risk assessment of high-risk facilities, and recommended security and emergency responses and procedures to public drinking water plants, wastewater treatment plants, and dams classified as high-hazard.

Public information campaigns. The TCEQ took to the airwaves to promote pollution prevention messages. The agency was involved with a statewide air quality campaign, "Drive Clean Across Texas," to encourage Texans to reduce emissions from vehicles and home energy uses. In the Houston and Dallas-Fort Worth areas, the agency publicized the benefits of new annual emissions inspections for cars and trucks. The TCEQ also used public service announcements, signs, and public events to educate communities on effects of "feeding the storm drains," which can allow runoff to carry pollutants down storm drains and contaminate waterways. Another media campaign urged dog owners in selected cities to keep waterways free of dog waste.

Improved stakeholder processes. The Sunset bill requires the TCEQ to identify affected groups and interested persons who would consider serving on advisory committees, work groups, and task forces. These bodies should have balanced representation, including various points of view. The agency now monitors the composition and activities of these volunteer groups and maintains that information in a manner that is easily accessible to the public, including postings on the agency Web site. Meeting minutes and lists of the attending members' names and affiliations also are posted.

Local government input. The Local Government Advisory Committee serves the purpose of giving local governments a voice in the rule-making process. The agency keeps the 175 members informed of proposed rules, recently adopted rules, and other important updates—all by e-mail, faxes, and mailouts. This type of information serves to promote voluntary compliance as rules change and programs evolve. Membership includes elected and non-elected officials, city managers, administrators, public works directors, and representatives of nonprofit organizations.

Online improvements. Web specialists revamped the TCEQ Web site to give users more information and new choices for navigating the agency's 13,000 pages. After extensive research and usability testing, a new home page featuring the agency's new name debuted on September 5, 2002. Visitors to **www.tceq.state.tx.us** can select from new subject categories and gain ready access to a list of searchable agency databases. The updated look presents more links to information in a clean, easy-to-use format.

This second volume of the *Biennial Report to the 78th Legislature* summarizes the chief accomplishments of the TCEQ in fiscal 2002—from September 2001 through August 2002.

In this book, Chapter 1 presents as a "Year in Review," featuring activities or events that serve as snapshots of TCEQ services and programs. Chapter 2 on "Environmental Management" analyzes the most pressing issues confronting the TCEQ and the agency's responses to those challenges.

In Chapter 3, a detailed description of the "Agency Operating Structure" demonstrates how the TCEQ is organized and which functions are assigned to individual divisions. Chapter 4 on "Agency Resources" summarizes the personnel and financial resources that support all of the environmental programs previously discussed.

A companion book, Volume I of the *Biennial Report*, focused on agency activities in fiscal 2001 and was published in January 2002.

Chapter 1
Year in Review

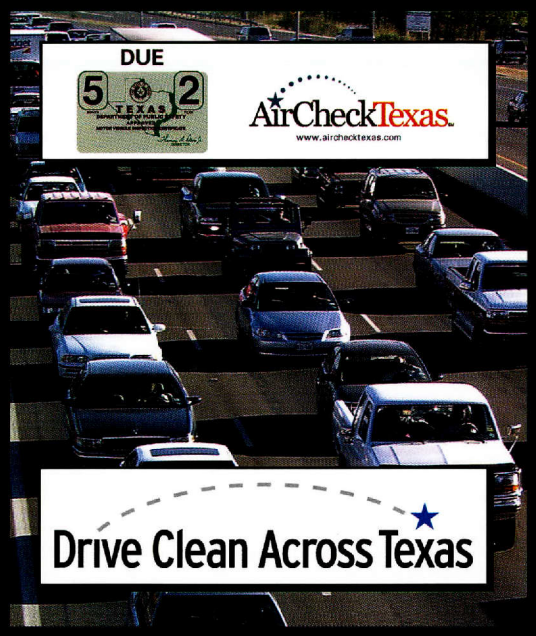
The 2002 fiscal year was a time of pursuing new initiatives as well as fulfilling traditional responsibilities at the Texas Commission on Environmental Quality. The agency launched a multitude of new programs, rules, and regulations, while maintaining ongoing efforts to ensure clean air and water and proper waste management.

Agency staff often find themselves on the front lines of environmental events, be it working with the local community or confronting emergencies. Every year, TCEQ employees work to sharpen their skills and broaden their expertise to better deal with environmental challenges.

The following examples illustrate the broad range of activities in which the agency was engaged. From the central office to the 16 regional offices, TCEQ staff worked to educate the public on natural resource issues and to encourage Texans' participation in environmental programs.

AIR CLEANUP CAMPAIGNS DEBUT

Along with a prospering economy and soaring population, Texas has experienced ongoing problems with air quality. More people and growing businesses add up to more cars and trucks on roads and highways, and vehicles are one of the chief contributors to ground-level ozone. This "urban smog" is considered a health threat especially to the elderly, people with chronic respiratory problems, and to children, whose lungs are still developing.



Texans will be seeing a lot of these logos. "AirCheckTexas" is just in the urban areas subject to new vehicle emissions testing—Houston and Dallas-Fort Worth for now. "Drive Clean Across Texas" is the theme for the statewide campaign aimed at getting motorists to change their driving patterns. Both public outreach campaigns debuted in spring 2002.

To raise public awareness about this growing problem, the TCEQ and two other state agencies have launched two public education campaigns: "AirCheck Texas" and "Drive Clean Across Texas." Both campaigns call on Texans to take specific steps to reduce air pollution.

"AirCheckTexas" is designed to get out the word about more comprehensive vehicle emissions testing required in the Houston-Galveston and Dallas-Fort Worth areas. The TCEQ and the Texas Department of Public Safety (DPS) have joined forces on this program.

The more rigorous vehicle inspections, which began May 1, 2002, in Harris, Dallas, Tarrant, Denton, and Collin counties, were put in place because the two regions have been in violation of the federal 1-hour ozone standard for years. The federal Clean Air Act imposes sanctions, including loss of federal highway funds, if these "nonattainment" areas do not meet federal clean air standards by 2007.

All gasoline-powered vehicles aged 2-24 years are subject to the new testing. Vehicles from model years 1996 and newer receive an onboard diagnostic test, in which a scan tool plugs into the vehicle's computer and downloads stored information to identify emission systems or components that are not working properly.

Vehicles that are model year 1995 or older are put through the acceleration simulation mode, which duplicates driving conditions by placing the vehicle on a platform, accelerating the engine to 25 mph, and measuring what comes out of the tailpipe. Vehicles that fail either type of test must be repaired and retested.

The TCEQ-DPS partnership used TV and radio to publicize the expanded annual safety inspection and emissions program. The advertising reached more than 65 percent of adults in each market. In addition, 16 outdoor billboards were displayed in Dallas-Fort Worth, and 12 in Houston.

Similar vehicle emissions inspections will be required, beginning May 1, 2003, in Galveston, Brazoria, Fort Bend, Montgomery, Ellis, Johnson, Kaufman, Parker, and Rockwall counties. On May 1, 2004, the emissions testing begins in Chambers, Liberty, and Waller counties, if an alternative air improvement plan has not been approved by the TCEQ.

Modeled after the highly successful "Don't Mess With Texas" campaign at the Texas Department of Transportation (TxDOT), "Drive Clean Across Texas" uses statewide advertising and special events to promote the need for cleaner air. With $3.5 million in backing from the Federal Highway Administration, the campaign focuses on such messages as properly maintaining vehicles, driving less, slowing down, and refraining from idling. Target audiences are individual Texans, large and small businesses, government agencies, and other organizations. The TCEQ and TxDOT are co-sponsoring the educational effort.

TV and radio spots and billboards were placed in the state's major media markets in the spring and summer of 2002. The campaign was expected to reach 90 percent of the TV audience and 65 percent of radio listeners in nine urban areas. Billboards were viewed by as many as 200,000 motorists a day.

The campaign, which continues in fiscal 2003, also involves publicity efforts, including meetings with daily newspaper editorial boards. A speaker's bureau has been organized to spread the clean air message to civic groups, chambers of commerce, and nonprofit organizations.

ONLINE ADVANCES

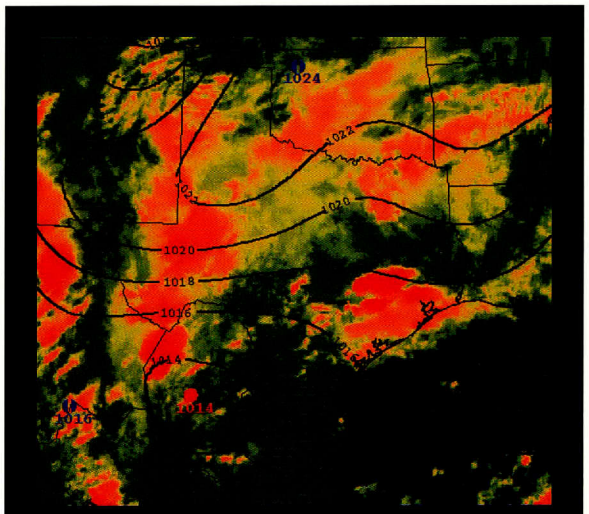
The TCEQ is harnessing the power of the Internet in innovative ways to better serve Texans. One program in particular—the MeteoStar monitoring system for environmental data collection—is setting new standards nationwide.

The MeteoStar system is a completely automated

environmental data collection and reporting system developed under a public-private partnership involving the TCEQ, Lockheed Aerospace, and IPS MeteoStar. First installed in 1997, the system collects data from more than 160 air and water monitoring stations throughout Texas.

Information is gathered every five minutes at each monitoring site, then sent to a central location every 15 minutes. The data is then automatically posted to the Internet. The system sends an e-mail message to subscribers when ozone concentrations reach levels of concern.

This specialized system is being widely used by public, private, government, and academic groups. About 3,600 users have subscribed to the system at **www.tnrcc.state.tx/air/monops/o3emailnotify.html**, and receive the e-mail ozone alerts. On a regular basis, the news media distribute information provided by the MeteoStar system.



Weather forecasting is important in anticipating ozone formation and movement. This satellite image shows clouds and pressure contours.
(Courtesy of MeteoStar Inc.)

Because of its valuable information, the MeteoStar Web site is one of the top Internet sites accessed when environmental conditions in Texas become a concern.

The MeteoStar system is being continually expanded—for example, in analyzing and displaying water data. In fiscal 2002, continuous water quality monitoring sites were deployed in the Bosque and Leon River watersheds. Monitoring capabilities for biological and chemical agents are being evaluated for that capacity to be possibly integrated into the system.

The MeteoStar project was recognized by EPA Administrator Christie Whitman in March 2002 with a Clean Air Excellence Award.

The TCEQ is working with the EPA, at that agency's request, to educate other states about the MeteoStar capabilities. The EPA has shown interest in the system being used nationwide for collection and display of air monitoring data.

PROPERTIES BECOME PRODUCTIVE AGAIN

The Voluntary Cleanup Program (VCP), created by the Legislature in 1995, has produced results far beyond environmental reclamation. About 590 contaminated sites throughout Texas have been cleaned up and redeveloped, resulting in the creation of more than 13,400 jobs and the addition of $465.6 million to local property tax rolls. Many of these sites were considered "brownfields," which were underutilized and so-called because of the presence of contamination.

The VCP certificate of completion is issued when cleanup is completed. With this certificate, current and future owners and leaseholders are not considered liable to the state for past contamination that was cleaned up under VCP guidelines.

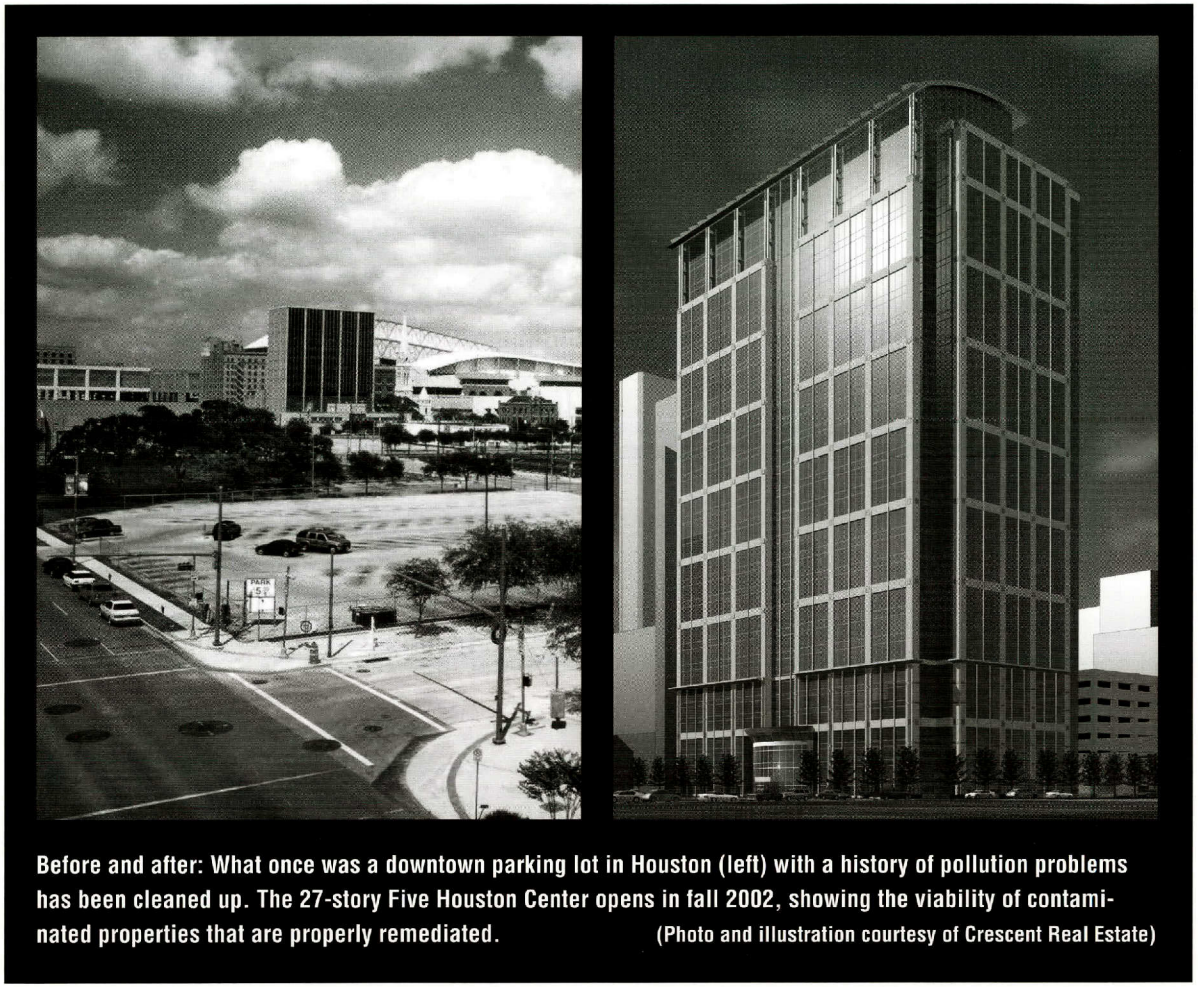
The certificate does not cover future releases of contamination, but does apply to changes in cleanup levels and contamination that were inadvertently missed. This release removes the stigma that may be associated with the property, thereby improving property values and allowing transfer or sale of the property that may not have occurred otherwise.

The VCP collects an application fee and charges for staff time to oversee cleanups.

Most sites are eligible for VCP participation. Properties are ineligible if they have an enforcement order, are subject to a permit under the federal Resource Conservation and Recovery Act, or have been submitted to or are listed on the EPA's National Priorities List of the federal Superfund Program.

The EPA supports the agency's VCP through a memorandum of agreement signed in 1996. The federal agency has further supported the VCP by providing grant funds of $350,000 for environmental assessments of brownfield properties owned by cities or nonprofit entities. Assessments typically include soil and groundwater analyses to determine the scope of the cleanup required. Since 1996, the TCEQ has overseen 36 of these brownfields site assessments, and provided management review and regulatory guidance on 20 additional sites. Twenty-two certificates of completion have been issued; the remainder are still under evaluation.

In another component of the VCP, the agency offers innocent owner/operator certificates to property owners whose soil or groundwater has been contaminated by a neighboring source. Since 1997, the agency has issued



Before and after: What once was a downtown parking lot in Houston (left) with a history of pollution problems has been cleaned up. The 27-story Five Houston Center opens in fall 2002, showing the viability of contaminated properties that are properly remediated. (Photo and illustration courtesy of Crescent Real Estate)

194 of these certificates, which provide owners and operators immunity from liability. Certificates issued by the Innocent Owner/Operator Program are nontransferrable to future owners and operators.

One VCP site in downtown Houston will become home to a 27-story office building. Five Houston Center is scheduled to open in the fall of 2002 with 577,000 square feet of new office space, along with an eight-floor parking garage. A staff of 200 will be needed to maintain the building.

Before construction, it was determined that the 1.4 acre site on McKinney Avenue had been home over the years to three gas stations, an auto repair shop, a radiator shop, a car dealership, and parking lots for downtown commuters. An environmental assessment showed evidence of petroleum hydrocarbons and lead contaminants.

To comply with state cleanup standards, 18 underground storage tanks were emptied of petroleum products, water, and sludge, and approximately 18,000 cubic yards of soil was removed to a landfill. Follow-up sampling indicated that hydrocarbon contamination of groundwater was below risk-based cleanup levels, as were lead levels in the soil. In January 2002, the TCEQ issued a certificate of completion for the project.

BORDER WATER CONSERVATION DAY

Water conservation is a critical issue for the U.S.-Mexico border region. That is because much of the region is arid, and decreased rainfall and river inflows have adversely affected water supplies for almost a decade.

In recognition of the importance of water conservation, the governors from the 10 U.S. and Mexican border states attending the June 2001 Border Governors Conference in Tampico, Mexico, adopted a resolution calling for the celebration of Border Water Conservation Day in 2002.

Border Water Conservation Day, which was selected to coincide with World Water Day on March 22, 2002, was held in the four U.S. and six Mexican border states, with the TCEQ designated as event coordinator for Texas. The TCEQ's Border Affairs office worked with local water utilities and other agencies to promote water conservation during the week of March 18-22. Activities included the development of a bilingual brochure describing water conservation activities along the border.

A number of events were held during the week in

communities on both sides of the border. In McAllen, TCEQ staff coordinated a tour for elementary school students from Reynosa, Tamaulipas, through the interactive "Our Watershed" exhibit at the McAllen International Museum. The students visited the Texas A&M Agricultural Extension Service in Edinburg to see a butterfly garden that demonstrates low water use.

In Nuevo Laredo, the TCEQ participated in the Feria del Agua, where about 30 exhibits, youth activities, and numerous presentations were staged. U.S. participants in the fair included the city of Laredo, the TCEQ's Border Affairs staff, as well as the Frank M. Tejeda Center for Excellence in Environmental Operations. Sponsoring the event were the state of Tamaulipas' Cultura del Agua and Nuevo Laredo's Comisión Municipal de Agua Potable y Alcantarillado.

A youth parade and forum were held in Ciudad Acuña, Coahuila, under sponsorship of the Instituto Coahuilense de Ecología. In Ciudad Juárez, Aqua 21 hosted an international water forum that featured research topics and water management plans designed for the Paso del Norte region.

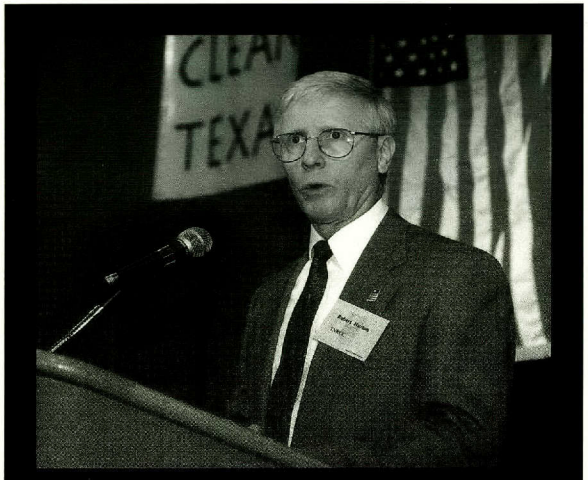
Border Water Conservation Day provided the TCEQ with new opportunities for interacting with the public and other agencies regarding this critical environmental issue. The agency expects to engage more local communities in future celebrations of Border Water Conservation Day.

A big part of Border Water Conservation Day was environmental education for school children. Youngsters toured museums and visited interactive exhibits on water management and conservation.

CLEAN TEXAS ENTERS NEW PARTNERSHIP

For the past 10 years, the TCEQ has sponsored several highly successful voluntary programs designed to prevent pollution of air and water. These nonregulatory programs reward environmental performance and create partnerships that foster good working relationships. They are considered among the most innovative in the United States.

Since the Legislature created Clean Texas 2000 in 1992, the program has offered public education, technical assistance, and training programs aimed at reducing waste and preventing pollution. In short order, Clean Texas 2000 served as the catalyst for several spin-off programs: Clean Industries, Clean Cities, and Clean Texas Star.



At the 2002 Clean Texas conference, Chairman Robert J. Huston announced an agreement with the EPA to recognize and reward members who belong to both state and federal environmental leadership programs. (Photo by Michael Vasquez)

After nearly a decade of experience, the three programs in 2001 were rolled into one—Clean Texas, with three levels of membership and varying levels of commitment over a three-year period. The three membership levels make it easier for different types and sizes of organizations to be environmentally active. Those levels are Partner, Leader, and Advocate.

Clean Texas seeks to recognize organizations for setting goals that exceed regulatory requirements and for creativity in resolving environmental challenges. The program is open to all community members—industries, businesses, cities, counties, schools, universities, military bases, nonprofit groups, and other organizations. Clean Texas also works to support regional partnerships and to promote public awareness and

participation in activities that protect air, water, and land. By the end of fiscal 2002, Clean Texas had 190 members.

In the latest development, TCEQ Chairman Robert J. Huston and EPA Administrator Christie Whitman signed a memorandum of agreement in February 2002 to recognize and reward environmental leadership in the protection of air, water, and land. As a result, the TCEQ and EPA will mutually recognize members of the Clean Texas Leader program, as well as EPA's National Environmental Performance Track. Both of these voluntary incentive and recognition programs encourage members to focus on local problems and to be creative in solving them. Also encouraged are partnerships and networking with neighborhood citizens to achieve environmental goals. Both agencies are developing additional incentives for members of both programs.

The TCEQ and EPA agreed their respective programs would maintain their own identities. Also, they pledged to reduce members' administrative burdens through reduced reporting and expedited permitting. Further, the two agencies pledged to host joint recruiting and recognition events, and to report to the public the environmental results of both programs.

Faced with a steep piece of property that would likely erode, Stratus Properties Inc. of Austin called the TCEQ for help. The agency advised how to apply compost to a steep incline surrounding a retention pond. Grass sprouted two weeks later. The TCEQ holds workshops around the state demonstrating the use of compost for filter berms, erosion control, and top dressing.

COMPOSTING AS AN ENVIRONMENTAL TOOL

Preventing soil erosion, reducing water consumption, and curbing chemical runoff from fertilizer and pesticide applications are just three of the benefits of using compost in landscaping projects. The TCEQ has a number of efforts under way to promote this beneficial practice.

In fiscal 2002, the agency hosted 10 free workshops for professional landscapers and sports turf managers to provide information on how compost builds healthy soil, supports plant growth, suppresses disease and pests, and substantially reduces water consumption. Healthy plants are more resistant to disease and pest infestations, requiring fewer pesticide applications.

Workshop participants included turf managers from parks, golf courses, schools and universities, utilities, and public works departments. All totaled, 456 persons attended. More workshops are planned.

These "green industry" workshops are modeled after similar demonstrations conducted by the TCEQ in partnership with the Texas Department of Transportation for highway district staffs and contractors. More than 600 TxDOT personnel in 16 districts, along with municipal and contracting industry employees, have learned firsthand the benefits of using compost to control erosion.

As an incentive to use compost, the TCEQ offers a rebate of $5 per cubic yard to public entities that purchase compost from the North Bosque/Leon River watershed in North Central Texas. This area has a concentration of dairy farms, producing a high yield of cow manure. The rebate, funded by $317,000 from an EPA grant, covers transportation expenses and is cost-effective for landscape projects within 150 miles of the Stephenville area. The rebate is available to state agencies, cities, counties, regional planning agencies,

special districts, school districts, and public universities.

The biggest compost user has been TxDOT, which has ordered 350,000 cubic yards in the last two years for highway maintenance and construction.

Elsewhere in the state, the University of the Incarnate Word in San Antonio has been applying compost to its sports fields for more than seven years, resulting in a significant reduction of irrigation and chemical applications. The use of compost has improved the water infiltration rate and the amount of nutrients available to the turf grass. A number of school districts and golf courses have also begun to incorporate compost into their turf management practices and have seen similar results.

Because of the success of Texas' composting programs, TCEQ and TxDOT representatives made presentations in St. Paul, Minnesota, at the 2001 National BioCycle Conference (*BioCycle* is the industry journal of composting) and to the Tennessee Department of Transportation.

Together, the two Texas agencies have received awards from the Texas Quality Initiative and the American Association of State Highway and Transportation Officials in recognition for their innovative and widespread use of compost.

ENFORCEMENT ACTIVITIES

As the state's primary environmental regulatory agency, TCEQ has a mission to protect precious natural resources. The agency's goal is to assure clean air, clean water, and safe waste management, with an emphasis on pollution prevention.

The TCEQ regulates more than 175,000 public and private facilities in Texas. Another 45,000 companies and individuals are regulated through the agency's occupational licensing authority.

In all, the TCEQ issued 887 administrative orders in fiscal 2002, representing a total of $8.6 million in penalties assessed. Of those penalties, $794,300 was deferred upon compliance with the orders.

Four corporations were each fined more than $300,000 for various pollution violations, ranging from multiple unauthorized emissions to failure to maintain records or equipment.

As part of their penalties, many companies found to be in violation of environmental laws choose to perform a supplemental environmental project (SEP), a program designed to benefit communities where environmental violations occur.

Since 1991, SEPs have served as a means of investing fines and penalties for environmental violations in environmentally beneficial projects. Through an SEP, a company or governmental entity facing enforcement actions can choose to invest penalty dollars in local environmental projects rather than paying into the state's General Revenue Fund.

In one case representing a substantial fine, the TCEQ agreed to offset a portion of the administrative penalty on the condition that the company perform an SEP to benefit the community in which the violations occurred. A $375,000 contribution to Texas A&M University at Corpus Christi will be used in the Remote Vehicle Emissions Sensor Project in which sensors will be used to assess vehicular emissions and fuel efficiency. Motorists needing to upgrade their vehicles will be able to attend car care clinics and will receive discount coupons for car repairs and tuneups.

Another company facing penalties opted to offset part of its substantial fine by purchasing nine EPA-certified low-emissions vehicles for Brazoria County, the county's Head Start program, the city of Freeport, and the Brazosport school district. These vehicles will replace older ones used by the organizations.

In yet another SEP example, $100,000 in one penalty case was designated for the purchase of emergency response air monitoring equipment for the Harris County Pollution Control Division. In addition, the SEP money will assist citizen groups in conducting air quality monitoring.

The number of administrative orders with SEPs totalled 129 in fiscal 2002. The cost of those SEP projects came to $2.3 million.

The largest environmentally beneficial project that the TCEQ will supervise through the SEP program was approved in the summer of 2002. A federal district judge in Corpus Christi approved environmentally beneficial projects that will be funded by a large refining and chemical company as part of its restitution in a federal criminal case stemming from environmental violations.

The TCEQ, along with the EPA and the Department of Justice, agreed that the legal settlement, which includes interest that has accrued to the fine, should be divided thusly:

- $6.9 million to conduct air quality monitoring in Corpus Christi for 10 years, and
- $3.3 million to the Coastal Bend Bays and Estuaries Program to preserve wetlands and wildlife habitats in the Nueces River Delta.

Under the air monitoring project, Texas A&M-Corpus Christi, the proposed project manager, will set up nine high-tech air monitoring stations and four surveillance cameras along the ship channel and refinery area to measure meteorological data and levels of sulfur

dioxide, hydrogen sulfide, and/or volatile organic compounds, including benzene. As information becomes available, it will be posted on the Internet for public use. The TCEQ and the federal district court will supervise both projects.

HOME SITES UNDER REMEDIATION

Of the many cleanup projects led by the TCEQ, some occur in the heart of communities. That is the case in Corpus Christi, where the agency is overseeing the cleanup of 27 residential properties with lead contamination in the Industrial Road area. The project was launched in May 2002 after it was discovered that ground storage of lead by several metal recyclers at the Industrial Metals reclamation facility had contaminated the soil on several neighboring properties.

The recyclers, which had been in operation from 1936 to 1981, removed lead from automotive batteries and copper from industrial transformers. After operations ceased, the responsible parties, under enforcement action by the Texas Attorney General, conducted remedial activities on the contaminated areas of the site. The remedial activities were completed as approved by the agency. The contaminated areas were consolidated and capped on site.

In 1990, the TCEQ referred the site to the EPA as a potential Superfund cleanup site. The federal agency conducted limited sampling in the surrounding neighborhoods. Again in 1999, the EPA sampled 43 properties and found that 11 of them had elevated lead levels, but the EPA determined that the site did not qualify for the federal Superfund program.

In its own subsequent evaluation under the state Superfund program, the TCEQ determined that a cleanup was needed at the identified properties and further testing was necessary off the site.

Soil excavation gets under way at 27 residential properties in Corpus Christi after the TCEQ confirmed lead contamination from a nearby industrial facility. The landscaping will be fully restored when cleanup is completed.

After a May 2002 public announcement that additional soil sampling would be conducted, the TCEQ sent team members door to door in the neighborhood to obtain access agreements. The soil sampling conducted in early summer indicated that some of the residential yards contained contaminated soil.

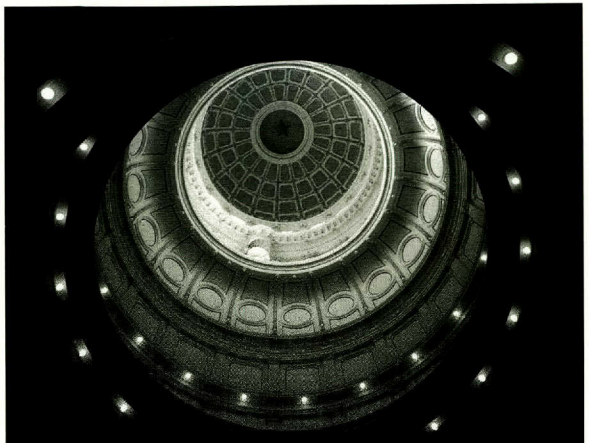
Remediation began soon after at homes showing lead contamination higher than 500 parts per million. Workers started excavating and removing contaminated soil from the 27 properties, replacing it with clean soil, replanting grass, landscaping, and watering the properties.

In addition, free blood testing for lead was offered at a clinic for children 17 and younger who live in the vicinity of the former Industrial Metals site. Children are especially susceptible to lead exposure because they play in the soil and may put their hands or toys in their mouths.

SUNSET IMPLEMENTATION

The agency emerged from review by the Legislature and the Sunset Advisory Commission with a new name and a renewed license to operate through fiscal 2013. In Sunset legislation enacted in House Bill 2912, the Legislature approved a number of recommendations, including a name change to the Texas Commission on Environmental Quality. The agency officially changed its name in September 2002.

In deliberating the Sunset bill, lawmakers decided a new name would give the public a better sense of the agency's purpose and would be more in line with what other states call their environmental agencies. The old



The 2001 legislative session provided plenty of new assignments for the TCEQ.

name—the Texas Natural Resource Conservation Commission—dated back to 1993, when the Legislature merged the Texas Water Commission, the Texas Air Control Board, and several divisions of the Texas Department of Health.

The following summaries highlight portions of HB 2912. Other important aspects of the Sunset bill, as well as other major legislation pertaining to air, water, and waste management, are discussed in subsequent chapters.

Compliance History

The Sunset bill places additional requirements on the TCEQ to track and consider the compliance history of businesses and industries when issuing permits. The agency must consider a regulated entity's compliance record over the previous five years in other circumstances as well: when assessing penalties for violations, considering whether to conduct announced investigations, and deciding whether an entity can participate in innovative environmental programs.

Regulated entities are classified according to a three-tiered rating system. "High" performers are entities with an above-average compliance record. "Average" performers have generally complied with environmental regulations, and "poor" performers have a below-average record. By law, poor performers cannot renew a flexible permit nor use a wastewater general permit. They also are not allowed to participate in innovative programs or to receive notices of investigations.

The program sets up a point system for various violations, criminal convictions, and federal orders. These points may be offset by mitigating factors, such as implementation of a voluntary pollution reduction program or disclosure of violations.

In the past, the TCEQ has considered compliance history in its decisions, but the guidelines were not consolidated in the agency's administrative rules. Because of the Sunset-required changes, the agency now has a uniform formula by which to classify compliance history.

More importantly, the TCEQ has laid the foundation for a new "strategically directed regulatory" approach that emphasizes performance over process. This new approach will be in place by September 2005.

Citizen-Collected Evidence

Texans going about everyday activities often notice environmental problems that should be checked out. That is why the Legislature directed the TCEQ to set up a process under which the executive director may take advantage of information gathered as evidence by the public. This new procedure adds more eyes and ears to the agency's enforcement efforts and sends a message that the TCEQ wants citizen help in enforcing laws, rules, and permits.

Want to Report an Environmental Problem?

The TCEQ is available day or night to receive complaints and to discuss evidence of possible environmental violations. To submit a complaint or ask questions, call toll-free at 1-888-777-3186, or e-mail cmplaint@tceq.state.tx.us. To report the information online, go to www.tnrcc.state.tx.us/cgi-bin/enforcement/complaints.

The agency has long relied on complaints from the public in initiating investigations, but TCEQ staff have had to independently verify the basis for the complaints. Staff often are not present when the best evidence can be collected, especially for a complaint about a one-time event, such as illegal dumping. A citizen may be the only person to witness the act.

Under recently adopted rules, the TCEQ may initiate enforcement actions based on information that is properly documented and provided by private citizens. The program is the responsibility of the agency's 16 regional offices, with local staff reviewing citizen-collected information and deciding on appropriate action. If the agency pursues enforcement based on information provided by an individual, that person must sign an affidavit and may be asked to testify in court.

The TCEQ can pursue enforcement action only if evidence can withstand legal scrutiny in an enforcement hearing. As a result, evidence received from outside the

agency must be gathered, preserved, and submitted under strict procedures—the same procedures used by agency staff—and cannot have been gained by trespassing. Once a violation has gone through the enforcement process, the complainant will be notified of the results.

To publicize this important new initiative and explain how it works, the agency has created a brochure and developed a Web page. The public may also get information through a new toll-free number. In addition, the agency held 20 workshops to inform citizens how to gather and preserve data in keeping with TCEQ requirements.

Complaint Investigations

The TCEQ was required to develop procedures for responding to environmental complaints after normal business hours. The agency established a toll-free line that is staffed 24 hours a day, so that Texans can reach the TCEQ field office in their region. Staff will listen to callers' concerns and, if appropriate, initiate an investigation. People with environmental concerns also may contact the agency by e-mail or via the Web (see box, page 11). The complaint process is less formal than that for receiving citizen-collected evidence.

The agency is required to educate the public on the complaint process and to update complainants on the progress of investigations. Upon request, the agency also will train local law enforcement officials on how to investigate complaints and enforce environmental laws.

Emissions Events

Any business in Texas that has "emissions events" is required to record the episode and—if of a certain amount—to report it to the TCEQ. Emissions events, also known as "air upsets," are unplanned occurrences of emissions (contaminants) in the air, emissions from unscheduled maintenance, or shutdown activities that release air contaminants.

Businesses experiencing emissions events must comply with new reporting requirements. In addition, they must submit Corrective Action Plans for all excessive emissions events so that remedial action can be taken quickly. Some emissions events may receive permits if proper application and documentation are received by the TCEQ.

Electronic Information

The TCEQ is providing additional public information on its Web site, increasing the availability of electronic reporting, and reducing duplication in reporting requirements. The goal is to make information more accessible to the public and to help save money for the regulated community and the TCEQ.

The agency is moving forward with three projects to improve Internet reporting: WebSTEERS for industrial and hazardous waste reporting, iWUD for water utility lab results, and an online system for registering general wastewater permits.

Also, the agency is developing a centralized electronic reporting system that will link to the Central Registry, a database of entities regulated by the TCEQ. With this linkage, the public will not have to send the TCEQ the same information when submitting multiple forms and reports. This new system is expected to go online in fiscal 2003.

The agency also is posting more types of public information on its Web site, including minutes of advisory committee meetings, pending permit and enforcement actions, compliance histories, and facility emissions inventories. Much of this information already is available, and more will follow in fiscal 2003.

Another project is under way to fulfill requirements that reported emissions events be incorporated into a permanent centralized database. This information will be available to the public and will be evaluated by the TCEQ for enforcement actions against entities that repeatedly fail to report emissions events.

Environmental Management Systems

Under new TCEQ rules, businesses, industries, and government agencies receive regulatory incentives if they implement environmental management systems (EMS). These systems involve creating and implementing a formal organizational plan for protecting the environment.

Organizations with an EMS must have a written environmental policy, identify the environmental impact of their activities, set goals for improving environmental performance, assign responsibilities for implementing and monitoring environmental compliance, and continuously improve their systems through ongoing evaluations.

Organizations that take these steps can receive on-site technical assistance. They also get credit for their EMS in their compliance history, as well as consideration in scheduling and conducting compliance investigations. To help businesses and government agencies with these provisions, the TCEQ is developing model EMS programs and establishing environmental performance indicators to measure a program's performance.

The EPA selected the TCEQ as one of eight organizations (and the only governmental unit) in the country to become an EMS local resource center.

Lab Standards

The Sunset Advisory Commission determined that data used to make regulatory decisions should be produced by accredited labs in order to provide

uniformly reliable data related to permits, compliance, enforcement, and corrective actions. The agency responded by developing a new regulatory program in which environmental labs must qualify for accreditation based on standards adopted by the National Environmental Laboratory Accreditation Conference.

As another result of legislation, the Drinking Water Laboratory Certification Program, which previously was housed at the Texas Department of Health, moved to the TCEQ in September 2001. Inspectors from this program certify laboratories that test public drinking water supplies.

Environmental Research Takes Shape

One of the Legislature's charges was creation of a research model to meet the practical regulatory needs of the TCEQ. The model will be used to guide and coordinate environmental research statewide and to conduct research using appropriated and matching funds.

The research model will address:

- developing a research plan to prioritize needs and identify short-, medium-, and long-term research goals;
- administering grants and contracts for research, if money is appropriated;
- exploring private and federal funding opportunities to meet research needs;
- coordinating environmental research activities under existing state initiatives and with state universities, the Texas Higher Education Coordinating Board, and state and federal agencies.

The TCEQ also was authorized to assemble a Research Advisory Board to recommend research topics specific to Texas. Board appointments are expected to be made in fiscal 2003.

In a related initiative, the Legislature appropriated $4 million for the TCEQ to improve ozone modeling. By the end of fiscal 2002, about $3.4 million was obligated, and the remainder was not yet encumbered. Much of the work begun in 2002 continues, and all funded projects will be completed by the end of fiscal 2003. The task of improving the air modeling will continue for many more years.

The agency created the Interim Science Coordinating Committee (ISCC), whose members include prominent scientists from universities and federal laboratories that had participated in the Texas 2000 Air Quality Study. The study was the most comprehensive examination yet of ozone formation and movement in Southeast and East Texas.

From the work of the ISCC and related technical work groups, a list was developed of more than 100 projects to refine and enhance modeling for demonstrating ozone attainment. After working with the ISCC to prioritize projects, the agency funded the highest priority projects using appropriated funds. Funding additional high-priority projects are the Texas Air Research Center at Lamar University, the Texas Council on Environmental Technology, the Texas Environmental Research Consortium, and the Texas Learning and Computational Center at the University of Houston (using research funds from the EPA).

The TCEQ is able to update the list of prospective projects, and will continue to work with the ISCC and its work groups to prioritize them for funding.

Work continued in 2002 through interagency contracts with three Texas universities and grant agreements with the National Oceanic and Atmospheric Administration's Aeronomy Laboratory and Environmental Technology Laboratory, as well as the Department of Energy's Brookhaven National Laboratory and Pacific Northwest National Laboratory. Together, these contracts have brought more than $10 million to the Texas 2000 Air Quality Study and the scientific analysis of resulting data.

Sludge Requirements

To strengthen rules for using sewage sludge as fertilizer, the TCEQ is requiring all facilities that apply Class B sewage sludge on land to obtain individual permits by September 2003. Until then, such facilities may continue to operate under registrations received in accordance with prior law.

The permitting process will include public participation in the form of contested hearings in decisions on where sludge will be applied. The new law requires permit applicants to pay fees of $1,000 to $5,000 each, depending on the amount of sludge to be applied annually. And permit holders must self-report any violation of permit conditions.

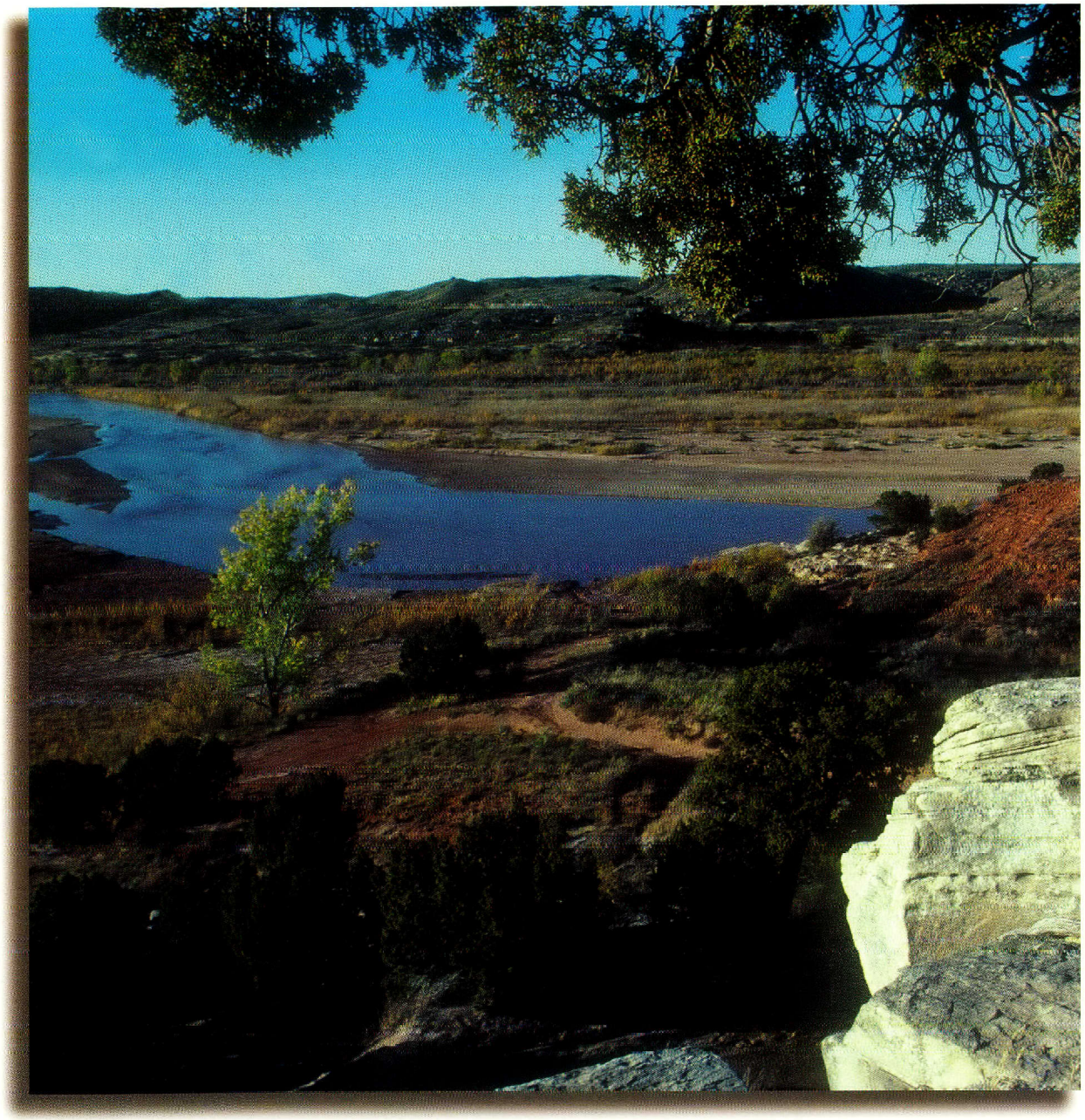
About 125 beneficial land use sites are expected to be affected by the TCEQ rule revisions.

Sewage sludge is a by-product derived from the treatment of wastewater at sewage treatment plants. Class B sludge has been properly treated to reduce pathogens and fecal coliform.

Role of the Executive Director

The Commission has adopted new rules outlining the circumstances under which the executive director will participate in contested permit hearings.

The rules, which became effective November 15, 2001, provide for mandatory participation in some permitting matters, mandatory abstention in others, and discretionary participation based on certain criteria. The new rules apply only to hearings in which the executive director is named as a party after the effective date of the rules.



Chapter 2
Environmental Management

With court challenges over federal air standards largely resolved, the Environmental Protection Agency is moving forward with implementation and enforcement of programs aimed at addressing the 8-hour ozone standard and the standard for fine particulate matter.

This will present an even broader challenge for the Texas Commission on Environmental Quality, as regulatory responsibilities are expected to increase. The agency has compiled an impressive array of staff expertise, high-tech monitoring equipment, and scientific investigative findings with which to meet the expanding demands of air quality planning and implementation.

Similarly, in-depth research and analysis continue at the agency to gain a better understanding of the source and movement of contaminants that harm the quality of land and water. For all its responsibilities in natural resource protection, the TCEQ makes every effort to base all policy decisions on sound science and broad based data collection.

This chapter examines the leading environmental challenges facing the TCEQ and how the agency has responded. The common goals of agency programs are reducing pollution and creating an environment that fosters good health and quality of life.

Toxics Release Inventory

The Toxics Release Inventory (TRI), a program administered since 1986 by the EPA, documents the toxic chemical releases, transfers, and waste

management activities that occur both on site and off site for 1,438 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 people, 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 2002—reflect activities that occurred in 2000.

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 2000, 285 chemicals and 8 chemical categories were added, and 18 chemicals were removed from the list. In 1998, the EPA included 7 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 2000 is used to analyze long-term trends. This set of chemicals is called the "1988 core chemicals."

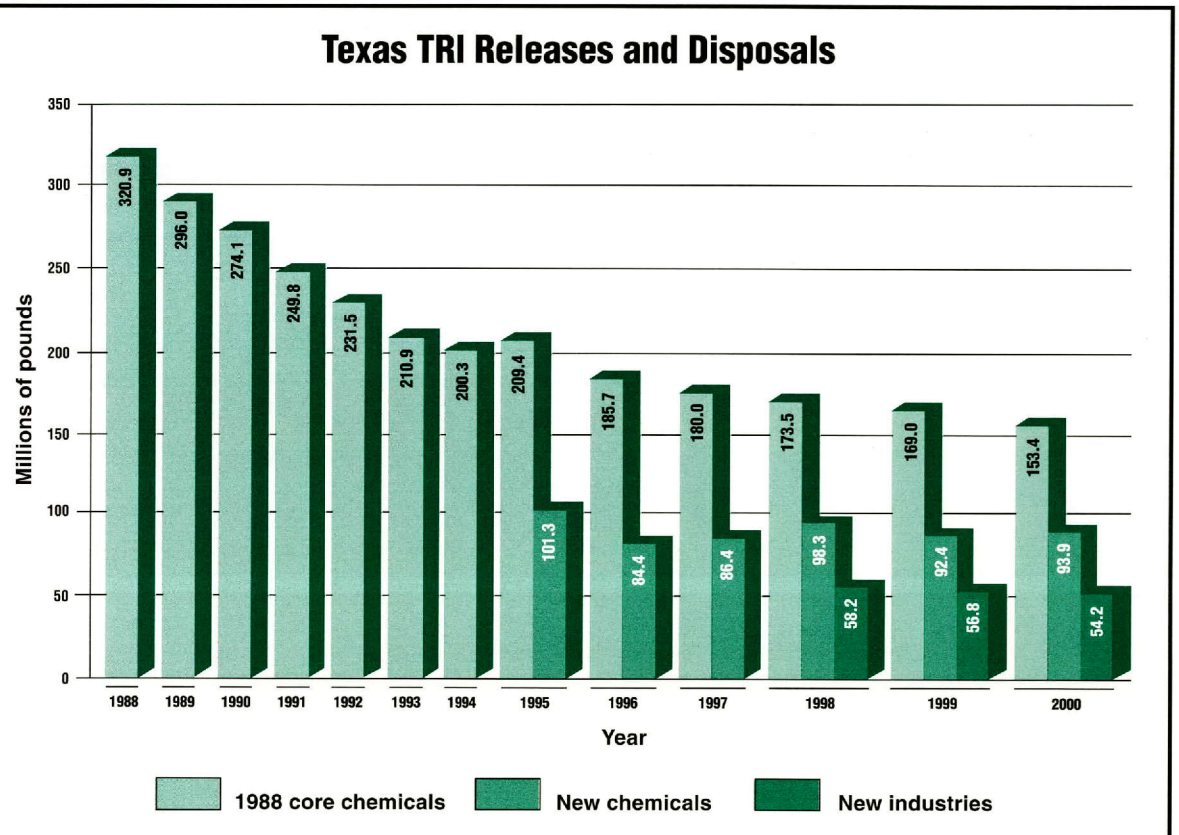
The most common method for analyzing long-term trends within the TRI uses annual on- and off-site release and waste disposal totals of the 1988 core chemicals.

Texas has reduced the amount of releases and disposals of the core chemicals from 320.9 million pounds in 1988 to 153.4 million pounds in 2000, a decrease of 52.2 percent.

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 2000. Texas' amount of releases and waste disposals has fallen from 310.7 million pounds in 1995 to 247.3 million pounds in 2000, a decline of 20.4 percent.

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 330 million pounds in 1998 to 301.5 million pounds in 2000, a reduction of 8.6 percent.

In 1999, a subset of the TRI chemicals was designated as persistent and bioaccumulative toxins (PBT).



The Toxics Release Inventory 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 12-year picture of the TRI reflects the new reporting requirements added by the EPA in 1995 and again in 1998. Texas' 2000 TRI data, which the EPA released in spring of 2002, showed total releases and disposals at about 301.5 million pounds for that year.

Due to the concerns about long-term effects caused by PBT chemicals, the thresholds for reporting these chemicals have been significantly lowered, compared to the other TRI chemicals. Eighty-four facilities reported the release of PBT chemicals at their facilities and included these releases in their TRI submission for 2000.

AIR QUALITY

More than half of Texas' 20 million residents live in areas that do not meet federal standards for ozone.

The TCEQ has worked with the EPA, the Legislature, local governments, and stakeholders for more than a decade to devise pollution control measures for urban nonattainment areas.

The leading air quality concerns in Texas are centered in the metropolitan areas of Houston-Galveston (eight counties), Dallas-Fort Worth (four counties), and Beaumont-Port Arthur (three counties), all of which are designated by the federal government as "nonattainment" for the 1-hour ozone standard. El Paso is designated as nonattainment for ozone, carbon monoxide, and PM10, but overall air quality has made significant improvements.

Other urban areas, which are considered to be "near-nonattainment," are being monitored for potential violations of the federal 8-hour ozone standard. These are Austin, San Antonio, Tyler-Longview-Marshall, Corpus Christi, Victoria, and several outlying counties around Dallas-Fort Worth.

The urgency to address air quality concerns is tied to health concerns and the fact that Texas has a 2007 deadline for reducing ozone levels sufficient to meet federal standards. Failing to meet the deadline could result in federal sanctions.

To enhance data collection, the TCEQ has further expanded its air monitoring with an emphasis on continuous monitoring technology. During fiscal 2002, the state and federal networks increased from an estimated 500 monitors to 518. Air monitors were added in the outlying counties of the Dallas-Fort Worth area to provide for more accurate ozone mapping. Also, monitors measuring PM2.5 were added around the state to measure the composition of pollutants causing visibility problems. Texas is one of five states participating in an EPA study to evaluate continuous PM2.5 monitoring technology.

The TCEQ secured federal funds to replace the existing canister samplers throughout the ozone and air toxics monitoring networks. The new high-tech samplers are designed to collect air samples when triggered by high readings of ozone or total organic compounds. They can also be set off remotely to collect short-term samples during "emissions events" or maintenance operations at industrial facilities. After testing during the year, field deployment of the samplers is scheduled to begin in late 2002.

Sanctions Clock

Federal sanctions can be imposed if the EPA disapproves a State Implementation Plan or finds that some of the SIP requirements have not been met. These sanctions will be applied according to a set of mandatory deadlines called the "sanctions clock."

There are two types of sanctions:

Two-to-one offsets. This sanction affects major stationary sources of pollution, such as factories or power generators. Permits for construction or expansion would become much harder for these facilities to get. Also, these facilities would have to show that air emissions would be reduced at another location twice as much as it will be increased by the new development.

Federal highway funds. Federally funded highway projects are stopped due to a cutoff in funding.

The threat of federal sanctions is serious because the EPA has strict enforcement policies.

Eighteen months after the EPA disapproves a SIP, the first sanctions kick in. There is no comment period. The EPA usually imposes the two-to-one offset sanctions first.

Six months later, if the state still has not met its SIP obligations, additional sanctions will be applied. Cutting off federal highway funds is EPA's preferred second sanction. Also, the EPA activates a Federal Implementation Plan with mandated strategies for a nonattainment area to meet air quality standards. At this stage, economic incentives are the primary measures, such as taxes or fees. The state remains responsible for fixing the SIP.

Health Concerns

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

Ground-level ozone is an air pollutant that can cause health problems, even at relatively low levels, and damage crops and other vegetation. It is a key ingredient of urban smog. Long-term exposure may cause permanent lung damage.

Ground-level ozone is a health concern for residents living where air pollution is more likely to be concentrated, usually in urban areas. 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.

Ozone is not emitted directly into the air, but is a chemical reaction at ground level between two gases: nitrogen oxides (NO_x) and volatile organic compounds (VOCs). Under the right conditions—sunlight, heat, and little or no wind—ozone is formed.

NO_x, which is produced almost entirely as a by-product 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.

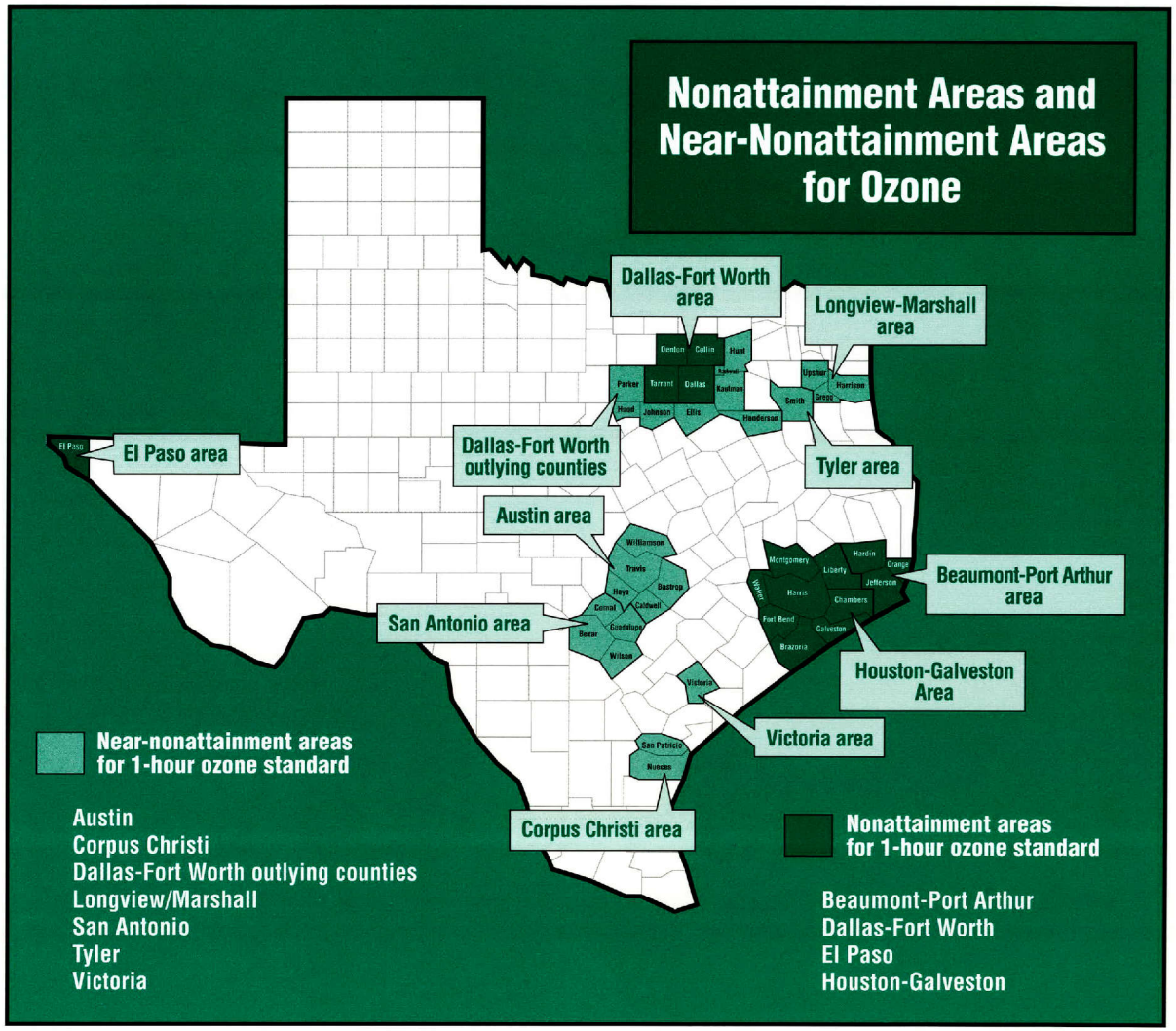
VOCs include many chemicals that vaporize easily, such as those found in solvents and gasoline. Sources include oil refineries, chemical plants, power generation units, gasoline stations, and dry cleaners, as well as cars, trucks, buses, ships, and airplanes.

Particulate matter (PM) is another pollutant that can lead to adverse health consequences. These tiny particles are small enough to be drawn deeply into the lungs, affecting breathing and aggravating cardiac and respiratory problems. 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 linger for days or weeks, contributing to air pollution and visibility problems, sometimes hundreds of miles from the sources.

In 1987, the EPA mandated that states 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 as PM2.5.

Texas and other states have continued to monitor



for both PM10 and fine PM2.5, but EPA's standards for fine particulate matter were in abeyance for several years because of pending litigation. Final court decisions have upheld the PM2.5 standard and cleared the way for the EPA to resume implementation of this program. In August 2002, the TCEQ was awaiting notice on which three years of monitoring data will be used to determine compliance with the standard. All states have the 2003-2004 time frame in which to recommend attainment designations for problem areas, and the EPA is expected to issue final designations in 2004 or 2005.

The areas being watched most closely in Texas for noncompliance are Houston-Galveston, Dallas-Fort Worth, and parts of Northeast Texas.

Border Concerns with Air Quality

Air quality issues along the border center on two areas: El Paso and the Big Bend National Park.

For more than a decade, El Paso has been designated as nonattainment for federal air quality standards for three pollutants: ozone, carbon monoxide, and particulate matter. The EPA held off imposing sanctions, acknowledging that El Paso is hemmed in by mountains that serve to trap air pollutants and it receives heavy pollution from neighboring Juárez, a city with 1.2 million people and growing industry.

But in recent years, El Paso has celebrated good news on the air front, and the TCEQ is considering seeking a redesignation of the area's status to "attainment."

The TCEQ has long worked with officials and advisory groups in Mexico and neighboring New Mexico to devise remedies for the air quality problems. The control strategies that have been in place for several years and appear to have worked include: testing the emissions levels of cars and trucks; requiring alternative forms of gasoline (oxygenated fuel in the winter and less volatile gasoline in the summer); expanding the clean fleet vehicle program; requiring alleys and dirt roads to be paved; and, when air pollution levels are high, prohibiting the use of wood-burning stoves and fireplaces.

These combined efforts have helped El Paso comply with federal standards on all three pollutants in recent years. As a result, the TCEQ has discussed with local officials and the EPA the prospects of upgrading El Paso's classification to attainment. A decision is expected in fiscal 2003.

A few hundred miles away, Big Bend National Park, which is one of Texas' foremost tourism destinations, has been plagued for years with visibility problems. On clear days, visitors to the rugged territory can see landmarks 100 miles away, but sometimes visibility is reduced to two-thirds that distance. The TCEQ has provided technical expertise for an EPA study that began in 1999. The study aims to identify the various sources contributing to regional haze—the movement of fine particles across a broad geographic range.

After lengthy analysis, the study results will be released in early 2003. Early indications are that air pollutants travel long distances, not only from within Texas but from other U.S. states and the interior of Mexico.

More information on air quality along the border is available in the TCEQ's *Strategic Plan, Volume 3, State of the Rio Grande and the Environment of the Border Region.*

A Blueprint for Clean Air

A State Implementation Plan is a comprehensive plan required by federal law for maintaining good air quality or reducing air pollution in regions not in compliance with federal air quality standards. Many components make up a SIP: statutory authority, planning and analysis, permits, monitoring, emissions inventories, rules and regulations, and compliance and enforcement. Lastly, sufficient resources are needed to conduct these important activities.

SIPs have been in place since the early 1970s, but the Clean Air Act amendments of 1990 significantly increased the complexity of the process by requiring certain measures to be implemented, mandating more detail in what the plans require, and specifying strong consequences if those requirements are not met.

The Texas SIP addresses the metropolitan areas of Houston-Galveston, Dallas-Fort Worth, Beaumont-Port Arthur, and El Paso, all of which have exceeded the federal 1-hour ozone standard. The 1-hour standard is violated if a single monitor exceeds 125 parts per billion (ppb) more than three times in a three-year period.

Recent revisions to the Texas SIP were made after in-depth consultations with the EPA, local government officials, regulated entities, and the public. The TCEQ has worked diligently to craft a plan that addresses the individual needs of each region but also is rigorous enough to satisfy federal clean air standards.

Houston-Galveston. The Houston area is host to one of the country's largest industrial complexes. Those industrial and petrochemical operations, combined with high-volume traffic, produce a

challenging ozone pollution picture that continues to be studied by research scientists. Unique meteorological patterns in the Gulf of Mexico also come into play.

Dallas-Fort Worth. In this North Texas region, emissions problems stem chiefly from an ever-growing number of cars, trucks, and pieces of diesel construction equipment.

Beaumont-Port Arthur. Local emissions in this port hub are generated primarily from a concentration of oil refineries and marine vessels, supplemented by heavy-duty trucks and construction equipment.

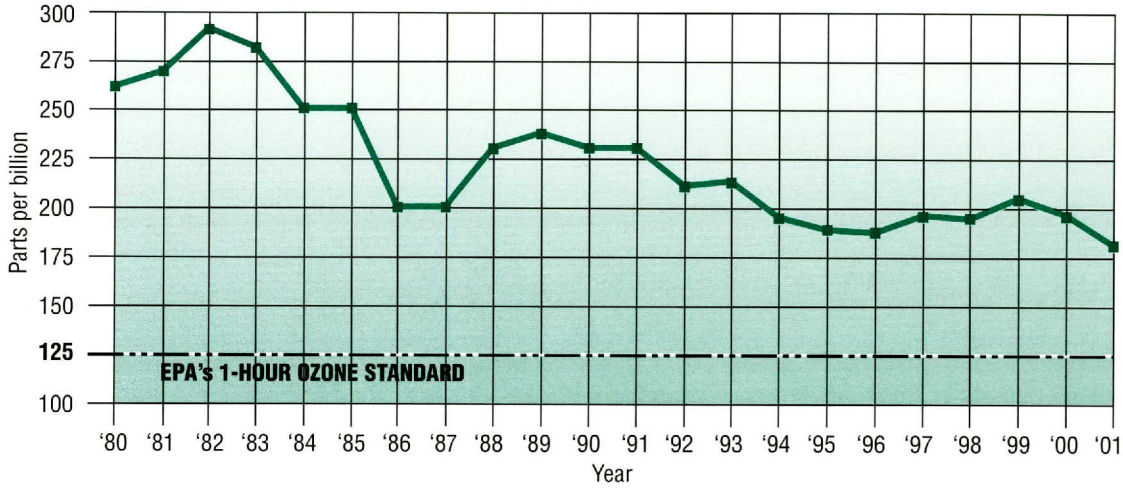
El Paso. This arid area is affected by its own car and truck emissions, but also has to cope with seasonal temperature inversions and a variety of emissions generated in Juárez, Mexico, and carried by southerly winds. While classified as nonattainment for ozone and two other pollutants, El Paso has enjoyed recent successes in air quality that may result in the area being redesignated (see sidebar, page 19).

Dealing with Nonattainment

The EPA has issued final approval of the TCEQ's revisions to the clean air plans for the Beaumont-Port Arthur and Houston-Galveston areas. The EPA has proposed approval for the Dallas-Fort Worth plan. However, the federal agency may have to disapprove the Houston plan and reject the Dallas plan because a loss of state funds to address air quality has placed the SIP approval in jeopardy.

Originally, the TCEQ's clean air proposals for Houston included an early morning construction ban and the early retirement and replacement of off-road diesel equipment. Those strategies were quickly challenged in court by the Engine Manufacturers Association. After the 2001 legislative session, the TCEQ

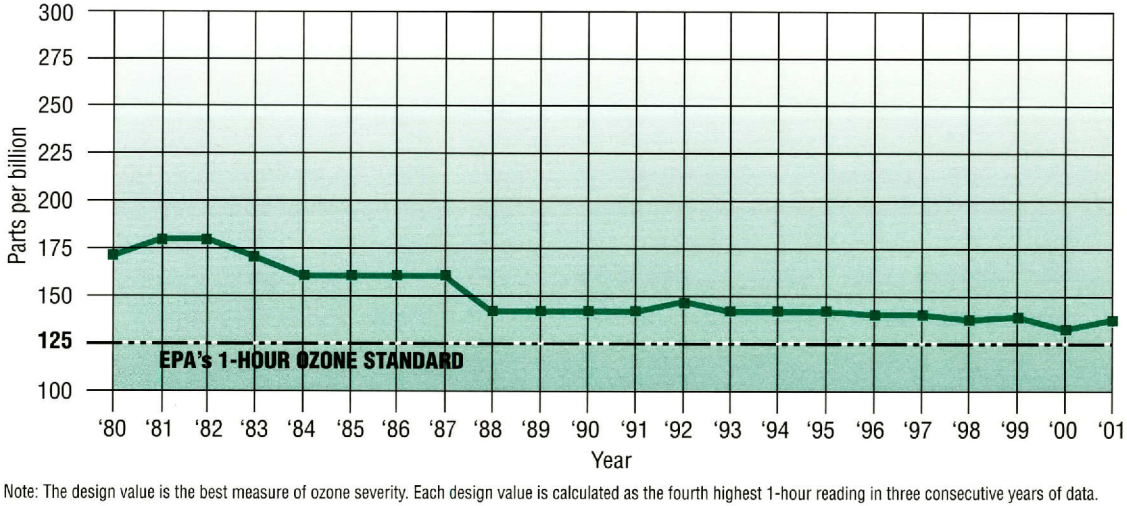
HOUSTON-GALVESTON-BRAZORIA
1-Hour Ozone Design Value*
1980-2001



Note: The design value is the best measure of ozone severity. Each design value is calculated as the fourth highest 1-hour reading in three consecutive years of data.

*Includes private network sites.

DALLAS-FORT WORTH
1-Hour Ozone Design Value
1980-2001



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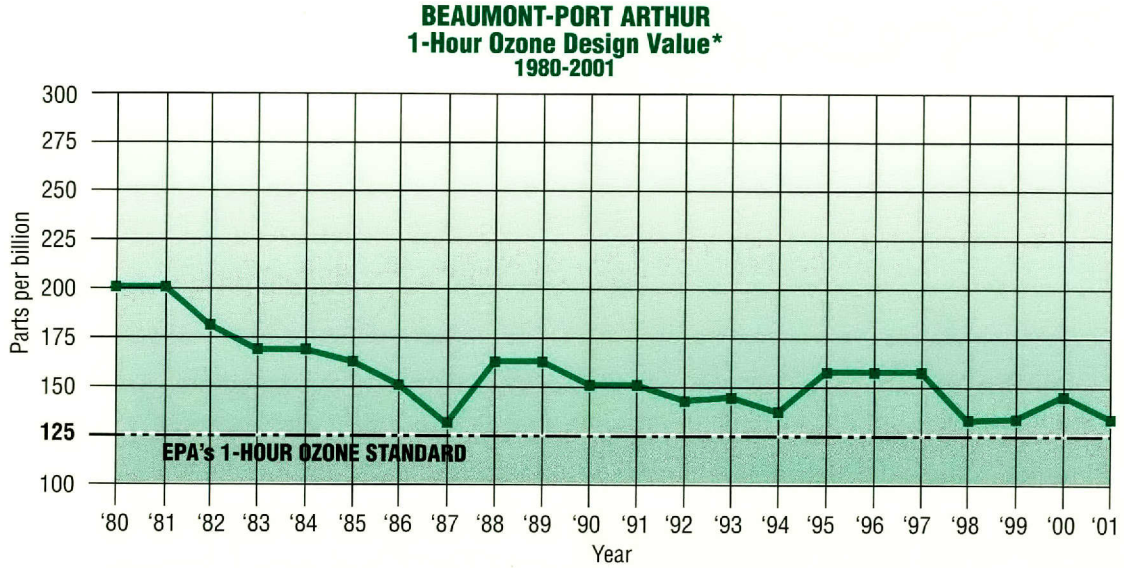

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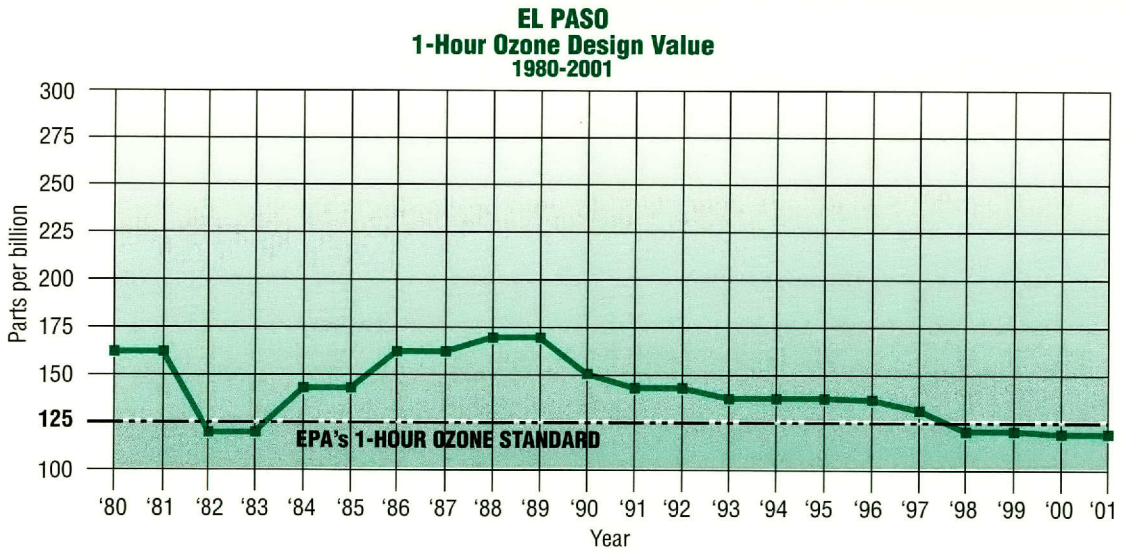


Note: The design value is the best measure of ozone severity. Each design value is calculated as the fourth highest 1-hour reading in three consecutive years of data.

replaced those proposals with a new incentive program created by lawmakers—the Texas Emissions Reduction Plan (TERP).

Another legal challenge—this time by the Business Coalition for Clean Air-Appeal Group (BCCA)—led to a consent order approved by a state district court. The order required the TCEQ to scientifically investigate rapid ozone formation events and, if appropriate, develop a SIP revision by June 2002.

The TCEQ followed through with several proposed revisions to the Houston-Galveston portion of the SIP, not only as a result of the legal challenge from business and industry, but due to emerging scientific findings.

The TCEQ has benefited from information gathered during the $20 million Texas 2000 Air Quality Study that brought together 250 research scientists and an array of air and ground monitoring equipment. Subsequent analysis has revealed that while NO_x emissions from industrial sources were generally well documented, industrial VOC emissions were likely significantly understated in earlier emissions inventories. Preliminary results show that plumes from Houston-Galveston's industrial areas produce ozone very rapidly due to the close proximity of industrial facilities that emit NO_x and VOCs. Moreover, an unusually high portion of highly reactive VOCs—such as ethylene, propylene, and 1,3-butadiene—plays a significant role in this rapid ozone formation and has been previously underreported.

Scientists also found indications that other reactive VOCs may contribute to ozone production in the Houston-Galveston area.

Drawing on this expanding knowledge, the TCEQ commissioners proposed new rules and SIP revisions for the eight-county area to achieve the following:

- Control the release from industrial facilities of

Pollution Control Plans in Two Urban Areas

The state and locally sponsored components of the Houston-Galveston plan include:

- NO_x reductions from point sources, such as industrial facilities.
- Annual vehicle inspections and maintenance for excess emissions.
- Restrictions on commercial lawn equipment before noon, starting in 2005.
- Vehicle idling held to five minutes during ozone months.
- New engine specifications and operating restrictions on stationary diesel engines.
- Speed limits reduced by 5 mph until 2005; then 55 mph.
- Reductions in emissions of airport ground-service equipment owned by Houston-based Southwest and Continental airlines, as well as airport emissions reductions by the city of Houston.
- Cleaner diesel fuel by May 2005.
- Statewide manufacturing requirements to use California spark-ignition engine standards for such heavy equipment as forklifts and compressors.
- TERP incentives.
- Voluntary measures (van pools, telecommuting).
- Transportation control measures (HOV lanes, signal timing).

The Dallas-Fort Worth proposal, which still needs approval from the EPA, includes these state and locally sponsored elements:

- Overall NO_x reductions of about 46 percent.
- Annual vehicle inspection and maintenance for excess emissions.
- Speed limits reduced by 5 mph.
- Reductions in emissions of airport ground-service equipment owned by Southwest, American, and Delta airlines, as well as airport emissions reductions by the Dallas-Fort Worth airports and the cities of Dallas and Fort Worth.
- Cleaner diesel fuel by May 2005.
- Statewide manufacturing requirements to use California spark-ignition engine standards such equipment as forklifts and compressors.
- TERP incentives.
- Voluntary measures (van pools, telecommuting).
- Transportation control measures (HOV lanes, signal timing).

certain highly reactive compounds found to accelerate ozone formation. Greater reductions of these VOCs may allow the TCEQ to adjust the current requirements to result in overall NO_x reductions of about 80 percent. The proposed rule would apply to vents, cooling towers, flares, and unscheduled emissions.

- Replace the recent speed limit of 55 mph with 65 (on roads that were 70 mph before May 2002) and with 60 mph (on roads that were 65).
- Reduce the current 56-ton-per-day shortfall in NO_x emissions by 25 percent, in anticipation of reductions from energy efficiency programs and the new TERP.

Revising the speed-limit strategy came after the EPA released its newest version of MOBILE6, a model that predicts highway emissions for cars and trucks under various conditions. It suggested that the majority of emissions reductions achieved through the speed-limit reductions are those from heavy-duty diesel trucks.

The TCEQ proposal will be submitted to the EPA for approval, then to the Texas Department of Transportation. In 2005, the speed limits will be lowered to 55 mph in the eight counties, unless replacement emissions reductions can be found. The TCEQ is expected to vote in December 2002 on the remaining proposals.

Incentives Program

The EPA dealt Texas a new hand in SIP negotiations by announcing in August 2002 that lack of funding for the state's Texas Emissions Reduction Plan imperils both the Houston-Galveston and Dallas-Fort Worth clean air plans. The ultimate result, if funding is not restored,

could be eventual disapproval of both plans, which would start the sanctions clock. Much of the SIP strategy was built on incentives; in fact, the TERP was a key component in the agency's plan to achieve compliance with federal air quality standards.

Created by the Legislature in 2001, the TERP was designed to provide incentives for reducing NO_x emissions from diesel engines. The voluntary program offers grants and rebates for projects that use cleaner-burning engines, fuels, and other technologies.

The TCEQ may issue incentive grants for emission-reduction projects proposed in 38 counties that are in nonattainment areas or affected counties. The grants help pay for leases and purchases of new cleaner-burning off-road equipment, such as bulldozers and paving equipment. Grants can also be used for retrofits of heavy-duty on-road vehicles and off-road equipment, purchase and use of emissions-reducing fuels, infrastructure for emissions-reducing fuels, electric infrastructure for electric vehicles and equipment, and new technology demonstrations.

In addition to the grants, the TCEQ's heavy-duty vehicle lease or purchase incentive program will be available statewide and will provide rebates for the purchases and leases of new, cleaner on-road heavy-duty vehicles, such as buses and garbage trucks.

The TERP is funded through several sources, such as surcharges on the sale or lease of heavy equipment. All together, those revenue sources were expected to provide about $130 million a year. However, the primary generator of funds—a new registration fee on vehicles brought into Texas from out of state—was blocked in court, and the TERP lost about 80 percent of its expected revenues.

Due to the reduced funding in fiscal 2002, the TCEQ limited issuing grants to just the eight counties in the Houston-Galveston nonattainment area and the four in the Dallas-Fort Worth area.

From two separate requests for proposals, a total of 43 projects were selected to receive grants worth about $13.5 million. Together, those projects are expected to achieve NO_x reductions of 1.31 tons per day by 2007 in the two urban areas.

The TERP also includes programs administered by other state agencies: a rebate program for the purchase of cleaner light-duty cars and trucks administered by the Comptroller of Public Accounts; research and development grants offered by the new Texas Council on Environmental Technology; energy efficiency grants issued by the Public Utility Commission of Texas; information on cleaner cars and trucks distributed to the public by the Texas Department of Transportation; and energy efficiency assessments and assistance by the Energy Systems Laboratory at Texas A&M University System and the State Energy Conservation Office.

Emissions Inspections

Another important part of Texas' strategy for emissions reductions is annual inspections of cars and trucks. In May 2002, motorists in the Houston and the Dallas-Fort Worth areas were the first Texans to put their

A Decade of Tracking Exhaust

The Texas Smoking Vehicle program celebrated its 10th anniversary in 2002. The program educates the public on air pollution caused by cars, trucks, and buses with excess emissions.

The program also contains a component that allows citizens to report vehicles with excess exhaust. Anyone who sees a vehicle releasing smoke from its tailpipe for more than 10 consecutive seconds can file an anonymous report with the TCEQ, providing the vehicle's license plate number, as well as the location, date, and time the exhaust was observed. The TCEQ will notify the vehicle owner that his car or truck was reported to be smoking, and will provide tips on corrective maintenance. Compliance is voluntary.

In the last decade, more than 180,000 cars and trucks have been reported to this program, and thousands of those have been repaired after being notified by the TCEQ. In Texas, vehicles contribute as much as half of the harmful air emissions that pollute the air and contribute to smog. The emissions of one poorly maintained car equal those of 28 properly functioning vehicles.

When the Smoking Vehicle Program added a reporting form on its Web site, the number of reports jumped from 15,700 in calendar 1999 to 23,400 in 2000. Annual numbers continue to rise: 32,200 in 2001, and 23,000 in the first half of 2002.

To report a smoking vehicle, call 1-800-453-SMOG, or fax the information to 512/239-2050. Online report forms can be found at: **www.smokingvehicle.org**.

vehicles through new, more rigorous emissions tests. The state-required program, called "AirCheckTexas," involves sophisticated diagnostic testing to determine whether emissions-related components are functioning properly. The testing is conducted during annual vehicle safety inspections.

AirCheckTexas took effect in Harris County and the counties of Dallas, Tarrant, Denton, and Collin. In 2003 and 2004, the test requirements will expand to additional counties in both metropolitan areas.

The program, which is run jointly by the Texas Department of Public Safety (DPS) and the TCEQ, applies to gasoline vehicles that are 2 to 24 years old. Cars and trucks that are model year 1996 or newer undergo an on-board diagnostic test, in which a scan tool plugs into the vehicle's computer and downloads stored information to identify emission systems or components that are not working properly. The test monitors for a malfunction or deterioration of components that control exhaust emissions.

Vehicles that are model year 1995 or older are put through the acceleration simulation mode, which duplicates driving conditions by placing the vehicle on a platform, accelerating the engine up to 25 mph, and measuring what comes out of the tailpipe. The tailpipe probe measures harmful pollutants such as hydrocarbons, carbon monoxide, and NO_x. Cars and trucks that fail either test must be repaired and retested.

Repair is the key element of the program. If vehicles are not repaired, then emission reductions are not achieved.

By August 2002, more than 1,700 inspection stations were participating in AirCheckTexas. Any startup problems were worked out with DPS and station owners.

The TCEQ also was responsible for establishing guidelines for participating counties to administer the AirCheckTexas Repair and Replacement Assistance Program for low-income motorists. Harris, Dallas, Tarrant, Denton, and Collin counties have adopted resolutions to implement this program.

The TCEQ developed a brochure, "What to Do if You Can't Afford Vehicle Emissions Repairs," for station owners to distribute to motorists who fail the emissions tests.

8-Hour Standard

Texas' ozone problems go further than the federal 1-hour ozone standard. In recent years, a tougher measure—the 8-hour standard—was devised by the EPA for monitoring ground-level ozone. Under this stricter 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.

The 8-hour standard would affect not only the existing 1-hour nonattainment areas, but also 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 closely monitored under the newer standard, as are the four existing nonattainment areas.

Although the EPA initiated the 8-hour standard in 1997, a series of legal challenges postponed implementation and 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. The EPA is expected to propose its 8-hour implementation rules in late 2002. Once finalized, these rules will set in motion a process for designating nonattainment areas and submitting attainment demonstrations as revisions to the SIP.

The areas in Texas with exceedences of the 8-hour standard (but not yet designated nonattainment for that standard) are Austin, San Antonio, and Tyler-Longview, as well as Houston-Galveston, Dallas-Fort Worth, and Beaumont-Port Arthur.

While the 8-hour standard was in legal limbo, many Texas cities began to tackle their ozone problems through local voluntary programs, including the use of carpools, flexible work schedules for commuters, and conversion of local government fleets to alternative fuels. Each of the near-nonattainment areas has developed control strategies and models of air emissions. The Legislature approved $5 million this biennium to assist the near-nonattainment areas with air improvement plans.

Early Action Compacts

Areas in attainment for the 1-hour but facing possible nonattainment status for the 8-hour ozone standard now have options for avoiding that designation.

The strategy behind "early action compacts" was drafted by the TCEQ in cooperation with the EPA and members of the environmental community. The program provides a way for local areas to voluntarily develop and implement aggressive plans to meet and maintain compliance with the 8-hour ozone standard before they would normally have to do so under EPA's implementation schedule.

The requirements are stringent enough to ensure that an area will do air modeling and enforcement on par with SIP requirements, but the program has enough flexibility to allow local areas to tailor measures to individual circumstances. San Antonio and Austin are drafting early action compact agreements, which must be submitted to the EPA by the end of 2002. The TCEQ must submit an attainment demonstration for each area

to the EPA by the end of 2004. The federal government will require participating local areas to reach compliance for the 8-hour standard by the end of 2007, which is several years earlier than what will be required for areas that do not participate.

Grandfathered Facilities

All grandfathered facilities must now obtain permits. The new permitting requirements culminated legislative efforts, beginning in 1997, to permit or otherwise authorize all grandfathered facilities. The TCEQ has identified about 800 such facilities operating in the state, although hundreds more probably have yet to be identified because they were not required to report their emissions to the TCEQ emissions inventory.

Grandfathered facilities are those that existed in 1971 when the state's Clean Air Act passed. Those facilities were exempted from the new requirement to obtain permits for construction or modification of facilities that emitted air contaminants. If grandfathered facilities had not been modified since 1971, they could continue to operate without a permit.

In 1999, lawmakers created incentives to encourage grandfathered facilities to obtain voluntary permits. By the deadline of August 2001, about 300 applications had been submitted for grandfathered facilities.

Legislation in 2001 created four new types of permits for grandfathered facilities: existing facility permits, small business stationary sources, electric generating facilities, and pipeline facilities. Under the law, all grandfathered facilities face deadlines for applying for a permit and having controls operational, or they must shut down. For facilities in East Texas, the deadline is September 2003; for facilities in West Texas, September 2004; and for small business stationary source permits statewide, September 2004.

For grandfathered reciprocating internal combustion engines that are related to transmission pipelines, HB 2912 requires a 50 percent reduction in NO_x emissions at facilities located in East Texas. For West Texas facilities, the TCEQ may require up to a 20 percent reduction in NO_x and VOC emissions.

The Legislature created a fund to assist parts of East Texas that are outside nonattainment areas to achieve NO_x reductions. In cooperation with local governments, other agencies, and the EPA, the TCEQ developed a program to provide incentives to owners or operators of reciprocating internal combustion engines who must cut emissions by as much as 50 percent.

WATER QUALITY

Texans take pride in their lakes, rivers, streams, bays, and estuaries, and expect the water to be suitable for a variety of uses—be it boating, fishing, habitat for plants and animals, recreational activities, or as a source of drinking water.

Nonetheless, runoff, wastewater, and other man-made sources combine to contaminate bodies of water with bacteria, pesticides, and other chemicals, and contribute to lowered oxygen concentrations. If these contaminants are found at levels that do not meet water quality standards, they are identified on the state's list of impaired water bodies, sometimes called the 303(d) list after that section of the federal Clean Water Act.

Ensuring that water bodies are healthy is a complicated task. First, standards must be developed. These standards, or water quality goals, are based on how the water body is used—for example, swimming, aquatic life, oyster harvesting, or as a source for drinking water.

What Causes Pollution?

The sources of water pollution fall into two main categories, called point and nonpoint sources. Most bodies of water are affected by both sources.

Pollution from *point sources* can be traced to a specific location, such as an industrial operation or a wastewater treatment plant. Pollution from point sources is controlled through regulations that require treatment of a facility's wastewater before it is discharged into a nearby lake or stream.

Nonpoint source pollution comes from multiple locations, often carried by rainfall runoff. For example, pollutants may wash off lawns, construction areas, farms, or highways during a heavy rain, and then be carried to a nearby creek. Nonpoint source pollutants are more difficult to control because they often come from commonplace activities, such as fertilizing a lawn, using a pesticide, or constructing a building. Nonpoint source pollution also may originate from natural sources due to the effects of winds and storms.

Some standards are not tied to a specific use but are designed to protect general water quality. The standards are reviewed and updated every three years, as required by federal law. In addition, permit limits and conditions for discharges into Texas waters are established to protect water quality and to meet water quality standards.

Next, water bodies must be monitored and assessed to determine whether the standards are being met. Water

bodies that do not meet their water quality standards are singled out for a technical analysis to determine the measures needed to restore water quality. Finally, an implementation plan—a schedule of corrective measures needed to restore water quality—is enacted.

Measuring Water Quality

Texas water bodies are routinely monitored to determine whether they support their designated uses. The TCEQ coordinates a sampling program to collect water quality data in collaboration with the Texas Clean Rivers Program, Texas Watch volunteers, and other federal, state, regional, and local agencies. The monitoring strategy includes sampling at a large fixed network of sites across the state and conducting special studies to determine the sources of pollution and the appropriateness of water quality standards.

Every two to four years, the TCEQ assesses water quality to determine whether Texas water bodies are meeting their designated uses, such as contact recreation or oyster harvesting. This effort culminates in the biennial *Texas Water Quality Inventory and 303(d) List*, which describes the status of the state's waters and identifies those water bodies that are not meeting one or more standards.

This report satisfies requirements under Sections 305(b) and 303(d) of the federal Clean Water Act. The 1998 and 2000 inventories and a draft of the 2002 inventory are available at **www.tnrcc.state.tx.us/water/quality/305_303.html**.

In 1996, 61 percent of the assessed water bodies in Texas fully supported their designated uses. By 2000, 54 percent fully supported their uses. The draft assessment for 2002 shows that 59 percent of waters support their uses. These differences are due, in large part, to an increase in monitoring efforts and the ability to detect impairments.

The types of impairments identified in the 2002 assessment indicate a complex array of water quality problems. In a particular stream or lake, water quality may be insufficient to support one use, such as contact recreation, and still be good enough to support other uses. A water body may be impaired by more than one pollutant or for more than one use.

Restoring Water Quality

The agency's most comprehensive effort to restore water quality in impaired surface waters is called the Total Maximum Daily Load (TMDL) Program. A TMDL is a technical analysis that determines the maximum amount of specified pollutants a body of water can receive and still meet its water quality standards.

Developing and implementing successful TMDLs

Summary of Impairments in Texas Water Bodies

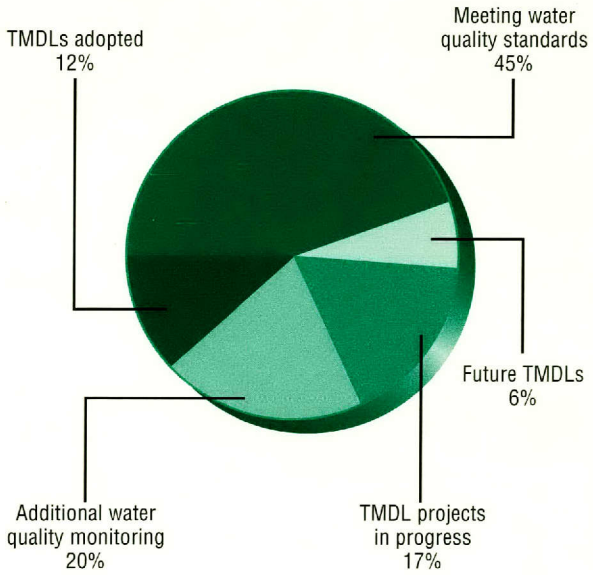
Water Use That Is Impaired	Pollutant or Condition Causing the Impairment	Number of Impairments		
		1998	2000*	2002*
Aquatic life	Low dissolved oxygen, metals, organics, habitat, or toxicity in water or sediment	67	113	129
Contact recreation	Fecal coliform bacteria	60	110	176
Fish consumption	Metals or organics	59	56	44
General water quality	Total dissolved solids, chloride, sulfate, pH, temperature, or nutrients	42	68	38
Oyster harvesting	Fecal coliform bacteria or metals	21	21	15
Public water supply	Metals or organics	10	11	2
	Total impairments	**259**	**379**	**404**
	Total water bodies	**147**	**240**	**299**

Note: One water body may have multiple impairments.

*Final draft has not been approved by EPA; draft subject to change.

depends on cooperation from many parties. The general public, businesses, educators, agricultural producers, universities, and many others are called upon to work together with government agencies to restore water quality. Moreover, the TCEQ alone does not have the authority to implement all of the management programs that may be needed. Partnerships with other agencies, such as the Texas State Soil and Water Conservation Board (TSSWCB), the Texas Department of Agriculture,

Impaired Waters, Based on 1998 303(d) List



Forty-five percent of the impaired bodies listed in 1998 now meet water quality standards (in some cases, additional monitoring did not verify the listed impairment but supported the standard). TMDL allocations have been adopted for 12 percent, and TMDL projects are in progress to address 17 percent. Water quality monitoring is being conducted for another 20 percent to determine whether a TMDL is needed. About 6 percent of impairments will be addressed in upcoming TMDL projects.

Dioxins: A Leading Water Quality Issue

Since 1990, when the Texas Department of Health issued a seafood consumption advisory, fishing has not been advised in parts of the Houston Ship Channel and Upper Galveston Bay due to accumulations of dioxins in catfish and blue crab. The TCEQ is two years into a study that could determine what it would take to make fishing in that area safe again.

Dioxins is a generic term for a suite of toxic and environmentally persistent compounds that can harm human health—even at low concentrations.

These compounds are resistant to chemical breakdown, and tend to accumulate in the sediment of water bodies and in fish tissue. Long-term exposure in people may result in elevated risks of certain cancers, along with potential developmental and reproductive problems. Measuring dioxins in the environment is challenging due to the extremely low concentrations involved and the limitations of laboratory methods.

Dioxins can be found in many forms. According to the EPA, about 89 percent of each year's U.S. production goes into making consumer products, such as plastics; the remainder is discharged into the air or onto land or water. When these products are used and discarded, dioxins may be released into the environment. Rainfall and runoff transport dioxins from air and land to water, where it accumulates in sediments and organisms.

Dioxins also occur as by-products from activities that burn organic materials in the presence of chlorine. Studies have shown that the activities in the Houston-Galveston area most likely to release dioxins into the environment include:

- bleaching with chlorine—for example, at paper mills or dry cleaners;
- producing chlorinated solvents, polyvinylchloride, and organochlorine pesticides;
- refining metals or oil;
- incinerating medical waste, and municipal or private garbage;
- discharging chlorinated effluent from municipal wastewater treatment plants; and
- using cigarettes, home fireplaces, and barbecue pits.

The agency is developing a TMDL to identify dioxin sources in the study area, to understand the environmental processes that led to the presence of dioxins in fish and seafood, and to develop pollution-reduction strategies. The first phase of the study, which began in 2000, focused on assessing the current knowledge of dioxin levels, potential sources, and movement of dioxins in the environment. Also, an advisory group of stakeholders was organized.

The second phase, which will last into 2003, will focus on identifying water quality goals, monitoring and understanding the movement of dioxins, and developing appropriate models. Before the study is concluded in 2005, the project may include additional data collection and evaluation, modeling, and determining pollution-reduction levels. Maintaining stakeholder involvement is a priority throughout the project.

the Texas Parks and Wildlife Department, and the Texas Department of Health, are critical to the development of many TMDL plans.

The most recent EPA-approved list of impaired waters in 1998 cited 259 water quality impairments in 147 of Texas' water bodies. Work is under way to address 94 percent of the 1998 impairments. (The lists submitted by the TCEQ for 2000 and 2002 have not yet been approved by the EPA.)

When the TMDL program started in 1997, the state focused on water quality problems that were better understood and that originated from known sources. Many of those projects were completed in a relatively short time with minimal cost. Now the state is focusing on more complicated issues, like dioxin and mercury impairments, both of which have complex interactions with the environment and can be traced to diverse, widespread sources. These projects require more time and funding. The results, however, will be an improved understanding of the origin of these problems and how scientifically sound solutions can protect human health.

Bacteria Contamination: A Widespread Problem

More than 30 percent of the water quality problems identified in 1998 were for contact recreation and oyster harvesting in waters with high bacteria counts. The presence of high levels of bacteria indicates a possible health risk due to elevated densities of pathogens—bacteria, viruses, and protozoans that can cause disease. Like most states, Texas does not directly monitor pathogens because of the difficulty and expense of measuring them. Instead, it tests for the presence of organisms that indicate the likely presence of pathogens—for example, *E. coli* in freshwater and *Enterococci* in tidal and marine waters. These organisms are normally found in the wastes of warm-blooded animals and are generally not harmful to human health, but may indicate the presence of pathogens that can cause disease.

When routine monitoring picks up signs of elevated bacteria levels, the next step is to determine the origin of contamination, which can be difficult—considering all the possible sources. That is where bacterial source tracking comes into play. Bacterial source tracking techniques are based on the premise that all warm-blooded animals harbor different types of microbial organisms. By determining what these differences are—at the molecular and physical levels—the host animal (people, wildlife, chickens, cattle, or waterfowl) may be identified. This type of testing is expensive.

Many new and improved tracking techniques have emerged in the last decade. Some use genetic testing, while others involve biochemical testing on the samples and observation of physical changes to the organisms. The TCEQ relies on these techniques to learn more about these contaminants and their origins and, ultimately, how to control manmade sources of contamination.

Problems with the Bosque River

In a move to address water quality in the Bosque River, the Legislature placed more stringent requirements on new or expanding dairy operations in the Bosque River watershed.

New rules adopted by the TCEQ apply to an estimated 100 dairies, or concentrated animal feeding operations (CAFOs), operating in the Bosque River watershed, an area that stretches from Stephenville to the outskirts of Waco. The North Bosque flows into Lake Waco, which is the drinking water source for about 200,000 people living in the Waco area. The river also is used for recreation.

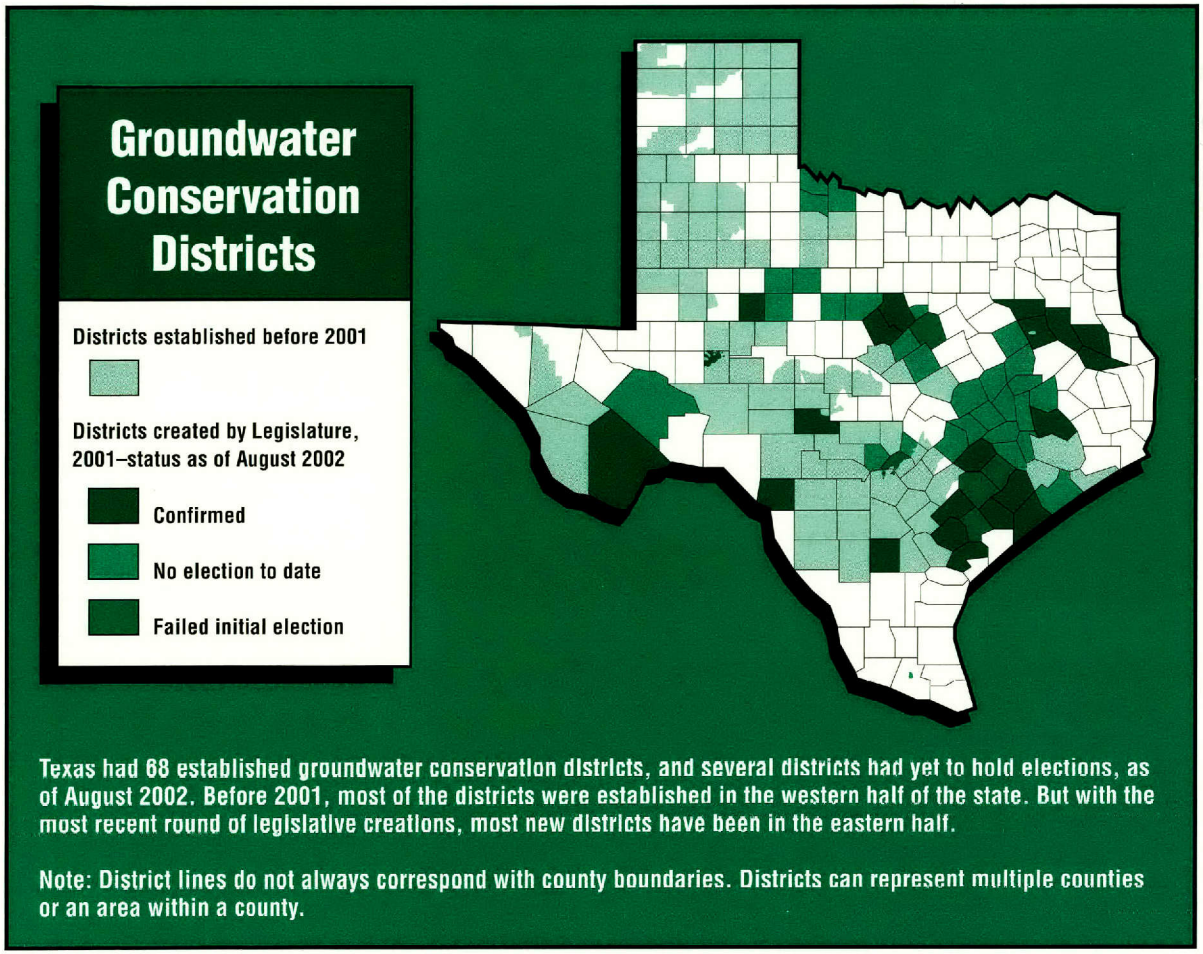
Elevated nutrient levels contribute to excessive algae growth in the river, according to water quality analyses. The condition can deplete a water body of needed oxygen, potentially causing fish kills and creating taste and odor problems in drinking water. Studies by several agencies have identified dairy farms and municipal sewage plants on the river as contributors of phosphorus (a nutrient).

According to legislation, new dairies locating in the watershed and existing dairies planning to expand operations must get individual permits, rather than registrations. The permits spell out how operators will handle the waste from cattle, such as applying the waste to "application fields" as fertilizer. The Sunset bill requires operators of new and expanding facilities to dispose of a portion of manure outside the watershed. Several companies are converting manure into compost for commercial purposes. From fall of 2000 to spring of 2002, about 527,200 tons of manure from both the Bosque and neighboring Leon watersheds were delivered to composting facilities.

The Sunset bill also requires testing CAFOs to determine whether the manure applied to the soil exceeds allowable limits. The tests must be performed by a qualified expert.

Legislation that applies statewide requires individual permits for any CAFO in the protection zone of a sole-source surface drinking water supply. Poultry operations that operate under a water quality management plan certified by the TSSWCB are excluded from TCEQ permitting.

In 2001, the TCEQ developed a TMDL for phosphorus for two segments in the North Bosque and Bosque



Texas had 68 established groundwater conservation districts, and several districts had yet to hold elections, as of August 2002. Before 2001, most of the districts were established in the western half of the state. But with the most recent round of legislative creations, most new districts have been in the eastern half.

Note: District lines do not always correspond with county boundaries. Districts can represent multiple counties or an area within a county.

rivers, and later that year obtained EPA's approval. In August 2002, the TCEQ published an implementation plan for these segments for public comment. The plan, which was a joint effort with the TSSWCB, takes a multipronged approach to address phosphorus levels in the watershed.

The primary proposals are: (1) placing permit limits on phosphorus application rates in waste application fields, (2) revising feed management for dairy cows to reduce the phosphorus content of dairy waste, (3) removing about half of the dairy-generated manure from the watershed for use or disposal outside the watershed, and (4) placing effluent limits on phosphorus for municipal wastewater treatment plants along the Bosque River.

Participation by dairies in some elements of the implementation plan will be voluntary; some elements will be included in their registrations and permits.

After the public has commented on the implementation plan, the proposal will be presented to both the TCEQ and the TSSWCB for action. The TMDL and implementation plan are intended to provide local, regional, and state organizations a comprehensive strategy for restoring and maintaining water quality in the Bosque River. The success of these measures will be based on water quality results. The watershed will continue to be monitored extensively.

Groundwater Protection and Management

Maintaining the high quality of groundwater resources is important to the state's economy and the public's health. Groundwater can be contaminated when pollutants on or near the land surface migrate through the soil or encounter an opening, such as a well or sinkhole, that connects directly with an aquifer.

The TCEQ is responsible for most of the state and federal regulatory programs in Texas that address and protect groundwater quality. The agency implements many contamination-prevention programs as part of its permitting, enforcement, and remediation functions. These programs include monitoring and reporting requirements that may affect groundwater contamination, as well as oversight of the cleanup of the contaminated sites. The TCEQ also is responsible for the state's pesticide management plan and interagency coordination to prevent pesticide contamination of groundwater.

The TCEQ heads up the Texas Groundwater Protection Committee, which is charged with developing a state groundwater protection strategy and coordinating the efforts of seven state agencies involved with protecting groundwater. In fiscal 2002, the committee began working to update the strategy and to provide a

summary of prevention and conservation programs. The project includes coordinating the groundwater protection activities of the member agencies and identifying any service gaps in their programs.

Meanwhile, in cooperation with the committee's member agencies, the TCEQ conducted further testing with a new means of detecting pesticide contamination of groundwater. The immunoassay analytical 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 TCEQ 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 several groundwater conservation districts, the TCEQ analyzed samples from the northern portion of the High Plains for signs of atrazine and metolachlor, which are pesticides commonly used in agriculture. The only significant contamination reported so far is in the Ogallala Aquifer, where the survey found 22 positive samples, mostly in the central Panhandle. While the pesticides detected are at low levels and do not pose a health threat, efforts are under way to investigate the potential sources and develop recommendations for prevention.

The Legislature has determined that the preferred method of groundwater management is the creation of districts to provide for the conservation, protection, and recharge of groundwater resources. These districts have been granted the authority to manage groundwater, regulate groundwater withdrawals, and to limit groundwater production.

Texas had 52 groundwater districts before the Legislature met in 2001; during that session, lawmakers created another 35 districts. As of August 2002, 16 of the new districts had won approval, and four were defeated in local confirmation elections. That brought the total number of established districts to 68. More confirmation elections were scheduled in November 2002.

Along with the TWDB, the TCEQ has a major role in some management activities in these districts, such as identifying and assessing priority groundwater management areas. The agency also provides technical assistance for creation of districts, and it enforces requirements for district management planning.

Storm Water Implementation

The TCEQ assumed storm water permitting responsibilities from the EPA after obtaining federal authorization to conduct the Texas Pollutant Discharge Elimination System (TPDES). Under the agreement with the EPA, the TCEQ renews existing federal storm water permits as they expire, and develops new storm water permits according to federal time frames.

In fiscal 2001, the TCEQ renewed and began administering the Multi-Sector General Permit, which regulates storm water discharges from industrial sites. About 6,800 facilities were authorized under the federal permit before the state took over the TPDES. The TCEQ has begun the task of processing applications from an estimated 8,000 facilities seeking coverage under the Multi-Sector General Permit. The increased number of permit applicants is a result of staff involvement in community outreach and site investigations.

The TCEQ continues to develop new storm water permits for discharges from small and large construction activities, and from small municipal storm sewer systems. Development of these permits, as well as the multi-sector permit, has involved the EPA, members and potential members of the regulated community, and other regulatory agencies.

Permits for storm water discharges from small municipal storm sewer systems and construction sites will be needed by early 2003. For construction sites, more than 1,000 applications a month are predicted; about 500 small publicly owned storm sewer systems will require permits.

The agency also initiated wastewater general permits to replace existing TCEQ rules.

With the large volume of applications anticipated for storm water and wastewater general permits, staff was working toward a goal of making electronic submittal of storm water applications available, perhaps utilizing the Texas Online Web site. This automated system would streamline the authorization process for general permits, a benefit to regulated entities and the TCEQ.

SAFE DRINKING WATER

The TCEQ is the primary Texas agency authorized to enforce the rules associated with the federal Safe Drinking Water Act of 1996. The agency's responsibilities include regulation of the physical plants, operations of public water systems, and operator certification, as well as activities associated with drinking water monitoring, source water protection, and technical assistance.

The TCEQ regulates an estimated 6,660 public water systems, which serve 93 percent of the state's population. (The remainder of the state's residents use private water wells or small water systems that do not meet minimum size requirements to be classified as a public water system.) About 95 percent of the state's public water

systems meet state and federal drinking water standards.

Of the regulated systems, 4,550 are community water systems that serve residential areas, and the rest are noncommunity public water systems that supply businesses, schools, and campgrounds. The agency strives to be proactive in its regulatory role by sponsoring training sessions and special events that keep public water suppliers abreast of new or revised rules and regulations. The TCEQ also is accountable to the EPA for maintaining certain data and for reporting violations.

Drinking Water Monitoring

Public water systems around Texas are routinely monitored for bacteriological and chemical contamination. Each of the larger systems submits several hundred bacteriological samples a month to a TCEQ-certified laboratory, while the systems serving smaller populations must each submit at least one sample a month. The laboratories conduct analysis and report the results directly to the agency and the water systems.

The agency reviews 25,000 to 35,000 microbiological samples each month and determines compliance. It also supervises chemical sample collections and determines compliance for more than 125 chemical constituents. Data from several million analysis results are maintained at the agency, both in central records and on a database. Results are available for all chemical samples back to 1993; inorganic results date back to 1978.

Under EPA rules, each water system in the state must provide its customers with an annual water quality report. These Consumer Confidence Reports include data on water sources, bacteriological contaminants, chemicals found in the water, monitoring frequency, and a risk statement for people with immune deficiency problems. The reports also list any regulatory violations that occurred the previous year. Customers are supposed to receive these reports by the first of July each year.

To help water systems with this requirement, the TCEQ provides a template that water suppliers can use in preparing their annual reports. The reports are also available in Spanish.

Technical Assistance

The TCEQ also is responsible for ensuring that health risks associated with the operation and maintenance of public water systems are minimized. On average, the agency investigates about 300 public water systems a month to discover and correct issues of this nature. About 1,000 phone queries are received each month on the rule violations cited in the investigation reports.

The agency also administers a statewide cross-connection control and backflow-prevention program, which teaches how to prevent an exchange of contamination between the public drinking water supply and a potentially contaminated source. And the TCEQ awards "superior" ratings to systems that exceed all minimal requirements and a set of higher operational standards. About 10 percent of the state's systems have won this recognition.

Staff also perform technical reviews of requests for regulatory flexibility. Systems that provide water production and usage data may obtain reduced alternative capacity requirements tailored to their peak water demands. Also, systems may obtain alternatives in construction requirements, if the alternatives provide equal or greater protection to public health and environment. Such flexibility can reduce the need for major capital improvements, thereby generating a cost saving that can be passed to consumers through lower water rates.

TCEQ personnel participate in several statewide educational programs, sponsored by state and national water utility associations, which are instrumental in training local drinking water providers about topics covering water quality and availability.

All of these activities strive to fulfill one of the agency's major objectives: to ensure that safe drinking water is available in sufficient quantities to meet customer demands in Texas.

Texas Optimization Program

About half of all Texans drink surface water that is processed at surface water treatment plants. These 450 plants are required to meet minimum standards. However, many plants go further and produce higher quality drinking water as a result of their voluntary participation in the Texas Optimization Program (TOP).

This program seeks to reduce turbidity—cloudiness in water—that can indicate disease-carrying pathogens. The goal is to dramatically improve water quality without major capital improvements.

To protect against such contamination, several barriers must be placed between the source of the disease-causing organism and the consumer. The process includes watershed management, in addition to barriers erected in the treatment plant itself.

Optimization involves evaluating the design of the treatment plant, as well as other factors that could affect plant performance: administration, operations, and maintenance. A team conducts the evaluations and identifies factors that have an adverse effect on plant performance. Next, these factors are systematically addressed and eliminated. This stage normally lasts many months and involves some outside technical assistance.

Financial Assistance

The Drinking Water State Revolving Fund, established by the federal Safe Drinking Water Act, is intended to protect public health by offering low-interest loans for designing, building, and improving public drinking water facilities. The TCEQ and the TWDB share duties in coordinating the program. The TCEQ ranks proposed loan projects and determines whether applicants have the financial, managerial, and technical capabilities required for eligibility. The TWDB, which serves as the lending agency, processes and approves loan applications.

Public water systems that have known deficiencies and pose a significant health risk to the public receive priority consideration for loans. Fourteen loans were issued in fiscal 2000 for a total of $73 million; the 15 loans in fiscal 2001 totaled $57.2 million, and in fiscal 2002, eight loans totaled $107.7 million.

Capacity Development Program

The Safe Drinking Water Act also requires the TCEQ to establish a Capacity Development Program to ensure that water suppliers have the technical skills, financial resources, and managerial abilities necessary to run a successful water system. The goal is to assess current systems, improve current systems' capacities, and avoid creating new substandard systems.

Using a comprehensive approach, the agency does assessments of water systems; provides financial, managerial, and technical assistance; and requires business plans for new systems.

Regionalization of Public Water Systems

Ensuring the long-term supply of safe water at affordable rates is the TCEQ's responsibility. This challenge grows as the population multiplies, posing greater demands on water systems for staying in compliance with federal water quality laws.

In Texas, the number of new, small water systems is steadily increasing, raising concerns about their ability to sustain the financial, managerial, and technical capabilities necessary to provide continuous, adequate, and safe service.

That is why the TCEQ is encouraging the regionalization of water and wastewater systems.

Regionalization involves the consolidation of two or more systems. It could mean the consolidation of several systems owned by a single entity or person, or systems run by several cities or subdivisions in close proximity.

The goal of regionalization is to achieve economies of scale, allowing smaller systems to centralize purchasing, billing, payroll, and other financial, managerial, and even technical functions. It is also a viable option for small systems with water contamination problems that are expensive to correct.

Agency policy states that regionalization is appropriate unless there are no other systems reasonably close to a planned system or neighboring systems have refused to grant service.

An exception also is justified based on costs, affordable rates, and the financial, managerial, and technical capabilities of the system.

Source Water Assessment and Protection

The Source Water Assessment and Protection (SWAP) Program has combined two agency programs: the Vulnerability Assessment Program, which evaluates a public water supply's risk of contamination, and the Wellhead Protection Program, a pollution prevention effort for groundwater-based public drinking supplies. The result of this merger will be first-time source water assessments for all of Texas' public water supply systems by May 2003.

Source water assessments are mandated under the 1996 amendments to the Safe Drinking Water Act. The assessment components include:

- delineating the boundaries of areas providing source waters for all public drinking water systems,
- inventorying the origins of regulated and unregulated contaminants within the delineated area,
- determining each public water system's susceptibility to contamination, and
- informing the public of the results.

To meet this challenge, the TCEQ and the U.S. Geological Survey (USGS) have developed and implemented a scientifically defensible methodology for gauging the susceptibility of Texas' public water supplies to 227 drinking water contaminants. The four-year project has led to the development of a complex Geographic Information System integrated software program and related databases that will calculate a susceptibility index for more than 6,000 public water supply systems.

The TCEQ began the automated assessment process in the fall of 2002 in order to submit completed assessments to water systems by May 2003. One of the biggest advantages of the TCEQ's automated approach is the ability to update and run the assessments as new data are acquired.

Because of the assessments, the SWAP program will be better able to focus protection efforts on highly susceptible public water supply systems and to identify specific contaminants of concern. The program also is expected to reduce monitoring costs associated with ensuring safe drinking water.

Security Concerns

The security of public water systems became a high priority in September 2001. Since then, the TCEQ has helped public water system officials throughout Texas obtain the guidance and assistance they need to ensure their systems are safely secured.

In fiscal 2002, agency staff developed and communicated guidelines to water systems for preparing local security and emergency response plans, as well as security checklists. Staff participated in security training activities and two teleconferences that had 14 downlink sites throughout Texas.

The agency also worked closely with the EPA to determine the criteria and distribution of funding for counterterrorism activities.

WATER AVAILABILITY

During fiscal 2002, there was plenty of evidence to shore up the adage that Texas stays in a perpetual drought, interrupted only by torrential floods.

Long-term drought conditions persisted across West Texas and along the Rio Grande River. April and May did not produce the usual spring showers, so agricultural producers were hurting by early summer. The conditions exacerbated long-term water deficits. In June, 66 counties were approved for disaster assistance for crop losses.

By July, there were 54 public water systems with mandatory water restrictions, and another 15 had voluntary limits.

Midsummer brought a dramatic weather change, as heavy rains deluged much of Central and South Central Texas. As much as 35 inches inundated areas near Bexar County, creating massive flooding and turning the Guadalupe and Medina rivers into a rampage.

The resulting runoff poured through the spillways of dams at both Canyon and Medina lakes near San Antonio, forcing thousands of residents to flee their homes. In all, the flooding caused an estimated $1 billion in property damage and claimed nine lives. Forty-one counties were declared disaster areas.

The TCEQ had many roles during the floods. Teams were dispatched to work with local officials on issues dealing with public water supplies, water quality, and debris disposal. Staff dealt directly with water and wastewater treatment plants that flooded. A critical area was the TCEQ's involvement in dam safety and the question of whether the Canyon and Medina dams would hold water at unprecedented levels. The TCEQ is responsible for oversight of 7,200 dams in Texas.

The midsummer rains brought some relief to the Rio Grande basin, although the rains were too little and too late for most agricultural producers. Most of the storm activity occurred over the Mexican portion of the basin, so many municipalities along the Rio Grande remained under mandatory water restrictions.

With water shortage targeted as one of the Rio Grande Valley's leading problems, negotiations continued over an international treaty dispute with Mexico. Under the water-sharing treaty of 1944, Mexico owes South Texas farmers 1.5 million acre-feet of water. (An acre-foot of water is enough to cover one acre of land with one foot of water.) Mexico's refusal to repay the water debt, which accumulated over the last decade, has cost the local economy millions of dollars in crop losses.

Texas' weather and water woes underscored the importance of long-term water planning. In connection with the State Water Plan developed by the TWDB, the TCEQ has provided expertise on health, safety, and environmental issues, and has identified the issues important to TCEQ statutory responsibilities, primarily policy development for interbasin transfers, water marketing, environmental flows, and water reuse.

Meanwhile, the TCEQ met a December 2001 legislative deadline for completing water models that project water availability for 22 Texas rivers. The Rio Grande water availability model is due for completion in 2003.

The water availability models are used by the TCEQ to determine whether water rights permit applications meet the legislative requirements that unappropriated water be available at the source of supply. The new models also help the agency analyze the more complex water rights applications now being filed, and they will assist the Regional Water Planning Groups in the next round of long-range water planning.

At the local level, the state's 236 largest retail water utilities (those serving 3,300 or more connections) have adopted required drought contingency plans, as have the 287 wholesale suppliers to retail water systems. Among small and medium utilities, compliance also appeared to be high. However, a few dozen systems failed to meet the required deadlines, and in summer 2002 the TCEQ was preparing enforcement actions.

To highlight conservation efforts, the TCEQ began surveying certain municipal suppliers. The agency contacted more than 500 entities that hold a municipal surface water right issued by the TCEQ for more than 1,000 acre-feet of water per year or that have obtained financial assistance from the TWDB. All must have an approved water conservation plan on file with either agency. The water suppliers, most of which are cities, were asked when they implemented their conservation plans and how successful they have been in achieving conservation goals.

The survey results will play a part in crafting the direction of the state's water conservation programs.

Also, the TCEQ scheduled eight workshops in the fall of 2002 to provide technical assistance to small and midsized water utilities around the state. Topics included water reuse, leak detection, landscape water management, and examples of successful conservation programs.

WASTE MANAGEMENT

Superfund Program

Superfund is the name given to the federal law that enables the EPA to take care of property contaminated by hazardous substances. Passed by Congress in 1980, this law gives the EPA the legal power and resources to clean up abandoned or inactive sites where contamination poses the greatest threat to human health and the environment.

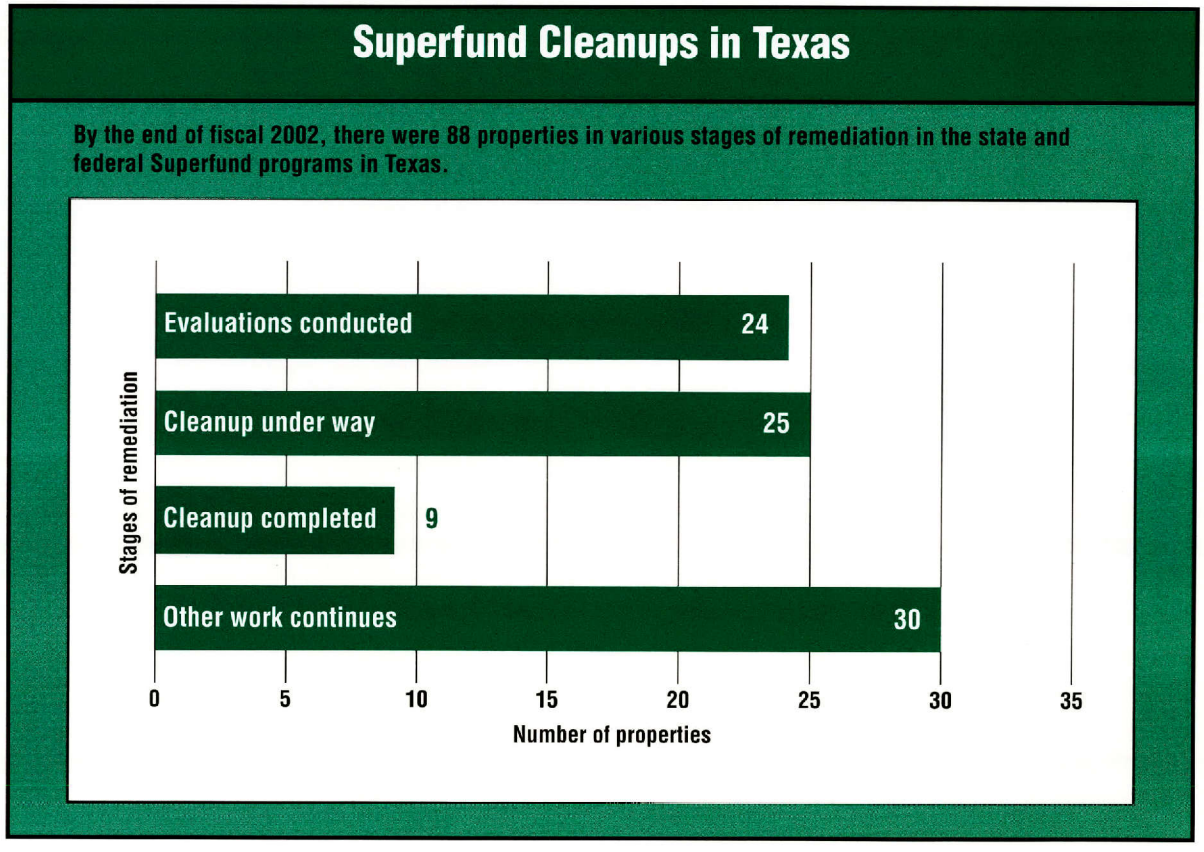
The name Superfund comes from a trust fund that provides money for investigating and cleaning up the sites. Before federal and state laws addressed how hazardous materials should be handled, large amounts of hazardous waste were dumped on the ground, poured into rivers and lakes, or buried underground. These careless practices produced contaminated sites throughout the country, sometimes close to where people lived and worked.

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. The program is the state's safety net for dealing with contaminated sites. Proposing a site to the state Superfund registry enables the TCEQ to use state funds from the Hazardous and Solid Waste Remediation Fee Account (Account 550) for cleanup operations at the contaminated property, if no responsible parties can or will perform the cleanup. The TCEQ then takes legal steps to recover the money spent.

In fiscal 2002, Texas had a total of 88 sites in the state and federal Superfund programs, including three new sites proposed to the state Superfund registry: one each in Collin, Kimble, and Tarrant counties.

After a site is proposed for the Superfund program, the responsible party or the TCEQ 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.

The public is encouraged to comment on proposed cleanup remedies. The TCEQ publishes notice of a 30-day comment period on a proposed site 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 TCEQ 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 considerable time and resources. Therefore, it often takes several years for sites to be fully investigated and properly cleaned up.

But when it is necessary to protect human health from immediate threats, the TCEQ expedites its response. The Harkey Road site in Brazoria County is an example of the agency's ability to move quickly to protect people at risk. The TCEQ proposed the site south of Pearland for listing on the state Superfund registry in April 2001, then completed the investigation and cleanup in one year.

The property, located in a residential community, was contaminated with crushed battery casing chips that had been used as fill in low-lying areas, thus placing residents at risk of direct contact with lead, arsenic, and cadmium. After TCEQ investigators collected and analyzed soil and groundwater samples, about 3,100 cubic yards of contaminated soil were excavated, stabilized, and disposed of at a permitted landfill in Brazoria County. Sample results indicated there was no impact to groundwater. During remediation, the agency's project engineer remained on site to ensure the cleanup was completed correctly and safely. The site no longer poses a threat to the environment and public health and safety.

Petroleum Storage Tanks

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

In all, 23,102 leaking PST sites—primarily those at gasoline stations—had been reported to the TCEQ by the end of fiscal 2002; of those, cleanup had been completed at 17,162 sites, and corrective action was under way at 5,940 sites.

Leaking PSTs often are discovered when a 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 have corroded or were installed incorrectly or 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 leaking PSTs. The state reimburses eligible remediation costs through bulk delivery fees. Cleanup begins with a site assessment, which includes drilling monitoring wells and taking soil and ground-water samples. The TCEQ oversees the remediation until cleanup is completed. TCEQ staff also oversee the storage, treatment, and reuse of petroleum-contaminated soil.

Under state law, leaking tanks discovered on or after December 23, 1998, are not covered under the Petroleum Storage Tank Remediation Fund. These subsequent clean-ups 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 overfill prevention measures. This applies to both active and inactive PSTs. If neither the tank owner nor operator can be found, the TCEQ attempts to contact the current landowner.

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.

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—or to fund state corrective actions—after September 1, 2006.

Leading up to the 2006 Sunset date, several action "milestones" must be met if a responsible party is to remain eligible for the fund. In November 2001, the TCEQ sent letters to about 6,000 responsible parties, informing them of the deadlines and explaining what activities should be completed. Staff met with key stakeholder groups representing responsible parties and consultants to further explain the requirements, and announcements were posted on the agency Web site. Furthermore, staff and contractors reviewed the case files for more than 1,300 sites where work was stalled, then issued directives urging the responsible parties to meet the deadlines.

Even though the remediation fund expires in 2006, other parts of the PST program will continue beyond that date.

Municipal Waste Management

As a fast-growing state, Texas has to manage its solid waste needs effectively. That means helping to ensure that all regions of the state have adequate landfill capacity available, even in hard-to-serve areas; reducing the overall amount of waste disposed of; and encouraging citizens, businesses, and governments to be environmentally responsible.

In 2001, Texans disposed of 27.9 million tons of municipal solid waste, according to the latest available data. The amount of disposal equaled about 7.2 pounds per person per day.

Despite the state's growing population, the total tonnage of waste disposed of in fiscal 2001 dropped for the first time since 1995. The decline could be linked to the overall slowdown in economic growth in Texas, as consumers shifted purchases from goods to services. This would account for the reduced volume of disposals seen in residential and commercial waste.

By the end of 2001, municipal solid waste capacity in Texas had reached 930 million tons, representing about 33 years of disposal capacity. Texas had 186 active municipal solid waste landfills; of those, six received permit amendments to expand.

These landfill 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 from region to region varies substantially. Some areas are far behind the statewide average capacity. Of chief concern are the Rio Grande Valley and some areas in Northeast Texas.

To address solid waste issues, particularly in these critical areas, the TCEQ manages a statewide planning program designed to ensure the state will have the landfill space that it needs in the coming decades. Every four years, the TCEQ develops a state plan in which regional plans developed by the 24 councils of government (COGs) are updated. In fiscal 2002, the COGs amended their regional plans to establish priority projects needed in their respective regions. The next state plan is due for release in 2004.

To assist the COGs, the TCEQ issues grants that are funded by fees paid by municipal solid waste disposal facilities. For the 2002 grant period, a total of $6.6 million in grants funded 187 local and regional projects that included collection stations in underserved areas, recycling and organic waste management projects, education programs, and enforcement programs working to stop illegal dumping.

Sham Recycling

The Legislature in 2001 moved to address illegal dumping operations that skirt the law by claiming to be recycling centers. Lawmakers heard testimony about a number of so-called recycling centers around the state that take in large volumes of surplus materials, including household garbage, but never appear to recycle the materials. Municipal officials testified that they lacked sufficient enforcement authority over recycling centers.

Lawmakers directed the TCEQ to draw a regulatory distinction between recycling facilities and facilities requiring a solid waste permit or registration. The agency responded by establishing new rules that require the following:

- reporting and record-keeping requirements for recycling facilities,
- limitations on the storage of unprocessed recyclable materials, and
- standards for the amount of "incidental" non-recyclable materials a facility may receive without being required to obtain a permit or registration to operate as a solid waste facility.

Because the new rules apply to a wide variety of facility types, including composting operations, facilities are allowed to apply for "alternative compliance" standards that will not be burdensome to legitimate recyclers, while maintaining adequate environmental protections.

In addition, the new regulations require recycling and composting facilities that handle combustible materials to develop fire prevention and suppression plans in coordination with local fire prevention authorities.

Chapter 3
Agency Operating Structure

The managers and employees at the Texas Commission on Environmental Quality try to view environmental issues through a wide lens. The programs handle their assignments with a comprehensive approach toward all aspects of the environment—air, water, and waste management.

The agency is organized to reflect the goal of understanding the full environmental ramifications of its many and varied responsibilities, which include issuing permits, formulating regulations, and implementing laws.

The offices of the commissioners and the executive director top the organizational structure and draw on several divisions for direct support (see organizational chart, page 56). The primary environmental programs and administrative services are divided among five major office clusters, all of which have broad responsibilities. Within those clusters are divisions with clearly defined duties.

While most TCEQ employees are located at the Austin headquarters, much of the frontline work occurs in the field. About 900 staff in the 16 regional offices have expertise in natural resource issues and are trained to give assistance to individuals and communities (see regional map, page 57).

Office of the Commissioners

The agency's three full-time commissioners establish overall agency direction and set policy on a

variety of issues involving air, water, and waste management. All three have assumed high-profile roles as agency representatives in many far-ranging projects.

Robert J. Huston, who has served as chairman since 1999, helped spearhead the successful launch of the vehicle emissions testing and repair program in the Houston and Dallas-Fort Worth areas. Huston worked with local officials, stakeholders, and newspaper editorial boards to recruit community support and to publicize the health benefits of cleaner air. Huston also was instrumental in working with the Environmental Protection Agency on "early action agreements," in which certain regions experiencing air quality problems can take early action to meet and maintain the federal 8-hour ozone standard. The chairman also supported federal negotiators in talks with Mexican officials over an international water treaty dispute and Texas' entitlement to water from the Rio Grande.

Commissioner R.B. "Ralph" Marquez maintained his close involvement in air quality issues, working directly with community leaders on their regional improvement plans for nonattainment and near-nonattainment areas. Marquez also led the agency's participation in many border activities, working with U.S. and Mexican officials in efforts to improve environmental conditions along the border. Marquez also was involved in national air policy issues through his roles as chairman of the Air Committee for the Environmental Council of the States and as a member of the federal Clean Air Act Advisory Committee.

Commissioner Kathleen Hartnett White spent her first year at the TCEQ expanding her expertise on water and other natural resource issues. After her appointment in the fall of 2001, she served as the agency's point person on the Texas Water Advisory Council, analyzing major water policy issues. She also represented the TCEQ in discussions with the Texas Parks & Wildlife Department and Texas Water Development Board about prospective studies on instream flow requirements (the amount of freshwater needed in streams to protect aquatic life) and other issues requiring coordination with these agencies. White also initiated a series of workshops for public utilities to emphasize the need for water conservation and to share information on successful conservation programs.

Reporting directly to the commissioners is the General Counsel, who advises the trio on their reviews of permits, enforcement actions, rules, litigation, and other matters.

The TCEQ 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 Kathleen Hartnett White served together in fiscal 2002.

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.

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

Alternative Dispute Resolution assists permit applicants and persons who request contested hearings in resolving their differences informally, if possible. This alternative offers a way to avoid 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.

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

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

Public Assistance answers questions about TCEQ permits, explains how the agency makes permitting decisions and how citizens may participate in the permitting process, and conducts 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.

OPIC Undergoes Review

The Joint Committee on Public Interest Council was established by the Legislature to consider issues related to the Office of the Public Interest Counsel (OPIC), such as the need for resources and the authority to appeal agency decisions. The interim committee held two hearings to discuss potential changes to the office, then recommended the Legislature consider these actions:

- **provide an independent budget for the OPIC at the TCEQ, and ensure that the budget includes $100,000 a year for the office to hire outside technical assistance;**
- **allow the OPIC to appeal rule packages if it appears the rules were adopted without proper legal procedure or in a manner that exceeded the agency's authority; and**
- **allow the OPIC to appeal when the Commission substantially amends a proposal for decision from the State Office of Administrative Hearings and an appeal is necessary to serve the broad public interest.**

Ensuring that the public's interests are represented in issues before the commissioners is the Office of Public Interest Counsel, whose role and authority were the subject of an interim legislative study (see box above).

Permit applicants and opponents to those applications may work with the Alternative Dispute Resolution Office to settle their cases informally. Voluntary participation in this process does not forfeit anyone's right to a hearing if a settlement is not reached. In fiscal 2002, the office handled 81 cases. Also, staff helped develop the Commissioners Integrated Database that, upon completion in 2003, will allow agencywide online access to key information, including the status of applications pending before the Commission.

The Internal Audit Division, with an eye toward efficiency, helps the commissioners and executive management meet agency goals and objectives. The auditors provide independent and objective insights, and make recommendations for effectively managing risk.

The Chief Clerk prepares the Commission's meeting agendas, transmits final decision information to applicants, and keeps records of Commission proceedings. The clerk's office is closely involved with the public participation process, which was revamped in 1999 to deal more efficiently with certain permitting actions. The Chief Clerk received 12,800 letters in fiscal 2002 resulting from public comments on permits and requested hearings. The number of public meetings and hearings sponsored by the agency totaled 74 for the year.

To assist the public in these matters, the Office of Public Assistance translates technical information into lay terms and provides expertise in the permitting process. Staff respond to public inquiries and travel throughout Texas to hold public meetings on individual permits. The goal is to strengthen communications between the agency and the public, and to ensure that all Texans have equal access to the state's environmental regulatory system.

Office of the Executive Director

The agency's top management spent much of the year supervising implementation of new environmental legislation.

Executive Director Jeffrey A. Saitas initiated a project to improve the efficiency of the permitting process, with the goal being to shorten the review time for uncontested permits and the processing period for the major types of permits. Saitas emphasized that environmental protection should not be sacrificed in any policy or regulatory changes needed to reduce processing times. Achieving the aggressive goals for this project will require a focused effort by staff and management, as well as cooperation from permit applicants.

Saitas wrapped up four years at the helm of the state environmental agency, capping a tenure that included expansion of regional staffs, the agency's Sunset review, and implementation of sweeping environmental legislation. As his successor, the Commission selected Margaret Hoffman, who has been at the agency eight years, most recently as deputy director of the Office of Legal Services. Hoffman became the new executive director on October 7, 2002.

Second-in-charge was Deputy Executive Director Glenn Shankle, who joined Saitas in shaping environmental programs and responding to public concerns. Shankle used his budget expertise and legislative experience to help guide the agency through the Sunset process.

To improve the delivery of print and electronic information to the public, the Agency Communications Division assisted with implementing the agency's name change and revamping the agency's Web site. The division designed and published numerous announcements about the transition from TNRCC to TCEQ, and helped produce many of the print and electronic items requiring the name change. Web specialists redesigned and helped restructure the agency's Web site, and assisted with implementing legislative directives for Web improvements.

The TCEQ 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. The executive director and deputy executive director work together to direct TCEQ management. Reporting directly to the executive director are five office clusters, which are organized by function and 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.

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 TCEQ library and a publishing staff that coordinates and distributes regulatory and general information materials on environmental subjects.

Intergovernmental Relations coordinates the agency's responses to legislative inquiries and constituent issues, legislative initiatives, and interim committee studies. Staff also coordinate the agency's testimony and participation in legislative sessions, and ensure that the Legislature is informed of the TCEQ's initiatives and activities.

Small Business and Environmental Assistance helps small businesses, local governments, and other agency customers to prevent pollution, conserve resources, and achieve compliance with regulations. One means of reaching these goals is working through partnerships in Texas and Mexico. The division offers an array of services, including free technical assistance, workshops on compliance and pollution prevention, environmental education, and recycling and disposal opportunities for urban and rural communities. The division recognizes environmental achievements through awards and special events.

The Intergovernmental Relations Division attended hearings and organized briefings for legislative staff on important issues in preparation for the 2003 legislative session. Staff provided technical assistance to lawmakers studying major environmental programs.

The Small Business and Environmental Assistance (SBEA) Division was charged with implementing the newly mandated environmental management systems (EMS), a program that promotes performance-based regulation by providing incentives for regulated entities implementing an EMS. The TCEQ has signed a memorandum of agreement with the EPA to work together on regulatory incentives. The division developed an EMS model for small business and local governments and conducted a pilot project on the border. Staff held several workshops for businesses and local governments to help industries and small and medium-sized businesses create EMS programs.

The SBEA Division also provided support for upcoming rule making on the new "strategically directed regulatory structure." When fully developed, this program will take the TCEQ closer to performance-based regulations by providing incentives for performance and an overall structure for other performance-based programs, including EMS and regulatory flexibility.

Office of Permitting, Remediation and Registration

The Office of Permitting, Remediation and Registration maintained a high level of activity in fiscal 2002 as staff processed permits and registrations for air, water, wastewater, and waste. The office also oversaw the cleanup of contaminated sites around the state and worked closely with agency staff on large-scale projects, such as the State Implementation Plan (SIP) and petroleum storage tank (PST) certifications.

The agency's Central Registry, which reports directly to this office, was updated with data on PSTs, industrial and hazardous waste, water quality, and used oil.

The Air Permits Division focused on streamlining and improving the permitting process. Among the changes initiated was the development of standardized permits for various construction-related activities. The process is now simpler and less expensive for such operations as small electric generating units. Companies applying for operating permits can submit applications online under the Title V Clean Air Act program, which the TCEQ now runs.

The division also took steps to boost public involvement in the permitting process and to eliminate from permitting requirements those facilities that stay below acceptable limits on air emissions.

Air Permits helped implement the program to cap the nitrogen oxide (NO_x) emissions from facilities in the Houston-Galveston area. The program allows facilities to

The TCEQ in Brief:

Office of Permitting, Remediation and Registration

This office implements 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 (PST) reimbursement program. Reporting directly to the OPRR deputy director is the Toxicology and Risk Assessment staff, who evaluate conditions that may have the potential to cause adverse health effects, and the Central Registry, which will eventually hold all common information on regulated entities.

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 clean air 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 **Registration, Review and Reporting Division** receives notifications of registrations, incoming permit applications, and reports for review and processing. Duties include the initial review for administrative completeness of most air, water, and waste permits and authorizations; reimbursement of eligible 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; and Stage II vapor recovery.

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 property, safeguarding and restoring natural resources, cleaning up and finding the responsible parties for leaking PSTs and for abandoned or inactive hazardous sites that become part of the state and federal Superfund.

The **Waste Permits Division** is responsible for permitting, licensing, and registering facilities that store, process, or dispose of hazardous waste, nonhazardous industrial waste, municipal solid waste, special waste, international waste, and radioactive material waste. Staff also perform technical analyses of notifications for waste management, evaluate underground injection control applications, and provide groundwater protection recommendations for oil and gas wells.

The **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.

The **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.

buy portions of other businesses' allotments and bank some of their allowance for another year.

The Registration, Review, and Reporting Division emphasized improving and updating its systems. Databases were converted to reflect EPA's new identification codes for industries, and staff completed the first round of annual renewals of PST certifications, in which tank owners certify they are insured and their equipment meets required technical standards. Staff began developing a system of electronic reporting for tank owners, a change expected to save time and improve efficiency.

The Remediation Division completed 11 evaluations under the Hazardous Ranking System, which is the primary method of placing uncontrolled waste sites on the Superfund cleanup list. The numerically based screening system uses information from on-site investigations to evaluate the potential risks that contaminated sites pose to the environment and human health. Of the 11 evaluations, three sites received scores at or above the threshold for being addressed by the EPA for Superfund cleanup; the remainder are being considered for the state Superfund program. At seven sites, the TCEQ took immediate action to remove contaminants that were determined to be imminent threats to human health or

the environment. In addition, 231 private and public water wells in Harris County were sampled for contamination by dry cleaning chemicals in connection with the Jones Road groundwater plume investigation. Filtration systems were placed on 20 of the residential and public water wells found to be unsafe.

Remediation closed out 950 leaking PST sites and worked to reactivate cleanup at 1,370 sites where work had stalled. Staff issued 98 Voluntary Cleanup Program certificates, releasing from state liability sites that had been voluntarily cleaned up under program guidelines. Also issued were 52 Innocent Owner/Operator Program certificates, releasing from liability property owners who were able to show that soil or groundwater had been contaminated by an off-site source. Staff directed 15 site assessments for local governments and nonprofit groups on brownfields that formerly were industrial properties.

Staff also worked with the EPA to recover $120 million from responsible parties for cleanup of the Sikes Disposal Pits site in Harris County, where a landowner allowed chemical wastes to be dumped on his property in Crosby. From this recovery, the TCEQ received $8.7 million, which was earmarked for cleanup at other sites.

The Waste Permits Division was instrumental in developing rules on "sham" recycling operations. These rules that address illegal dumping operations are an outgrowth of Sunset legislation. Staff held numerous meetings with stakeholders before the rules became effective in September 2002. Guidelines are being developed to help recycling facilities comply with the new requirements.

The division also clarified its rules on procedures for modifying permits for municipal solid waste. In the past, if a landfill wanted to expand its site, revising the permit could be time-consuming for both staff and the landfill owner. The new rules clearly spell out the different levels of modifications, the information, and the process needed to secure the permit changes.

The Water Quality Division was created with the reorganization of what was formerly the Water Permits and Resource Management Division. Water Quality became its own division, as did Water Supply.

Water Quality is responsible for reviewing and processing authorizations for a wide variety of facilities, including industrial, municipal, storm water, and sludge. Along this line, the division implemented the new Multi-Sector General Permit for storm water discharges from industrial activities and began processing about 8,000 applications. The division's work in wastewater permits won a productivity commendation from EPA's Region 6 for the issuance of 169 major (new) permits and 529 minor (renewal or amendment) permits.

In response to Sunset legislation and stepped up regulation of Class B sludge operations, which produce industrial and sewage waste with higher toxicity, the division instituted a new permitting process and provided training sessions for the affected entities.

In ongoing efforts to protect drinking water supplies, Water Quality staff implemented legislation that regulates operating standards for dairy and beef facilities, known as concentrated animal feeding operations, that are located in protection zones of sole-source surface drinking water supplies. The new requirements govern the location of such facilities and require permits instead of registrations.

The Water Supply Division completed water availability models for 22 river basins by the legislative deadline of December 31, 2001, and provided its findings to the affected water rights holders and regional water planning groups. Staff then began development of a Rio Grande Water Supply Model, which is due in 2003.

The division also handled a rate case with the largest customer base ever filed with the Commission, and resolved it without a contested hearing. The rate increase was sought by AquaSource Utility Inc., a private utility that provides water and sewer service to about 35,000 retail customers in 45 Texas counties. Rates lower than those requested were accepted by the utility and other parties.

In response to homeland security concerns, Water Supply helped conduct two multi-state teleconferences that provided technical information to small and medium-sized public water systems on the development of vulnerability assessments. These assessments will be used to help guard against natural or man-made threats.

To better serve water/wastewater and drainage districts seeking to issue bonds for capital improvements, the division created the Expedited Bond Review Process to allow districts submitting bond applications and meeting certain criteria to get expedited consideration. Reviews will be completed within 60 days.

The Toxicology and Risk Assessment (TARA) Section provided support for a broad range of agency activities by evaluating environmental conditions for the potential to cause adverse health effects. TARA began investigating perchlorate contamination of the Ogallala Aquifer in West Texas and established an accelerated approach for the review of human health and ecological risk assessments at the Pantex nuclear facility. In keeping with Sunset requirements, TARA played a leading role in developing and implementing policies for the way the agency considers cumulative exposures and risks. TARA worked on a framework that will identify ways

in which cumulative risk assessment practices can be improved.

Office of Compliance and Enforcement

This office continues to search for technological advancements that can be applied to monitoring air and water resources. This means using enhanced computer-based information systems, sampling techniques, and Internet-accessible data.

To effectively implement the duties associated with monitoring air quality, drinking water and its sources, groundwater and surface water, the Field Operations Division evaluated strategies and technology for ways to improve the accuracy and reliability of collected data.

In addition, the division helped implement the Consolidated Compliance and Enforcement Data System (CCEDS) in the regions. This system integrates various databases that track compliance and enforcement information on regulated entities. Further enhancements to the system are scheduled for fiscal 2003.

To assist the public in collecting and submitting evidence for enforcement actions, Field Operations developed procedures for the newly mandated program for citizen-collected evidence. Training for citizens was developed by regional staff and will be offered on a regular basis in all parts of the state.

The Compliance Support Division implemented House Bill 3111, which streamlined procedures for 10 occupational licensing and registration programs. The improvements expedited the issuance and renewal of licenses, training requirements, and other aspects of the programs at a time of increasing license and registration applications.

Under Sunset provisions, the division developed rules for a new laboratory accreditation program, created new fees, and conducted extensive outreach to affected stakeholders. By 2007, the division plans to have issued accreditations to more than 200 environmental laboratories. In addition, Sunset legislation transferred the drinking water laboratory certification program from the Texas Department of Health to the Compliance Support Division.

Also updated were rules governing licensing of on-site sewage facility evaluators. To notify license holders of the changes, outreach efforts were stepped up throughout the state.

The Enforcement Division implemented Sunset legislation by developing rules that allow the commissioners to consider an entity's compliance history in permitting cases. Staff also developed rules required under Sunset for dealing with "upsets," or excessive emissions events. These events are unplanned, uncontrollable releases of air contaminants by factories and other businesses. Under the new rules, these entities must adhere to stricter reporting requirements and submit remedial action plans so that quick, corrective action can be taken.

Environmental violations discovered by TCEQ investigators are appropriately addressed when notices of violations are issued. 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 2002, the Enforcement Division handled the highest number of administrative orders ever issued by the agency: a total of 887 enforcement orders that required payments of $5.6 million in administrative penalties and supplemental environmental projects valued at $2.3 million. Of all the administrative enforcement orders, 263 were issued

Electronic Reporting

In 2001, TCEQ employees began to build a proposal for coordinating all of the agency's electronic reporting efforts. The policy had to address unique Web issues, such as security and accessibility, while also meeting the Legislature's new electronic reporting requirements.

The project began with a team assembled by the Information Resources Division, drawing from divisions across the agency. Team members decided to take a strategic approach, envisioning what the ideal electronic reporting system would look like.

In the case of the TCEQ, the ideal system would mean smooth data flow—the transfer of information—in the form of reports that industry sends to the TCEQ and, in the case of the TCEQ, reports that are issued to the Environmental Protection Agency.

The year-long effort culminated in 2002 with WebSTEERS—short for the State of Texas Environmental Electronic Reporting System. WebSTEERs creates an infrastructure for electronic reporting by providing a common platform for digital signatures, security, and record keeping.

The first application is for industrial and hazardous waste registration and reporting. The agency is working to create data reporting systems for storm water registrations, Central Registry core data, and petroleum storage tank self-certification data.

When resources allow in the future, the system will be used to provide electronic reporting of bacteria results, annual emissions inventory updates, and registration of air quality permits by rule.

in the air program, 327 in the water program, and 297 in the waste program.

The Monitoring Operations Division operates laboratories in Austin and Houston that analyze air, water, and waste samples. It also issues notices of daily and hourly ground-level ozone concentrations in several cities to help those residents make informed decisions about their health and welfare. Through improvements to the agency's MeteoStar System, the division demonstrated the system's ability to conduct continuous water monitoring on the Bosque and Leon rivers. This real-time data is then displayed on the agency's Web pages. At EPA's request, the division shared information with other states on the capabilities of the MeteoStar System. The Web site also provides weather data to the State Emergency Management System so emergency officials can use the information to conduct real-time modeling of catastrophic events.

Using EPA funding, Monitoring Operations purchased updated, high-tech equipment that takes air samples when triggered by high ozone levels or other pollutants. The equipment can be used remotely to collect samples during unplanned emissions events at industrial facilities.

The TCEQ in Brief:

Office of Compliance and Enforcement

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

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, underground storage tanks, landscape irrigation systems, and on-site 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 developed the new environmental laboratory accreditation program and administered the state's certification program for drinking water laboratories.

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 **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 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.

Office of Legal Services

This office coordinates litigation and legal services for the agency and provides legal support to executive management.

For the state's new vehicle inspection and maintenance (I&M) programs in ozone nonattainment areas, the General Law Division successfully negotiated the Texas Datalink Service contract. This system includes a database of vehicle emissions test results that the I&M program collects in some counties during annual vehicle safety inspections. Staff attorneys also reduced personnel-related lawsuits by 85 percent since 1998. Only one lawsuit was filed against the agency in fiscal 2002.

As the Houston-Galveston area's air quality plan was refined, the Environmental Law Division provided legal support—in particular, assisting the state in a legal challenge brought by a coalition of organizations and

The TCEQ 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** provides legal counsel to the agency on issues related to personnel and employment law, contracts, grants and procurement, public information processing and distribution, and records retention. It also prepares 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 rule making, 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.

local governments against the Houston-Galveston clean-air plan. The staff also helped obtain full federal approval for the agency to run the Title V (Clean Air Act) program.

Attorneys provided legal assistance in several complex rule-making projects, including Sunset requirements on compliance history, grandfathered facilities, underground injection control related to the Edwards Aquifer, and the party status of the executive director. They also assisted with numerous administrative hearings, including the agency's largest rate case to date, involving 35,000 retail customers in 45 counties. The case, filed by AquaSource Utility Inc., was settled after extensive negotiations.

The Litigation Division worked to secure a $111 million settlement for a Superfund cleanup at the Sikes Disposal Pits in Crosby, where a landowner in the 1960s allowed chemical wastes to be dumped in open pits. A number of Houston-area companies and the landowner were alleged to be responsible, and many of the companies settled.

In addition, litigation staff helped secure a Texas Supreme Court victory in the IT/Davy Joint Venture case, a lawsuit brought against the TCEQ by a remediation contractor at the Sikes site. The suit, which sought about $7.5 million for alleged change orders, asserted a right to sue the agency without legislative approval. The legal victory affirmed the state's claim of sovereign immunity.

To better prepare attorneys and agency employees participating in contested case hearings, the Litigation Division expanded its training program. In addition, staff helped develop a new agency rule for expanded public involvement in the enforcement process. Helpful information was published for members of the public wanting to document and report environmental violations. Public briefings were held in a number of cities to inform the public of these revised procedures.

Office of Administrative Services

The Office of Administrative Services provides services and support to staff and external customers and maintains the essential infrastructure required for business operations. The services include budget and financial administration, information technology and document management, human resources management and staff development, and facilities support. As with other offices, OAS participates in legislative tracking and analysis. In addition, the agency's development process for business plans continues to be updated to comply with the TCEQ's *Strategic Plan*.

In fiscal 2002, the Chief Financial Officer equalized fees for the public drinking water program, and prepared to implement the consolidation of wastewater fees and changes to air fee rates, which were in the final stage of rule making. About 81% of the agency's funding comes from fees and, in the past, many of these fees have been restricted to certain uses. Under Sunset legislation, these charges were realigned to create greater equity across the state, and adjustments were made to allow more flexibility in allocating fee revenues.

Internal improvements by the Budget and Planning Division enabled staff to accomplish several major projects: analysis and presentation of the agency's mid-year review, formulation of the fiscal 2003 operating

budget, and submission of the agency's legislative appropriations request. Other achievements included streamlining and re-engineering the budget process—for example, by developing a flowchart with specific milestones and deadlines.

Also, this division made it possible for applicants for federal grants to apply for and receive approval online.

The Financial Administration Division worked closely with other divisions to speed up payment of purchase vouchers, thereby reducing interest payments assessed the agency for late payment of vendor invoices. By the end of fiscal 2002, these interest payments had been cut by 22 percent, compared to the prior year. The division also expanded the procurement credit card charge program to divisions for small, routine purchases. The goal is to reduce paperwork, pay vendors more quickly, and enable staff to promptly receive these goods and services.

Financial Administration also contracted out the review of financial assurance records for 2,900 underground petroleum storage tank facilities. These records are inspected to ensure that PST owners and operators have provided for sufficient financial resources to address releases from PSTs. The division also moved four fees to the accounts receivable system to address Sunset recommendations. This action improves revenue accounting reports; provides for the automated assessment of penalties for late payment; and automates collection, accounting, and the allocation of payments to customer accounts.

Because companies and organizations may have multiple permits throughout the agency, the Information Resources Division—in cooperation with several other divisions—created a consolidated reporting system. This new integrated database can be accessed

The TCEQ 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. 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 **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 **Budget and Planning Division** develops and monitors the TCEQ's annual operating budget and assists in the development of the agency's biennial legislative appropriations request. Staff perform special analyses throughout the year to ensure that appropriated funds are spent effectively and efficiently to achieve agency goals and priorities. The division also submits and monitors all of the agency's federal grant applications and work plans, providing centralized grants management in support of TCEQ programs.

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, Procurement and 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, and providing financial reports.

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.

Human Resources and Staff Development performs a wide range of personnel services. 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 **Support Services Division** is responsible for providing agency logistical support and infrastructure-related services, including telecommunications management, coordination of agency leases, facilities planning and management services, maintenance, mail and messenger services, asset management, and supply. Support Services also administers the agency's internal risk management program, which includes management of the workers' compensation program as well as agency safety and security programs.

both throughout the agency and by the public.

Also created was a separate database—the Surface Water Quality Management System—to provide real-time information on the water quality in rivers and streams around the state. This data, which can be viewed on the agency's Web site, is known as the Surface Water Quality Viewer and includes uses, standards, and water quality assessment information for bodies of surface water.

Information Resources also began a project to procure, install, and maintain a content management system for the TCEQ Web site. The conversion of content into the new system should result in providing more information to the public, making the site easier and cheaper to maintain, and presenting more timely, high-quality information. Also implemented were new procedures protecting the privacy of confidential information in e-mails received from private citizens.

In keeping with the Legislature's mandate that the agency conduct more business online, the Human Resources and Staff Development Division (HRSD) created online training courses and agency orientation classes for employees. These new courses lower the amount of training time spent in a single class and reduce much of the travel by field staff to Austin. The agency's Training Academy created a class on equal employment opportunities that is available—at no cost—to other state agencies. HRSD also subscribed to an online recruitment advertising program to publicize job vacancies on the Internet to a wider pool of applicants.

HRSD coordinated an online customer service survey and completed the TCEQ's first workforce plan, which was submitted to the State Auditor and published in the agency's *Strategic Plan* as an appendix.

The Support Services Division upgraded and expanded the agency's security system by installing

It's the Same Agency but with a New Name

How do you go about changing the name of a large state agency, with 16 regional offices, hundreds of forms, and thousands of regulatory clients?

Very carefully. In fact, it was a step-by-step process that started at the TNRCC on Sept. 1, 2001, as a result of Sunset legislation, and culminated a year later with the official changeover to the TCEQ. During that 12-month period, agency personnel implemented a detailed transformation that would affect everything from e-mail addresses and publications to Web pages.

Before any business cards or letterheads were reprinted, staff first decided on a strategy for the transition, based on these goals:

- *Don't confuse the public.* Help customers and the general public understand that the agency's name changed, but not its basic functions. Emphasize that no agency permits or authorizations are affected.

- *Don't spend more than necessary.* Original estimates were that $150,000 would be needed to make the transition to TCEQ. But by the end of the year, the agency had spent only $60,000 and had accomplished most of the tasks required by the name change. Savings were achieved by phasing in the name change so that existing stocks of forms, publications, and other materials would be depleted. In many cases, old TNRCC paperwork continues to be used over the next fiscal year as supplies are exhausted. The legislative deadline for the overall conversion is January 2004.

- *Keep the staff informed.* The agency determined it was important to keep employees in the central office and field offices updated on pending changes.

The general public was reminded about the upcoming name change in February 2002 with a news release and a promotional feature added to the home page of the Web site. An announcement followed in *Natural Outlook*, the quarterly newsletter, and notices were inserted in an estimated 90,000 fee billings.

Banners at the annual Environmental Trade Fair and Conference touted the upcoming TCEQ moniker, as did colorful bookmarks distributed at seminars and in routine mailings.

The TCEQ "handle" became a prominent feature of the agency's new Web pages. The redesign was already planned to make the Web site easier to navigate. Therefore, no added expense was incurred to incorporate the name into the new format.

So with new stationery and a redesigned home page on the Internet, employees began answering phones on Sept. 1, 2002, with the greeting: "Hello, Texas Commission on Environmental Quality."

additional monitors, surveillance cameras, and access card readers on all entrance and exit doors. Other projects included mold remediation at several regional offices and at headquarters, installation of energy management systems in several headquarters buildings, and signage replacement for the new agency name. The division also contracted with an independent consultant to perform a risk assessment of the agency's security program, and staff initiated a management services audit contract with the State Auditor's Office on the inventory management system.

Support Services also assisted the Information Resources Division in setting up a state-of-the art records management system that combines all agency records into one location.

Office of Environmental Policy, Analysis and Assessment

The Office of Environmental Policy, Analysis and Assessment (OEPAA) supports the agency's core regulatory and administrative functions. That means evaluating regional and statewide environmental trends, analyzing data for use in decision making, guiding the process of turning legislation into rules, and administering federally required planning for air and water and certain bays and estuaries.

Within this office, the Border Affairs staff works closely with the southernmost TCEQ regional offices to serve as an information clearinghouse and to resolve concerns for border residents. The group compiled the first *State of the Rio Grande and the Environment of the Border Region* report, which summarized the principal environmental challenges in the border area and the state's response to those challenges.

In fiscal 2002, the Strategic Assessment Division helped roll out the Texas Emissions Reduction Plan, a legislatively mandated program that provides incentives for using alternative fuels and reducing emissions from diesel engines. Staff also revamped the process for establishing stakeholder advisory groups that provide input on development and implementation of the water quality assessments, or total daily maximum load projects.

The division received considerable public comment on the proposed reductions in speed limits in the Houston-Galveston nonattainment area. Staff fielded questions from members of the public who questioned whether lowering limits from 70 mph would significantly reduce ozone levels.

Strategic Assessment also received many comments from regulated entities on plans to reduce industrial NO_x emissions by 90 percent in the Houston-Galveston area. Under legislative mandate, staff started building a "strategically directed regulatory structure," a program that will provide incentives for enhanced environmental performance by regulated entities.

Strategic Assessment also completed several TMDL projects for impaired surface water quality and, in waste planning, emphasized local projects in solid waste enforcement and recycling.

As the division responsible for implementing new legislation, Policy and Regulations undertook 120 projects needed to implement 60 bills passed in 2001. Of the total, there were 64 rule-making initiatives and 56 operational changes.

Improvements were made to the rule-making process, including enhanced opportunities for earlier stakeholder involvement. Rules in initial draft form are posted to solicit comment earlier in the rule-development process, and comments are accepted via e-mail.

As a result of Policy and Regulation's work with the Gulf of Mexico Program, EPA Region 6, and the state's two estuary programs, more funding became available for environmentally beneficial coastal projects. Among the results were increased funding for water quality and wetland projects along the Gulf of Mexico, acquisition of the Nueces River Delta, and conservation of wetlands along Clear Creek in the Galveston Bay area.

In response to legislative directives for more stakeholder involvement, the division implemented a process to ensure balanced representation on all advisory committees, work groups, and task forces.

The Technical Analysis Division led the task to implement a composting incentive project designed to reduce land application of dairy manure in the Bosque and Leon watersheds.

Under legislative mandate, the division also started the lengthy process of evaluating 13 major and minor aquifers throughout the state. The studies, due to be completed by 2005, will focus on water utilization from the aquifers over the next 25 years.

In addition, staff established the new State of Texas Air Reporting System (STARS) database, which allows for enhanced emissions reporting. The system receives data to assess emissions fees for upset emissions, maintenance, startup, and shutdown events at regulated entities.

And Technical Analysis provided expertise for the new "AirCheckTexas" vehicle emissions testing program in Harris, Dallas, Tarrant, Denton, and Collin counties. This initiative involved many projects, including rule changes, negotiations with the inspections industry, development of testing equipment specifications, certifying testing equipment, and arranging for data collection from each vehicle inspection.

Staff also completed guidance manuals for the Texas Emissions Reduction Plan and conducted technical reviews of 61 applications for this incentive funding.

In air modeling activities, the division managed $4 million in projects. These efforts included working with stakeholders to identify 25 different technical projects designed to advance the understanding of air quality issues in the Houston area.

The TCEQ in Brief:

Office of Environmental Policy, Analysis and Assessment

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

Staff also coordinate bill reviews and the executive review of documents communicating the agency's 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 to develop strategies and management plans for improving and protecting 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.

Strategic Assessment takes a lead role in developing provisions in clean air plans, solid waste planning, and TMDL efforts to control discharges into impaired surface waters through regulatory and voluntary strategies.

Within the division, the Strategic Environmental Analysis group produces the biennial *State of the Texas Environment* report, a component of the agency's *Strategic Plan*. It also evaluates agency strategies and their impact on environmental conditions.

The **Policy and Regulations Division** handles both sides of the regulatory coin: policy development and rule making. 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, Commission 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.

Technical Analysis also 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 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 staff works closely with TCEQ 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. The group has worked on environmental infrastructure matters with the Border Environment Cooperation Commission and the North American Development Bank.

Chapter 4
Agency Resources

The Texas Commission on Environmental Quality has about 3,000 full-time equivalent (FTE) positions and 16 regional offices. The operating budget for fiscal 2002 amounted to $422.1 million. Most of the agency's revenues were generated by fees.

Almost 30 percent of the staff is located in the regional offices. Field staff have the 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.

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

Workforce

The overall size of TCEQ staff has remained fairly consistent in recent years. In fiscal 2002, the agency was authorized for 3,042 full-time equivalent (FTE) positions; of those, 2,966 were filled at the end of the year, including 14 contractor positions.

In comparison, 3,029 FTEs were authorized the previous fiscal year; of those, 2,919 were filled in August 2001.

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

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

The TCEQ'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.

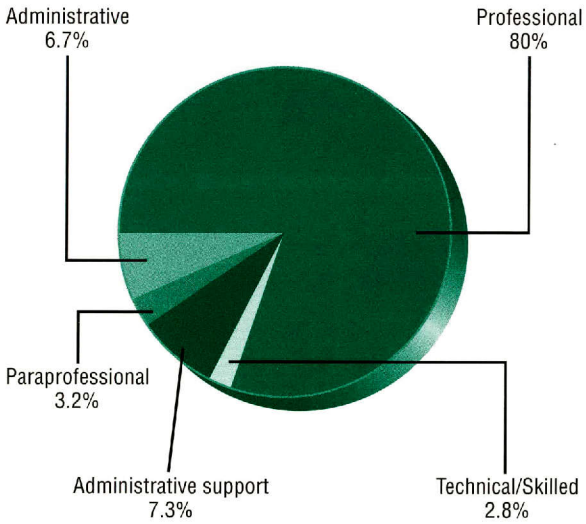
By race and ethnicity, the workforce composition was: white, 69.5 percent; Hispanic, 14.8 percent; black, 10.3 percent; and other (including Asian), 5.4 percent.

Men represented 51.8 percent of agency employees; women, 48.2 percent.

In 1999, the Legislature began requiring each state agency to undertake an analysis of its workforce by race or ethnicity and by gender. The TCEQ compares its workforce to the hiring goals contained in the March 2002 letter from the executive director of the Texas Commission on Human Rights. The information contained in this letter represents the percentage of blacks, Hispanics, and females by job categories compared to the total civilian labor force within the same job categories in Texas. These percentages are used by state agencies as hiring goals.

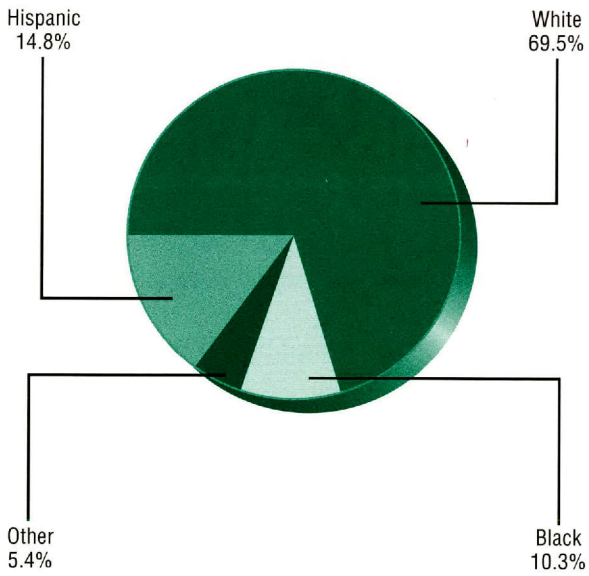
According to an analysis of the TCEQ workforce, at the end of fiscal 2002 the agency exceeded the human rights commission's hiring goals in top management (officials and administration) for blacks, Hispanics, and females. In the job category for professionals, the TCEQ exceeded the Hispanic hiring goals, but was slightly below goals in hiring blacks and females.

Agency Workforce, FY02



Total: 3,042 FTEs authorized

Ethnicity of Employees



Finances

For fiscal 2002, the agency's operating budget was $422.1 million, of which $341.6 million came from dedicated fee revenue; $41.6 million from federal funds; and $34.2 million from the state's general revenue, including earned federal funds. Other sources provided the remaining $4.7 million. These appropriations included contingency riders and a salary increase authorized by state lawmakers.

The TCEQ is funded primarily by fee revenue. The categories producing the most revenue from September 1, 2001, to August 31, 2002, were:

Petroleum product delivery fee ($80.3 million)—assessed against bulk delivery of petroleum products. The fee is collected by the Comptroller and is deposited to the Petroleum Storage Tank Remediation Account;

Air emissions fee ($35.8 million)—authorized to recover the costs of developing and administering the Title V Operating Permit Program;

Solid waste disposal fee ($35 million)—assessed against operators of municipal solid waste facilities for disposing of solid waste; and

Motor vehicle inspection fee ($30.3 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.

The TCEQ's overall operating budget of $422.1 million included federal carryover funds from fiscal 2001. Of that, $201.8 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 remaining $220.3 million was devoted to agency operations, of which about 60 percent was spent on salaries, and the remainder on expenses such as supplies, utilities, rent, travel, training, and capital.

Fee Revisions

The TCEQ has made significant changes in some of the fees the agency collects.

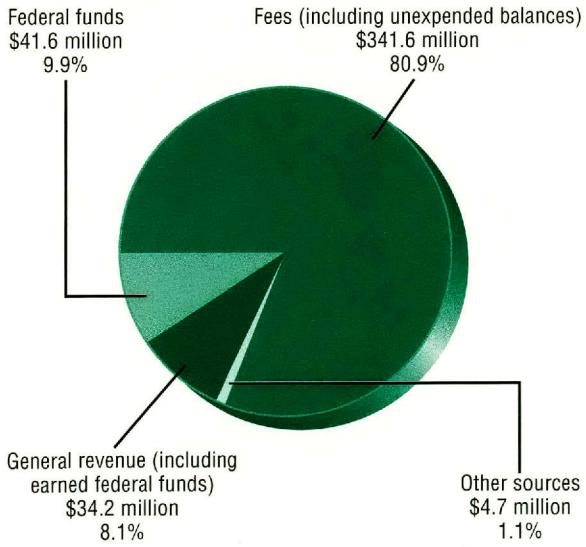
Air fees. Several fees in the air program were revised and, in the case of permits by rule, a new fee was created. The fees related to air emissions, air inspections, air permits, air permit renewals, and air permit amendments took effect in October 2002.

Revenue from these increases are earmarked for Clean Air Fund 151 to support the agency's air quality activities, such as permitting, inspections, enforcement, emissions inventory, monitoring, development of the State Implementation Plan, and grants to nonattainment and near-nonattainment areas for ozone. In all, the air fee changes are expected to generate about $7.7 million a year.

The fee changes were necessary because the Clean Air Fund was close to being depleted. The agency had not raised these fees in some time and, without these changes, the fund would not have been able to support the fiscal 2003 appropriations. Revenue levels have been affected, in part, by declining collections from the air emissions fee. Overall emissions have dropped by an annual average of 3 percent in recent years, as has revenue.

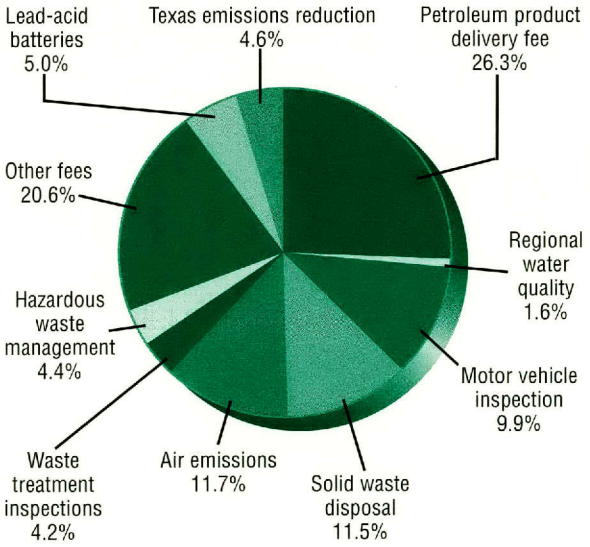
Each year, the TCEQ processes an estimated 6,000 air permit applications and registrations of various types.

Operating Budget, FY02



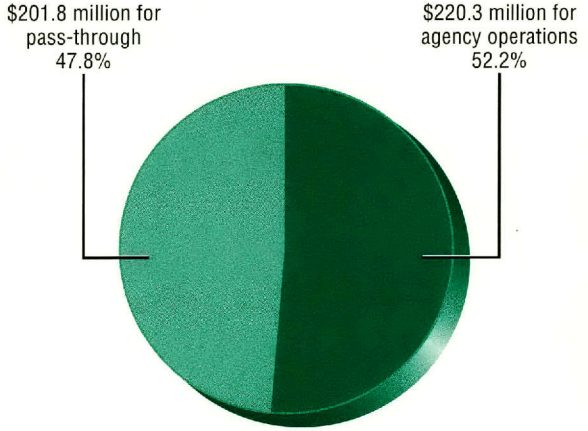
Total: $422.1 million (includes contingency riders)

Fees Collected



Total: $304.8 million

Operations vs. Pass-through Budget



Total: $422.1 million

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

Of those, almost 4,000 are permit-by-rule registrations, which are available for facilities that do not emit significant air contaminants, and are built and operated with certain restrictions.

The TCEQ has not assessed a fee for reviewing permit-by-rule registrations, though it did assess fees for reviews of other types of applications. To recover some registration review costs, the agency has begun assessing a fee on permit-by-rule registrations received on or after November 1, 2002.

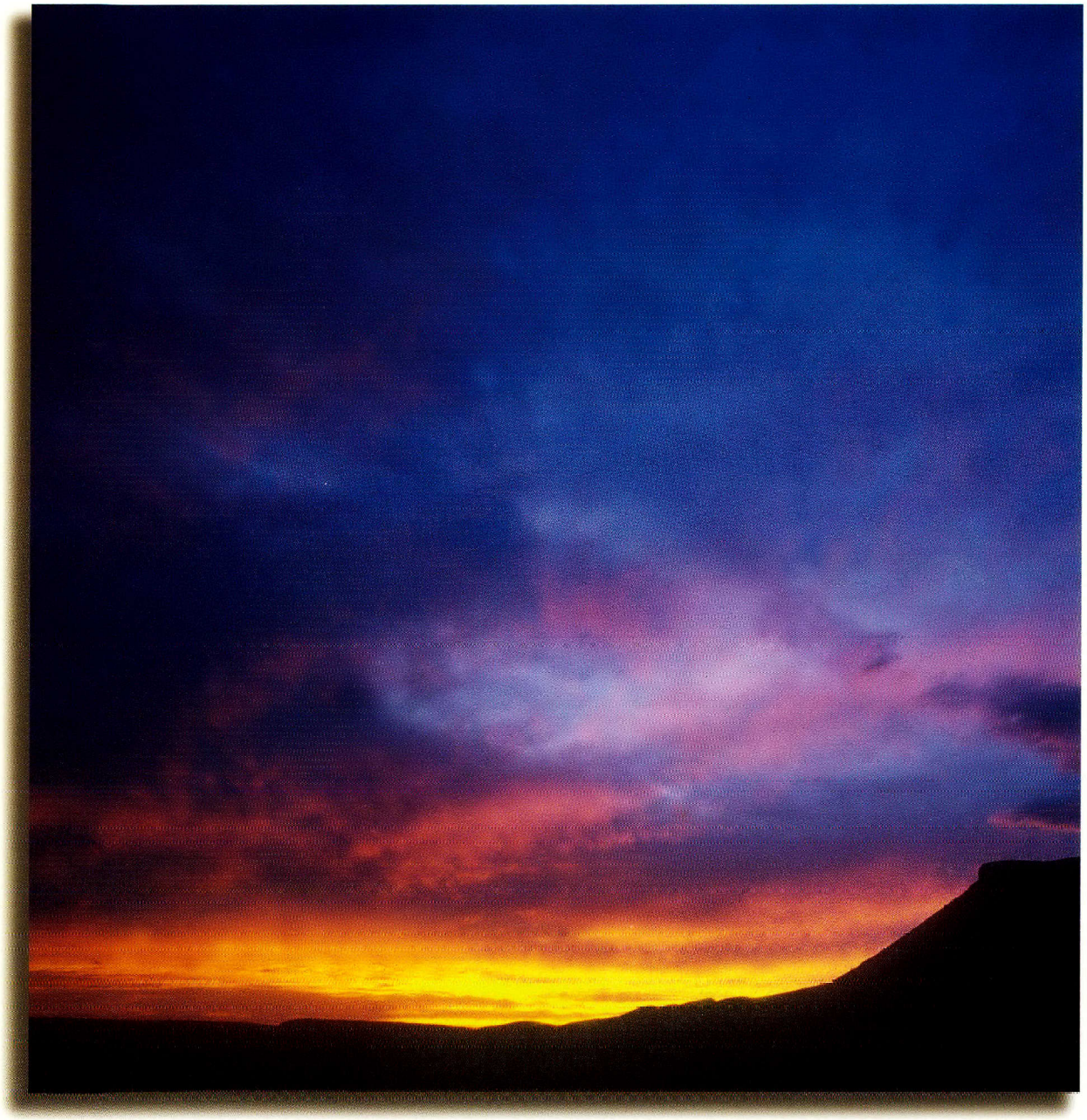
Water fee consolidation. When the Legislature mandated consolidation of the water quality assessment and the wastewater treatment fees, the move affected about 3,700 wastewater permit holders who had been paying both fees. The consolidation streamlined the billing process for fee payers and the TCEQ, and it provided the agency flexibility to allocate fee revenue within the pertinent programs to meet changing priorities.

Historically, two methods had been used to calculate the annual fees assessed against wastewater permits. The water quality assessment calculation was relatively simple, assigning set dollar amounts for certain parameters. The waste treatment method was more complicated and comprehensive—it included assigning points for parameters related to the facility's pollution potential.

Planning the consolidation required careful consideration of the requirements of the two programs, the amount of fees paid by holders, and the size of wastewater permits. Methods for calculating the new water quality fee were kept as simple as possible, while following statutory requirements and using parameters that reflect the pollution potential of the wastewater being considered.

The result is a combination of the best aspects of each of the former methodologies. All along, the commissioners' intent was to create a fee structure that was uniform, equitable, well balanced between industry and municipalities, and one that collects sufficient revenue to support the legislative appropriations for pertinent programs.

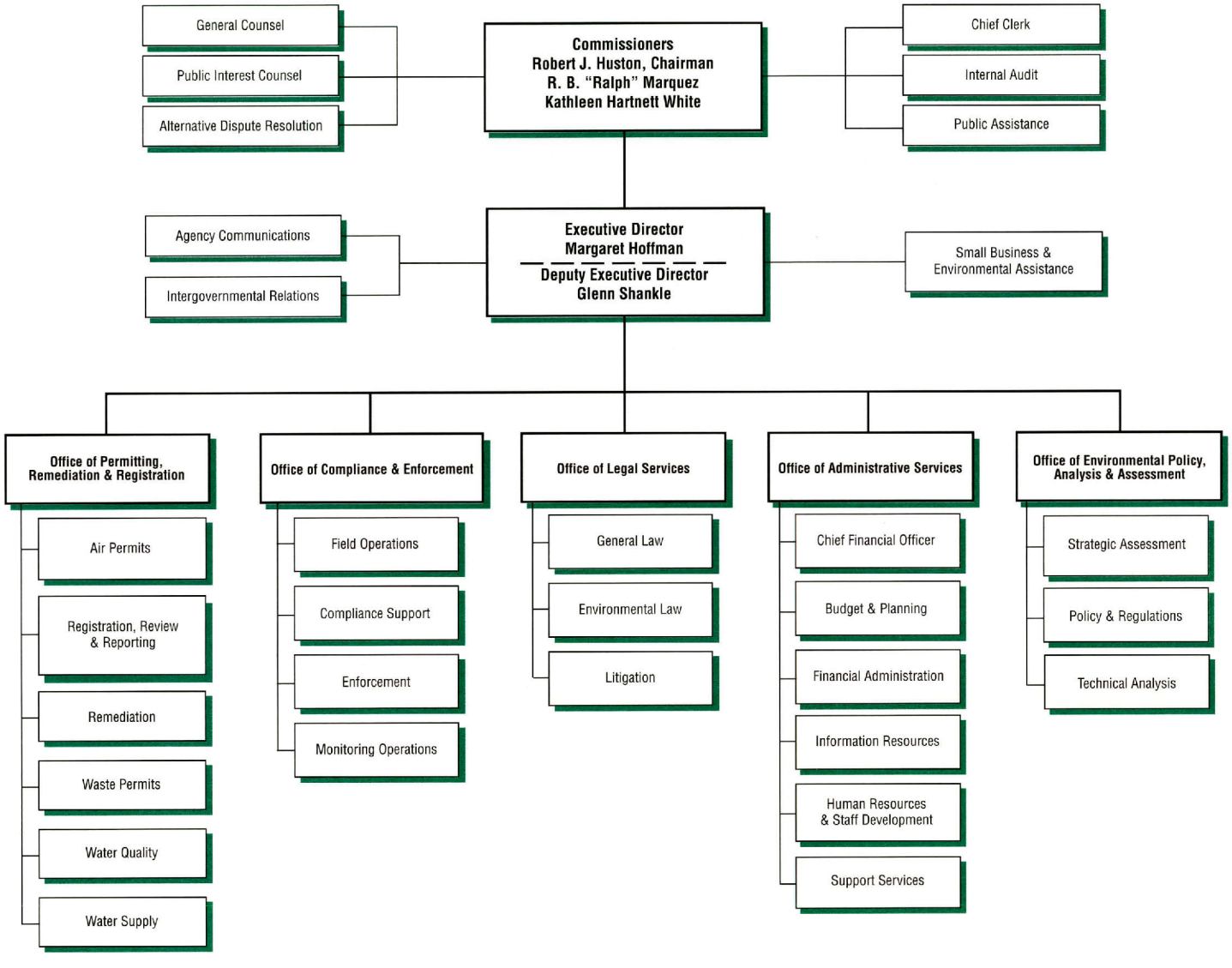
The new water quality fee, which will be assessed for the first time in fiscal 2003, is expected to generate revenue of $18 million a year.



Appendix

TCEQ ORGANIZATION

October 2002



TCEQ 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 2 - Lubbock
806/796-7092

Bailey	King
Cochran	Lamb
Crosby	Lubbock
Dickens	Lynn
Floyd	Motley
Garza	Terry
Hale	Yoakum
Hockley	

Region 6 - El Paso
915/834-4949

Brewster	Hudspeth
Culberson	Jeff Davis
El Paso	Presidio

Region 7 - Midland
915/570-1359

Andrews	Martin
Borden	Midland
Crane	Pecos
Dawson	Reeves
Ector	Terrell
Gaines	Upton
Glasscock	Ward
Howard	Winkler
Loving	

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 9 - Waco
254/751-0335

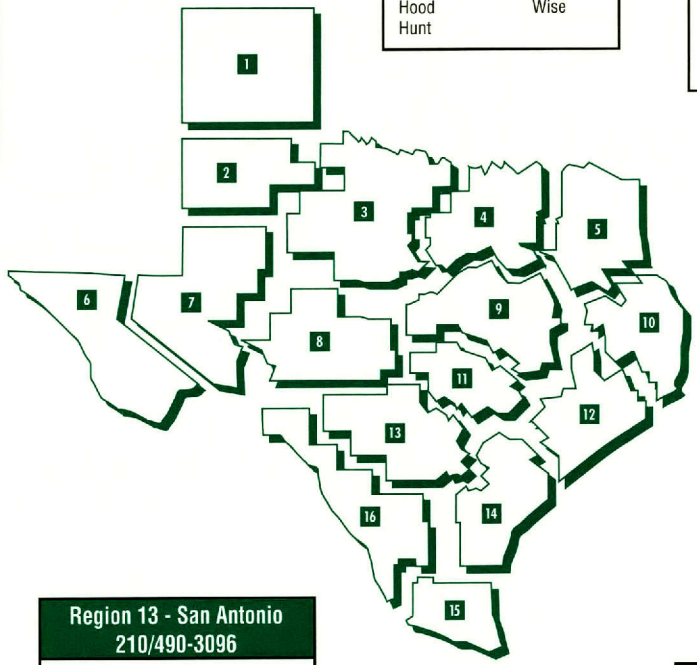
Bell	Limestone
Bosque	Lampasas
Brazos	Leon
Burleson	Madison
Coryell	McLennan
Falls	Milam
Freestone	Mills
Grimes	Robertson
Hamilton	San Saba
Hill	Washington

Region 8 - San Angelo
915/655-9479

Coke	Menard
Concho	Reagan
Crockett	Schleicher
Irion	Sterling
Kimble	Sutton
Mason	Tom Green
McCulloch	

Region 13 - San Antonio
210/490-3096

Atascosa	Karnes
Bandera	Kendall
Bexar	Kerr
Comal	Medina
Edwards	Real
Frio	Uvalde
Gillespie	Wilson
Guadalupe	



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 15 - Harlingen
956/425-6010

Brooks	Kenedy
Cameron	Starr
Hidalgo	Willacy
Jim Hogg	

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 16 - Laredo
956/791-6611

Dimmit	McMullen
Duval	Val Verde
Kinney	Webb
La Salle	Zapata
Maverick	Zavala

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 12 - Houston
713/767-3500

Austin	Harris
Brazoria	Liberty
Chambers	Matagorda
Colorado	Montgomery
Fort Bend	Walker
Galveston	Waller
	Wharton

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	

TCEQ Toll-Free Numbers

The agency maintains a list of 1-800 and 1-888 numbers for specific uses. Calls cannot be transferred to other areas of the agency from these connections. The TCEQ does not have a general toll-free number. The main switchboard can be contacted by dialing 512/239-1000.

Information Lines

- **1-800-447-2827**
  Local Government Assistance: Hot line for local governments to obtain information, advice, and assistance from the TCEQ.

- **1-800-687-4040**
  Public Assistance on Permitting: One-stop calling for the general public to inquire about permitting activity in the TCEQ.

- **1-800-447-2827**
  Small Business Assistance: Hot line for small businesses to request environmental information and find out how to comply with environmental regulations.

- **1-800-453-7664**
  Smoking Vehicle Program: For use by the public to report smoking vehicles.

- **1-800-633-9363**
  Superfund Community Relations Line:
  Local citizens may call with questions and concerns regarding state and federal Superfund sites in their area.

Reporting Lines

- **1-888-777-3186**
  Environmental Violations Hot Line:
  Used by Texas residents to report environmental violations. Calls will be routed automatically to the closest TCEQ regional office. Callers after business hours may leave a recorded message.

- **1-800-252-0237**
  Laboratory Reporting Line: Used by laboratories to report positive fecal coliform content in water samples.

- **1-800-533-3AIR**
  PST/Stage II Vapor Recovery Hotline: This phone number is posted on gasoline pumps for the public to report problems with pumps and for station owners to obtain information on pump requirements and/or techical advice. Mandated by the Environmental Protection Agency.

- **1-800-832-8224**
  Spill Reporting: Used to report spills, unpermitted discharges or releases to the environment, and SARA/EPCRA report notices. The line is answered 24 hours a day, and serves as the TCEQ spill reporting line during the day and the State Emergency Response Commission line at night.

- **1-800-687-7078**
  Stephenville Special Project Office:
  Available for the Stephenville area to receive complaints concerning dairy runoff, overflowing ponds, and related matters. Mandated by the Legislature.

- **1-800-733-2733**
  Watermaster Water Usage Reporting Line: Used by water rights holders in the South Texas Watermaster's area to report water pumping/usage in advance.

New Publications on Environmental Topics

The TCEQ has a variety of publications available in print and online that can provide assistance with subjects ranging from regulatory guidance to pollution cleanup. Listed below are some of the fiscal 2002 titles and their publication numbers. To see all agency publications available to the public, consult the Publications Catalog (PD-001), or go online at **www.tceq.state.tx.us/publications**. Ordering instructions are on the following page.

Publication Number	Title
CTF-011/01	Texas Environmental Enforcement Task Force Report, 10th Anniversary Edition
GI-228	Rights to Surface Water in Texas
GI-270	Air, Water, Land: Find out what you can! (coloring book)
GI-282	Your Guide to the TNRCC Central Registry
GI-283	Clean Texas Progress Report
RG-366-24	TRRP: Determining PCLs for Surface Water and Sediment
RG-387	An Environmental Guide for Texas Foundries
RG-388	Texas Emissions Reduction Program: Guidelines for Emissions Reductions Incentive Grants
RG-389	Answers to Common Questions about Waste from Grease Traps, Grit Traps, and Septic Tanks
RG-392	An Environmental Guide for Texas Printers
RG-394	Texas Pollutant Discharge Elimination System, Multi-Sector Industrial General Permit for Storm Water - TXR050000
RG-396	Air Inspection Fee
RG-397	Air Emissions Fee
RG-401	Unauthorized Discharges and Sanitary Sewer Overflows
SFR-030/02	Fiscal Year 2002 Operating Budget
SFR-035A/02	Strategic Plan, Fiscal Years 2003-2007, Vol. 1: State of the Agency
SFR-035B/02	Strategic Plan, Fiscal Years 2003-2007, Vol. 2: State of the Texas Environment
SFR-035C/02	Strategic Plan, Fiscal Years 2003-2007, Vol. 3: State of the Rio Grande and the Environment of the Border Region
SFR-050/00	Texas Water Quality Inventory, 2000 (3 volumes)
SFR-057/01	TNRCC Biennial Report to the 78th Legislature, Vol. 1
SFR-066/01	Texas Nonpoint Source Pollution Management Program, 2001 Annual Report
SFR-069/02	Progress Report on Using Scrap Tires and Crumb Rubber in Highway Construction Projects

Note: The letters preceding publication numbers refer to committee/task force reports (CTF), general information (GI), regulatory guidance (RG), and state/federal reports (SFR).

Publication Orders

To order single copies of publications, call 512/239-0028, or e-mail **puborder@tceq.state.tx.us**. Remember to include the publication number. Orders also are taken by fax by sending an order form to 512/239-4488, or through the mail at:

TCEQ Publications MC-195
P.O. Box 13087
Austin TX 78711-3087

Please note that orders of multiple copies require prepayment. Contact the agency to find out costs and methods of ordering.

The 10th Annual Texas Environmental Excellence Awards

Presented every spring since 1993, the Texas Environmental Excellence Awards honor the state's most outstanding waste reduction and pollution prevention projects. They are presented in a variety of categories to recognize individuals, organizations, schools, and businesses that have created successful programs to preserve and protect the Texas environment.

The 2002 Texas Environmental Excellence Award winners were:

Phillips Petroleum Company
Borger Refinery and NGL Center
Borger, Texas
Category: Innovative Technology

While it sounds like a character from a science fiction novel, SZorb is actually a sulfur removal technology designed to produce cleaner-burning fuels. Implemented by Phillips Petroleum Company at the Borger Refinery and NGL Center in the Panhandle, the first commercial SZorb unit in the world began operations in April 2001.

While conventional technology used to remove sulfur from typical refinery streams resulted in a significant loss of octane value, the SZorb sulfur removal technology uses a proprietary sorbent that attracts sulfur-containing molecules and removes the sulfur atom from the molecule. The end result is a gasoline stream that remains octane-rich.

The SZorb sulfur removal technology has a significant and direct impact on the community and the environment through cleaner-burning engines, greatly reduced emissions from tailpipes, and fewer smog-related illnesses. Since SZorb readily fits into the overall refinery operation plan, the technology can be applied to most refiners seeking a process to produce low sulfur gasoline.

Phillips Petroleum attributes the success of the project to many factors, including an integrated project team, a talented team of research scientists, support from the community and state, and value improvement practices in project management. But that's not the end of the story—Phillips scientists are busy developing SZorb sulfur removal technology for diesel.

BP American Production Company
Amarillo, Texas
Category: Large Business/Technical

As atmospheric concentrations of carbon dioxide, methane, and other greenhouse gases are increasing, many scientists believe that this results in rising global temperatures. Controlling the emissions of these gases is a worldwide concern for BP. The company's oil and gas operation, BP American Production Company, is taking a leading role within Texas to address the problem.

While neither the state nor the Environmental Protection Agency regulates greenhouse gases such as CO_2 and methane, BP combined initiative and innovation by identifying problems and developing solutions to reduce and control greenhouse gases within its operations. In 1998, BP began committing resources to fund new technology and research solutions to address climate change.

BP has voluntarily implemented many projects in Texas to reduce greenhouse gases, particularly methane, which is estimated to be 21 times more harmful to the climate than carbon dioxide. The three highlighted projects were designed to reduce even the slightest emissions of methane. They involve: (1) replacing "high-bleed" pneumatic controllers that continuously emit natural gas, (2) installing automatic shut-off systems for dump valves, and (3) installing compressor bypass piping to eliminate vented methane and compressed air units to provide compressor engine starting pressure. These three projects are estimated to reduce the amount of methane released by 15,227 tons per year at a cost to BP of nearly $2 million.

While many countries are beginning to react to the threat of global warming and climate change, BP is taking a proactive approach to addressing the problem. BP believes that its industry should cooperate with governments around the world to seek economically sound and internationally agreed-upon solutions to climate change.

Hillwood Development, Halff Associates, Inc., HBC/Terracon, Inc., Hughes & Luce, and the City of Dallas
Dallas, Texas
Category: Large Business/Nontechnical

While others saw a 72-acre industrial site as a blight on the Dallas landscape, this unique private-public partnership saw the opportunity to clean up the property and create the revitalized Victory Development. The home of the American Airlines Center, Victory Development is a master-planned district where people can live, work, and enjoy an array of retail and entertainment

options, including professional basketball and hockey games.

Located north of Dallas, the site once was home to an electric power generating plant, a rail yard, and numerous other facilities that left behind a host of environmental challenges. Maintenance activities had included sandblasting, which resulted in soil affected by petroleum hydrocarbons, solvents, metals, and asbestos. Other problems included an area filled with solid waste; leaking petroleum storage tanks that resulted in contaminated soil and groundwater; and the use of a grain elevator, which led to pesticide-impacted construction debris.

Instead of letting this land sit contaminated, dormant, and unproductive, a team of committed public and private entities decided to meet the challenge of cleaning up the property. The project team—Hillwood Development, Halff Associates, Inc., HBC/Terracon, Inc., Hughes & Luce, and the city of Dallas—developed a comprehensive scope of work that would accomplish remediation and satisfy the state's Risk Reduction Standards and/or Texas Risk Reduction Program. The team responded with a sound technical approach that provided several alternatives while maintaining the appropriate cleanup standards. Environmental response actions were initiated in 1998.

The team overcame the site's challenges while making environmental responsibility a top priority—reusing soil on site to limit off-site disposal; importing clean backfill material; and treating, managing, and reusing 15 million gallons of impacted groundwater. Not only did the project meet remediation and construction deadlines, it cost less than the original estimates for the "brownfield" restoration. The development is already serving as a blueprint for other brownfield projects across the country.

Edwards Plateau Prescribed Burning Association, Inc.
Sonora, Texas
Category: Agriculture

"Fighting fire with fire" is more than just an adage to the Edwards Plateau Prescribed Burning Association, Inc. (EPPBA). The group's mission is to promote the safe use of prescribed burning, and its goal is to restore the Edwards Plateau rangelands to pristine condition.

By restoring the controlled use of fire—a natural ecological process—in this area, the group has cut costs while improving the state of the rangelands, increasing the quality and quantity of water available for Edwards Aquifer recharge, and fostering an appreciation of natural resources.

Established in 1997, the EPPBA is a cooperative of landowners in Edwards, Sutton, Crockett, Val Verde, Kimble, and Schleicher counties. What started as a county-level organization to help ranchers apply prescribed fire to their land has grown to a multi-county organization with more than 90 members owning an estimated 500,000 acres of land.

Since its founding, the EPPBA has conducted more than 40 prescribed burns on 25,000 acres. Members, who are primarily local landowners, are encouraged to attend prescribed burning schools and participate in as many burns as possible. They must develop a plan for each prescribed burn and prepare their own fire lines. This hands-on approach helps build an experienced and trained community labor force.

This neighbor-helping-neighbor cooperative has provided the resources, education, and encouragement necessary to help restore fire—a sustainable and cost-effective tool—to its natural place in Edwards Plateau ecosystems. The nonprofit association has garnered support from the community, receiving both financial assistance and donated equipment. EPPBA members strive to educate others. As a result, leaders throughout Texas and Oklahoma have formed prescribed burning associations in their areas.

Kaufman County Solid Waste Management Cooperative, Inc.
Kaufman, Texas
Category: Civic/Nonprofit

As Kaufman County residents saw an influx of people from the neighboring Metroplex, they also foresaw a pending solid waste challenge. With the help of an environmental consultant, an 18-member citizens task force put together a 20-year plan for waste management. The nonprofit Kaufman County Solid Waste Management Cooperative, Inc., was formed to oversee the plan and inform the community about solid waste issues.

With just one full-time employee and a board of directors, the Cooperative conducts educational and information programs, writes grants on behalf of the county to build and equip solid waste facilities, and holds hazardous waste collections and compost classes. The organization also works with local governments to provide needed services, helps teachers with environmental education, represents the county on various regional and state boards, and keeps the citizens and county government advised on solid waste issues.

On a limited budget, the organization has made great strides in educating county residents about recycling, composting, source reduction, nonpoint source pollution, eco-shopping, yard waste management, litter, and illegal dumping.

Accomplishments include two collection stations with recycling centers, a one-day collection event drawing

20,000 pounds of household hazardous waste, an environmental fair, school and government office recycling programs, countywide cleanups, and inter-local agreements between cities for collection and disposal of trash and brush management. An active public information and education effort has resulted in brochures, newspaper coverage, a newsletter, and a Web site.

The waste management implementation project is a team effort, involving every local government, school, business, organization, and resident of Kaufman County. What makes it more extraordinary is the use of a nonprofit organization for the implementation of a county-written plan. This project is seen as a model for solid waste management at the state and regional levels, especially in small, rural counties.

Condit Kids for Clean Air
Condit Elementary School
Bellaire, Texas
Category: Youth Organization

Bellaire students are raising the flag on ozone pollution with a unique ozone monitoring and warning system for the community.

Condit Kids for Clean Air, a group of 250 fourth and fifth grade students at Houston ISD's Condit Elementary School, provides hands-on experience to educate children and adults about ozone pollution. Implemented in August of 2001, the program teaches members of the student club about ozone, the adverse health effects of exposure to it, and what can be done to reduce these air pollutants.

As part of the education and awareness program, club members use the Internet to check ozone concentrations and ozone warnings from the nearest monitoring station in Houston. Students then log the concentration, time, and other current conditions four times a day and display one of five colored flags to notify the public of the current ozone status and any health warnings (ranging from "healthy" to "very unhealthy"). The students later examine the data collected to independently determine reasons for the trends in ozone levels.

To educate the community about ozone pollution and reduction, each student discusses the findings with an adult. Statistical analysis indicates that the project is successful, as both students and adults have demonstrated increased awareness on a test given before and after ozone education.

As a model for other schools and as a messenger to the public about ozone trends and effects, the Condit Kids for Clean Air team is playing an important part in protecting the health of the community and, ultimately, finding a solution to the problem.

McAllen International Museum
McAllen, Texas
Category: Education

After years of severe drought and steady population growth, the Rio Grande Valley faces ongoing challenges. The McAllen International Museum saw the opportunity to address some of these challenges by educating the community about water management and conservation.

The museum's mobile, bilingual exhibition—"Our Watershed"—features nine interactive stations exploring the Rio Grande/Rio Bravo River.

The creative exhibit helps visitors understand complex water-management issues through hands-on experiences such as a watershed module featuring squeezable pumps activating water flow into the river; a water cycle with hand-pumped "rainfall" and hand-cranked "sun energy;" and a water-sharing component in which visitors use levers to allocate water to wildlife, cities, agriculture, and industry.

With the help of an international planning committee, the museum began developing the exhibit in 1997 and completed it in 2000. It has implemented an active and successful outreach program in partnership with many organizations in the U.S. and Mexico.

The museum trains parents and teacher aides as volunteers and provides related training, materials, resources, and hands-on experiences.

As part of a major public awareness campaign, the museum has taken the exhibition to a number of rural and urban border communities, including Harlingen, Mercedes, Mission, Roma, Weslaco, and Reynosa (in Tamaulipas, Mexico). The goal is to increase understanding in communities about the need for water conservation and pollution prevention, as well as how the river shapes geography and influences local economic and cultural development.

Museum officials hope that this effort encourages the public to make wise choices concerning natural resources, especially water.

In its first 16 months, the exhibit drew more than 60,350 people from the community, including 30 schools in the U.S. and 30 schools in Mexico.

Stefanie K. Lacy
Bandera, Texas
Category: Individual

At the end of the 1999-2000 school year, Stefanie Lacy, a student in Bandera, noticed the accumulation of paper in wastebaskets at her high school's classrooms and offices. When she asked school administrators about recycling, she was disappointed to learn there was no program in place in the school.

While most of her classmates went off to enjoy their summer vacations, Stefanie made it her goal to begin a community paper-recycling program in Bandera County.

Stefanie visited the Bandera and Pipe Creek post offices and learned that neither participated in the U.S. Postal Service's recycling program in San Antonio (70 miles away). After meeting with representatives, she helped both post offices become members of the program, and she and her parents began to pick up bins of recyclable materials at both locations three times a week.

Her next task was to convince a recycling company in San Antonio to lend Bandera County a recycling bin and to make the long drive to pick it up. Although she knew past efforts had failed, she persisted and gained approval for a three-month pilot program, which would continue if the county could recycle 10 tons of paper per month.

Stefanie then enlisted the support of the Bandera Chamber of Commerce, the Bandera City Council, the Clean Texas program, schools, businesses, and residents of Bandera County. She further built support by writing letters to local newspapers and contacting the Environmental Protection Agency and Keep Texas Beautiful program.

Her efforts have been met with success—the recycling program has set monthly records and was expected to collect 120 tons of paper in 2002. Stefanie estimates that in one year the program saved about 400 cubic yards of landfill space. According to the EPA, recycling 1 ton of paper saves 7,000 gallons of water, 3.3 cubic yards of landfill space, and 4,100 kilowatt-hours of electricity (enough to power an average-sized home for six months). The nearby community of Lakehills has since duplicated the paper-recycling program.

Stefanie is the first teenager to win an individual Texas Environmental Excellence Award.

Texas Landfill Management, L.L.C.
Austin and San Antonio, Texas
Category: Small Business

Phone books, expired beer, pecan hulls, and stable bedding are making their way to Texas gardens, thanks to Texas Landfill Management (TLM). The company's Organic Conversions project processes waste materials into compost, mulch, and amended soils, and it creates and markets more than 50 organic products using materials that are usually sent to landfills.

TLM's Garden-Ville and Texas Organic Products produce many compost, mulch, and organic soil mixes for the retail and wholesale horticultural markets.

The composting divisions process a variety of feedstocks, including brush and yard trimmings, animal manure, food processing wastes (both solid and liquid), dead animals, and biosolids from the San Antonio Water System.

TLM estimates it has diverted 122,455 tons of compostable materials from landfills.

The business model benefits the environment by diverting source-separated waste streams from traditional disposal methods. It also reduces the need for wastewater treatment capacity by composting liquid feedstocks.

Also, the compost products reduce the need for watering and for chemical fertilizers, herbicides, and pesticides.

While most of the end products of TLM's composting are sold, some are donated to nonprofit organizations, including Habitat for Humanity, Austin Green Corn Project, city park projects, and local garden clubs.

North Central Texas Council of Governments (NCTCOG)
North Texas
Category: Government

Who knew that a Forsythia bush or Snake Herb plant could prevent pollution? The North Central Texas Council of Governments (NCTCOG) did. In a collaborative and innovative effort to prevent pollution, more than 54 local government agencies and other organizations worked together to develop the *Texas SmartScape* interactive CD-ROM.

The beautifully illustrated compact disk features photographs, artwork, music, environmental information, landscaping techniques, and a searchable database to stress the importance of pollution prevention and water conservation in the North Texas area. Spearheaded by the NCTCOG environmental staff, this unique communications tool encourages landscaping with native and adapted plants, which require little or no pesticides or fertilizer and little water to thrive. It also stresses the use of compost and addresses the problems of pollutants in urban storm water runoff.

Users of the *Texas SmartScape* CD can plan and design a garden to accommodate existing soil, moisture conditions, and sun exposure. It educates users on the benefits of reducing water usage, decreasing fertilizer usage and runoff pollution, and attracting native fauna to a garden. Its searchable database of more than 200 native and adapted plants, shrubs, and trees that thrive in North Central Texas lets users customize their design—whether they want to create a border of vibrant blue flowers or to lure hummingbirds or butterflies.

The CD-ROM was developed using the sweat equity and creativity of a number of team members recruited by the NCTCOG, including Weston Gardens in Bloom,

Tarrant County, Texas A&M's Texas Cooperative Extension, Texas Parks and Wildlife Department, Tarrant County Regional Water District, Texas Nursery and Landscape Association, and the Native Plant Society of Texas. To lower distribution costs, a cooperative bulk purchase was made by cities, counties, nurseries, businesses, agencies, and others, allowing the CD to be distributed at little or no charge to the public.

The CD-ROM was released in May 2001. The group's initial goal was to distribute 12,000 in three years. During the first six months, more than 84,000 were ordered.

The University of Texas Health Science Center at San Antonio
San Antonio, Texas
Category: Special Award

The university is being recognized for two projects:

- **South Texas Environmental Education and Research (STEER)**

While the national doctor/patient ratio is 1:500, the ratio along the Texas-Mexico border is 1:2,500. Many border residents live with unsafe drinking water, substandard housing, and environmentally related diseases such as asthma and tuberculosis. The physicians and other health care professionals who do practice in the region generally receive little or no training in environmental or public health.

The South Texas Environmental Education and Research (STEER) program hopes to reunite medicine and public health. An ongoing medical training and community service program, STEER offers hands-on training throughout the year to medical students, doctors in residency, and public health and nursing students. Participants visit families living in the border's colonias and learn about the difficulty of acquiring access to medical services. They see firsthand the health threats posed by poor water quality and inadequate sanitary practices.

The STEER program raises participants' awareness of their role as stewards of the environment to benefit patients' health. It teaches them to identify environmental causes of illness and to treat their patients in an informed and culturally sensitive manner. From 1995 to 2001, STEER trained more than 650 health profession students.

- **Comprehensive Dental Mercury Waste Minimization Initiative**

Dentists commonly use mercury-containing amalgam as a filling material in teeth because it is versatile, inexpensive, and easy to use. Approximately 30 tons of mercury are released into the environment each year via dental health procedures, making it a major source of mercury contamination of wastewater.

The University of Texas Health Science Center at San Antonio initiated a program to capture and recycle this mercury-bearing waste.

In addition, the school established the first comprehensive program to educate current and future dentists, as well as the general public, regarding the hazards of mercury in the environment.

The program reduces pollution, promotes recycling, avoids generating waste, and increases environmental stewardship for dental professionals—now and in the future.

Dr. David T. Allen
Austin, Texas
Category: Special Award

Juggling 300 investigators, five aircraft, five ground chemistry sites, and dozens of sampling sites to conduct a comprehensive air quality study is no easy task.

But David Allen of the University of Texas did just that when he coordinated the Texas Air Quality Study, the largest study of its kind ever conducted in Texas. With a budget of $30 million, the Texas Air Quality Study set out to provide data and opportunities to significantly improve air quality in Southeast Texas.

Allen played a lead role in developing, managing, and analyzing the study, which was conducted during August and September of 2000.

It brought together teams of investigators from federal agencies, state and local governments, Texas universities, individual companies and trade organizations, and environmental advocacy groups. Allen assembled research teams and wrote proposals for funding.

An active participant in the formation of environmental public policy, Allen also chairs the Texas Council on Environmental Technology, created by the Legislature to evaluate technologies that can be deployed to help improve air quality. As chairman of TCET, he is working to set the research agenda and identify areas of need in which the greatest gains can be achieved.

Designed to improve the community's understanding of the chemical and physical processes that cause air pollution along the Gulf Coast, the Texas Air Quality Study is regarded in the atmospheric sciences community as the most successful air quality field study ever done.

The data developed through the study will serve as the basis for air quality research within Texas for the next decade, and it is expected to have a major impact on the state's plan for improving air quality.

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