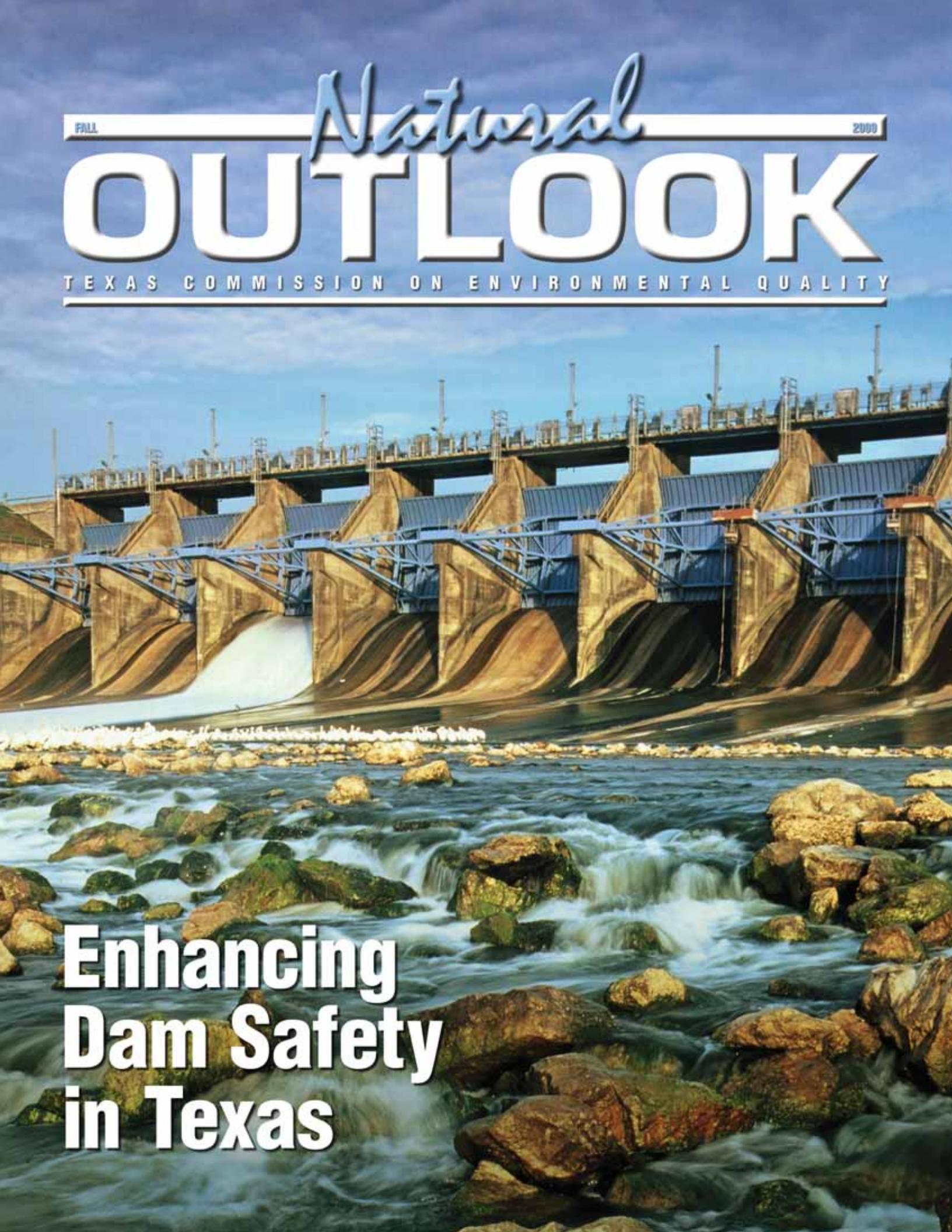


FALL

2009

# Natural **OUTLOOK**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



A large concrete dam with multiple arches and spillways is shown from a low angle, looking upstream. Water is cascading over the dam, creating white foam at the base. In the foreground, a river flows over rocks, some of which are covered in green moss. The sky is clear and blue.

## Enhancing Dam Safety in Texas



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Commissioners  
Bryan W. Shaw, Ph.D., Chairman  
Buddy Garcia  
Carlos Rubinstein

Executive Director  
Mark R. Vickery, P.G.

#### *Natural Outlook* Staff

Agency Communications Director

Andy Saenz

Publishing Manager  
Renee Carlson

Media Relations Manager  
Terry Clawson

Managing Editor  
Annette Berksan

Art Director  
Michele Mason

Copy Editor  
Victor Guerra

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Natural Outlook, MC 118  
TCEQ

P.O. Box 13087  
Austin, TX 78711-3087

Or phone 512-239-0010;  
e-mail [ac@tceq.state.tx.us](mailto:ac@tceq.state.tx.us);  
or fax 512-239-5010.

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# **Natural** **OUTLOOK** TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Exploring environmental issues and challenges in Texas*

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Drought contingency planning helps keep the water flowing for Texans.

## Partnership Protects "America's Sea"

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The Gulf of Mexico Alliance releases an action plan to address the challenges facing the ninth largest body of water in the world.

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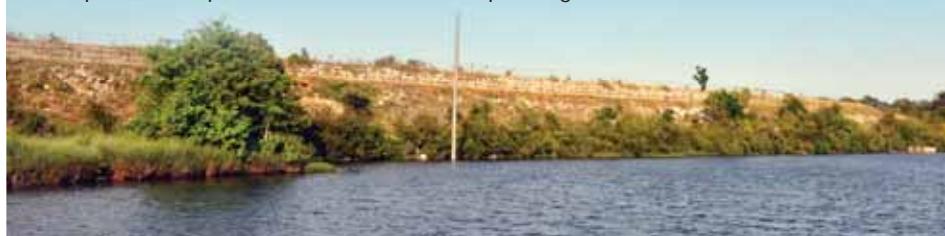
In addition to passing 235 bills that affect TCEQ programs and address agency priorities, the 81st Texas Legislature funded TCEQ programs for another two-year cycle.

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Revised rules, designed to ensure that sufficient funds are available to cover the cost of TCEQ water-program activities in the state for the 2010–2011 biennium, went into effect on July 30, 2009.

## on the back

### TCEQ Strike Team

The TCEQ Emergency Response Strike Team is ready for storm duty.

COVER: Lake Livingston Dam

Photo courtesy of Trinity River Authority

# Using Water Wisely

## *Drought contingency planning helps keep the water flowing for Texans*

**A**ny Texan who has experienced a sizzling hot day during a seemingly never-ending Texas “dry spell” definitely knows the worth of water. But not every Texan who turns on a tap is aware of the careful planning required to keep that water flowing, even during a drought.

### **Planning for Drought**

During a drought, there is less rainfall and less water available for human use. Water utilities throughout Texas must plan ahead to reduce the impact of droughts, reduce peak demand, and extend their water supplies.

Drought contingency planning in Texas grew out of legislation passed in 1997 after a severe 1996 drought, when 86 percent of Texas counties qualified for emergency aid. The Texas Legislature directed the TCEQ to adopt rules establishing common drought plan requirements for water suppliers.

As a result, around 736 irrigation districts, wholesale public water suppliers, and retail public water suppliers that serve 3,300 connections or more are required to submit drought contingency plans to the TCEQ every five years. Retail public water suppliers that serve fewer than 3,300 connections must prepare and adopt a drought contingency plan and have it available to show to the TCEQ upon request.

### **Implementing Drought Triggers**

Drought contingency plans vary by supplier; however, a common feature is a structure that imposes increasingly

stringent drought response measures in successive stages as water supply conditions worsen. Most suppliers define three to five drought response stages that include “triggering” criteria for each stage.

Once triggered, Stage I of a contingency plan might start, for example, with a voluntary watering schedule. If the desired reduction in water use is not achieved, mandatory restrictions on some outdoor water uses might be the next stage of the plan. If these efforts fail to sufficiently reduce usage, a ban on all outdoor use of water might be implemented in the final stage.

### **Conserving Water**

Many water suppliers also have water conservation plans. A water conservation plan differs from a drought contingency plan in that it centers around the everyday responsible stewardship of water, whereas contingency measures are implemented only as a matter of necessity, when a supplier needs to manage a water-supply or -demand issue. Conservation can extend water supplies and potentially prevent the necessity of implementing a drought contingency plan.

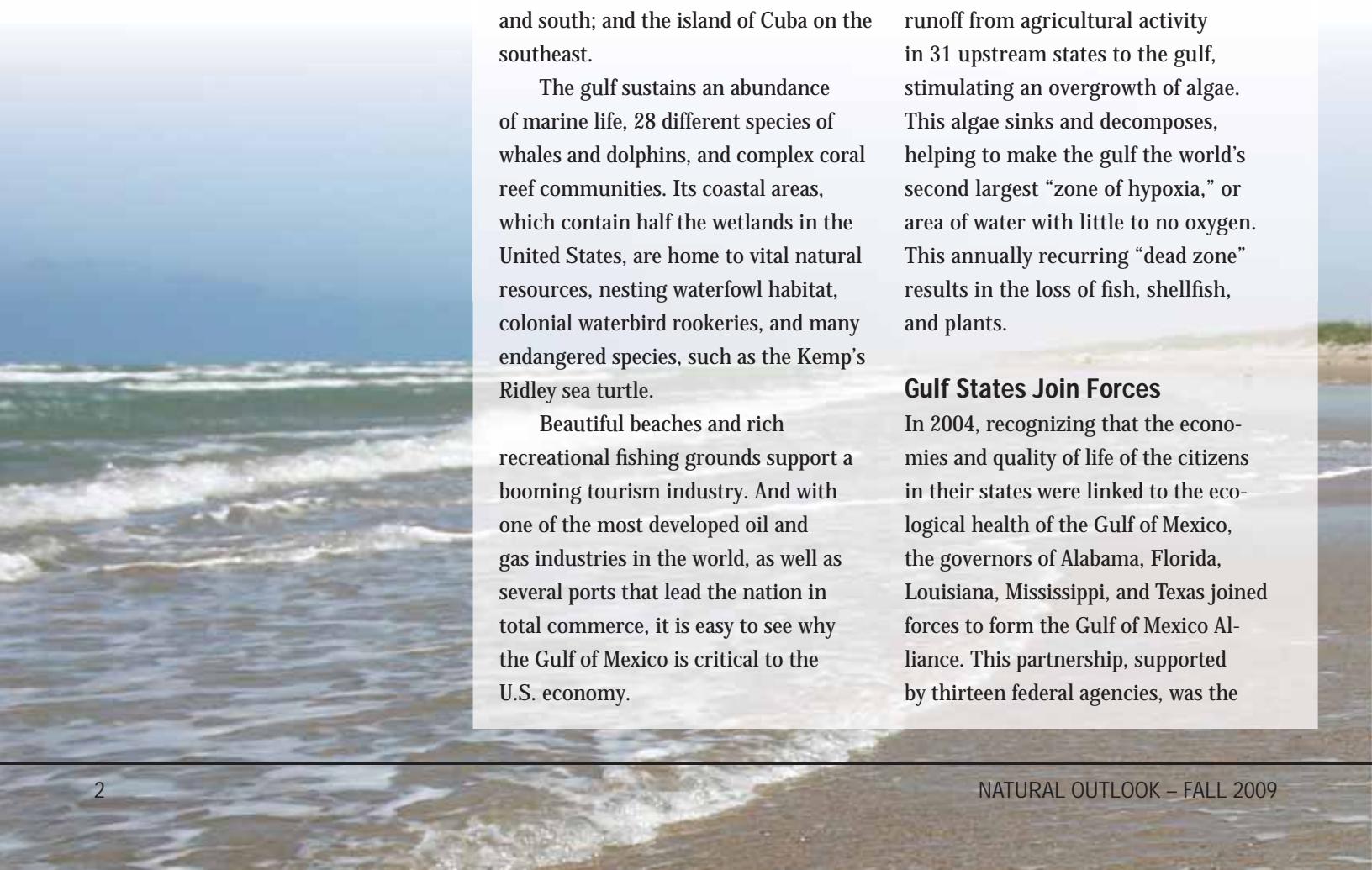
### **Making Every Drop Count**

Each and every Texan can help keep the water flowing by supporting their supplier's contingency efforts during a drought and by making water conservation a part of their everyday activities.

For water conservation tips, visit the Texas Water Development Board's “Save Water” Web page, at [www.twdt.state.tx.us/data/drought/save\\_water2.asp](http://www.twdt.state.tx.us/data/drought/save_water2.asp). ★

# Partnership Protects "America's Sea"

*The Gulf of Mexico Alliance releases plan  
for healthy and resilient coasts*



The Gulf of Mexico is the ninth largest body of water in the world, with a total area of nearly 600,000 square miles. Sometimes called "America's Sea," it is bounded by Florida, Alabama, Mississippi, Louisiana, and Texas on the north; Mexico on the west and south; and the island of Cuba on the southeast.

The gulf sustains an abundance of marine life, 28 different species of whales and dolphins, and complex coral reef communities. Its coastal areas, which contain half the wetlands in the United States, are home to vital natural resources, nesting waterfowl habitat, colonial waterbird rookeries, and many endangered species, such as the Kemp's Ridley sea turtle.

Beautiful beaches and rich recreational fishing grounds support a booming tourism industry. And with one of the most developed oil and gas industries in the world, as well as several ports that lead the nation in total commerce, it is easy to see why the Gulf of Mexico is critical to the U.S. economy.

The health of the gulf, however, faces many serious challenges. Key coastal habitat is threatened by increased coastal development, sea level rise, shoreline erosion, and land subsidence. The Mississippi River and its tributaries transport nutrient runoff from agricultural activity in 31 upstream states to the gulf, stimulating an overgrowth of algae. This algae sinks and decomposes, helping to make the gulf the world's second largest "zone of hypoxia," or area of water with little to no oxygen. This annually recurring "dead zone" results in the loss of fish, shellfish, and plants.

## Gulf States Join Forces

In 2004, recognizing that the economies and quality of life of the citizens in their states were linked to the ecological health of the Gulf of Mexico, the governors of Alabama, Florida, Louisiana, Mississippi, and Texas joined forces to form the Gulf of Mexico Alliance. This partnership, supported by thirteen federal agencies, was the



Photo courtesy of Kevin Stillman/TxDOT

beginning of a regional collaborative effort to improve the health of the Gulf of Mexico.

The governor of each state appointed one or more representatives to provide the vision for and make strategic decisions about alliance activities. TCEQ Commissioner Buddy Garcia was designated to represent Texas on the Alliance Management Team.

"The economic vitality of the Gulf Coast depends on the ecological health of the Gulf of Mexico," says Garcia. "Many of the challenges we face in the gulf region cross state lines. Through the Gulf of Mexico Alliance, the five gulf states are able to combine expertise and resources to resolve shared issues."

### Taking Action for Coastal Health

The first project undertaken by the alliance was to develop the Governors' Action Plan for Healthy and Resilient Coasts. Released in 2006, this three-year plan identified specific actions needed to improve the health of coastal areas. The results exceeded initial

expectations and included the following accomplishments:

- Coastal Ecosystem Learning Centers were established in each of the five gulf states and Veracruz, Mexico.
- A Regional Sediment Management Master Plan was drafted. This plan provides a framework for better management of gulf sediment resources, facilitating a reduction in coastal erosion and storm damages, as well as the restoration of coastal habitats.
- Binational workshops designed to standardize the identification of

harmful algal blooms and methods of field sampling were conducted in Texas, Florida, and Mexico.

- An ecosystem data portal was established. The portal will be used by resource managers to evaluate habitat extent and changes over time.
- A regional Nutrient Criteria Research Framework was developed. This has led to a better understanding of nutrient impacts to gulf ecosystems, as well as a coordinated approach to managing them.



Photo courtesy of Chase Fountain/Texas Parks and Wildlife Department



Photo courtesy of Texas Parks  
and Wildlife Department

## Facts about the Gulf of Mexico

The Gulf of Mexico is one of the world's most ecologically and economically productive bodies of water, according to TCEQ Commissioner Buddy Garcia, who was appointed by Gov. Rick Perry to serve as Texas representative on the Gulf of Mexico Alliance Management Team. "Yet many people don't realize just how vital the gulf is to our nation and to the economy," says Garcia.

Here are a few facts about the Gulf of Mexico:

- The gulf yields 69 percent of the shrimp and 70 percent of the oysters caught in the U.S.
- In 2008, recreational anglers caught 190 million fish in the Gulf of Mexico and surrounding waters, for a total weight of 73.6 million pounds.
- Four of the nation's top seven fishing ports are located on the Gulf Coast.
- The gulf yields more finfish, shrimp, and shellfish annually than the south- and mid-Atlantic, Chesapeake, and New England areas combined.
- Seven of the nation's top ten ports in terms of tonnage or cargo value are located on the Gulf Coast.
- According to the Minerals Management Service, offshore operations in the gulf produce a quarter of the domestic natural gas in the U.S. and one-eighth of its oil.
- More than a third (38%) of the U.S. shipbuilding industry is located along the Gulf Coast.
- With a watershed stretching from the Rockies to the Appalachians, the gulf provides much of the atmospheric moisture for North America.
- The gulf provides critical habitats for 75 percent of the migratory waterfowl that traverse the United States. ★



### The Alliance Releases New Action Plan

Building on the successes of the first action plan, in 2008 the gulf states and their partners started working to develop a second plan. Released in June of 2009, the Governors' Action Plan II is a farther-reaching, five-year regional plan that, according to the alliance, "sets a course for actions designed to improve the health of coastal ecosystems and economies of the gulf in ways that a single entity could not achieve."

As in the first plan, Action Plan II identifies six regionally significant issues that can be effectively addressed through increased collaboration at the local, state, and federal levels:

- Water quality for healthy beaches and seafood
- Habitat conservation and restoration
- Ecosystems integration and assessment
- Reducing the impacts of nutrients on coastal ecosystems
- Coastal community resilience
- Environmental education

Each of these six issues is supported by a Priority Issue Team (PIT), a stakeholder group composed of scientific and technical experts from various governmental agencies, academia, nonprofit organizations, and private businesses in the five gulf states.

"The meat of the work for the priority issues happens at the PIT level," says Becky Walker, who handles coastal policy matters for Garcia and also serves as the alternate Texas representative on the Alliance Management Team. "The members of each team work together

on a regular basis to identify specific actions that they are going to address and implement."

"The Gulf of Mexico Alliance gives us a chance to focus on our commonalities and what we can do together to impact the region," she says.

## Action Plan II Addresses Challenges

Actions identified in Action Plan II collectively address four major challenges: sustaining the gulf economy, improving the health of the gulf ecosystem, mitigating the impacts

of and adapting to climate changes, and mitigating any harmful effects on coastal water quality.

"The alliance is committed to a healthy Gulf of Mexico region," says Garcia, "and Action Plan II provides the blueprint for success."

To learn more about the Gulf of Mexico Alliance or to read Action Plan II in its entirety, visit [www.gulfofmexicoalliance.org](http://www.gulfofmexicoalliance.org). To find out about important issues facing the Gulf Coast, visit the alliance's Environmental Education Network Web site, at [www.gulfallianceeducation.org](http://www.gulfallianceeducation.org). ☀



# New Laws Address Agency Priorities

*Legislation lays groundwork for cleaner environment*



The 81st Texas Legislature concluded its regular session in June after passing 235 bills that affect TCEQ programs and address agency priorities. Following are some of the laws passed during the session.

## Air

### House Bill 1796

HB 1796 includes legislation pertaining to offshore geologic storage of carbon dioxide, the Texas Emissions Reduction Plan, a New Technology Implementation Grant Program, and greenhouse gas reporting requirements.

#### ■ Offshore Geologic Storage of Carbon Dioxide

HB 1796, which lays the groundwork for Texas to develop an offshore carbon dioxide storage repository in state-owned submerged land, affects several agencies, including the TCEQ, the General Land Office, the University of Texas Bureau of Economic Geology, and the School Land Board.

As an important part of the overall effort, the TCEQ will develop and adopt standards for monitoring, measuring, and verifying the permanent storage status of an offshore repository, ensuring that any standards adopted by the agency comply with EPA regulations.

#### ■ The Texas Emissions Reduction Plan

HB 1796 extends the Texas Emissions Reduction Plan (TERP) until 2019. TERP is a comprehensive set of incentive programs aimed at reducing emissions in areas of the state identified as in nonattainment or near-nonattainment of federal ozone standards. The legislation allocated TERP funds as follows:

Emissions Reduction Incentive Grants (ERIG) Program, which includes the Clean School Bus Program, the Texas Clean Fleet Program, and the New Technology Implementation Grant Program	87.5%
New Technology Research and Development (NTRD)	9.0%
TERP administration	2.0%
Energy Systems Lab at Texas Engineering Experiment Station (TEES)	1.5%

## ■ New Technology

### Implementation Grant Program

HB 1796 also establishes the New Technology Implementation Grant (NTIG) program for the implementation of new technologies that reduce emissions from facilities and other stationary sources. Projects that could be eligible for the NTIG program include advanced clean energy projects, new technology projects that reduce emissions of regulated pollutants from point sources involving capital expenditures in excess of \$500 million, and electricity storage projects related to renewable energy.

## ■ Greenhouse Gas

### Reporting Requirements

The TCEQ will work with the Texas Railroad Commission and the Texas Public Utilities Commission to review the development of federal greenhouse gas reporting requirements. The TCEQ will also establish an inventory of voluntary actions taken by state agencies and by businesses in the state since Sept. 1, 2001, to reduce carbon dioxide emissions. The TCEQ will work with the EPA to receive credit for early action under any federal rules that may be adopted for the regulation of greenhouse gases.

## Senate Bill 1759

### Texas Clean Fleet Program

SB 1759 creates a program that provides grants to fleet owners who replace qualifying diesel-powered vehicles with alternative-fuel or hybrid vehicles. The Texas Clean Fleet Program will be funded through TERP Emissions Reduction Incentives Grant (ERIG) funds.

*continued on page 17*

# Agency Appropriations

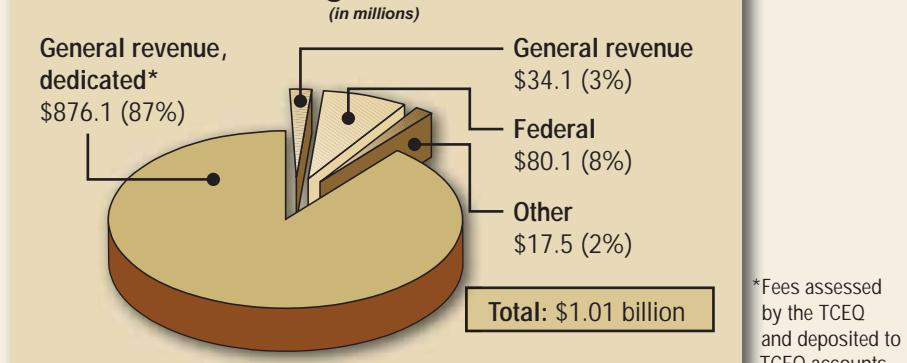
The TCEQ will receive \$1.01 billion for the 2010–2011 biennium, which began Sept. 1, 2009. Of this, \$964.2 million is appropriated under the Appropriations Act (SB 1) and \$43.6 million is appropriated through a supplemental appropriations bill to fund the Texas Emissions Reduction Plan (TERP), the state Superfund program, and response to natural disasters.

Included in the \$964.2 million appropriation is \$33.2 million for exceptional items such as the implementation of the new federal ozone standard, enhancements to the agency's Dam Safety Program, increased cleanup activities in the state Superfund program, an increase in grant funds for air quality planning, and information resource needs.

The Legislature also authorized an additional 66 full-time equivalent (FTE) positions for exceptional items and contingency riders, which include:

- 24 additional FTEs for enhancements to the Dam Safety Program
- 30 additional FTEs for implementation of the new ozone standard
- 2 additional FTEs to inspect a new low-level radioactive site in Andrews County
- 10 additional FTEs for contingency riders

### TCEQ Financing for FY 2010–2011



### Appropriations for the 2010–2011 biennium include the following program changes:

TCEQ Program	Increase or Decrease from 2008–2009 Biennium	Total for 2010–2011 Biennium
State Superfund Program	+ \$8 million	\$64.0 million
Air Quality Planning Grants	+ \$2 million	\$7.1 million
Petroleum Storage Tank Program	- \$20 million	\$52.3 million
Texas Emissions Reduction Plan	- \$68 million	\$233.0 million
Dam Safety Program (new funding)	N/A	\$2.5 million

# Enhancing Dam

## Dam safety program expands

Dams are a vital part of the national infrastructure and provide an infinite number of benefits to society. Dams provide drinking water, flood protection, renewable hydroelectric power, navigation, irrigation, and recreation. However, dams can also represent a public safety issue. A dam failure can result in loss of life, economic disaster, and extensive environmental damage.

The TCEQ Dam Safety Program is tasked with mitigating the risk of dam failures in Texas. With an infusion of \$2.5 million in funding over the 2010–2011 biennium from the 81st Texas

Legislature, and with plans to increase the number of inspectors in fiscal year 2011, the program is expanding.

### Emphasis on Inspections

The program expansion was needed. Texas has the largest number of state-regulated dams in the country—7,139. (An additional 86 dams are federally operated and not under the TCEQ's purview.)

State-regulated dams are generally earthen and can range from 6 feet to 200 feet in height. Roughly 60 percent are privately owned. Another 24 percent are owned by soil and water conservation districts. The rest are the property

of state and local governments, water districts, river authorities, and public utilities.

Dam Safety Program staff are responsible for ensuring that these structures, scattered across the state, are properly constructed and maintained. Their many duties include reviewing and approving plans and specifications for new dams or dam modifications, performing hydrologic and hydraulic analyses of dams, and inspecting existing dams and dams that are under construction.

"Our primary emphasis now is on dam inspection," says Warren Samuelson, manager of the TCEQ's Dam Safety Program. "Our goal is to inspect all dams that have a high-hazard or a significant-hazard rating within a five-year period ending August 2011."

Dams classified as high hazard or significant hazard have the potential to harm life or property and the environment should they fail. In Texas, 1,729 dams fall into these two classifications—963 are high-hazard dams and 766 are significant-hazard dams. According to the Texas Section of the American Society of Civil Engineers, 75 percent of the high-hazard dams were built before 1975. The age of this critical infrastructure heightens the importance of the agency's stepped-up inspection program.

The Dam Safety Program is two-thirds of the way toward meeting



Upper Brushy Creek WCID's Dam No. 6 in Cedar Park.

*By Liz Carmack, contributing writer*

# Safety in Texas

its inspection goal. Staff and TCEQ contractors inspected 292 high- and significant-hazard dams in 2007, 316 in 2008, and 550 as of June of this year.

The most frequent problems inspectors find include excessive vegetative growth, damage caused by animals burrowing into the dam, blockage of the spillway with trees or debris, erosion and undercutting of concrete structures, erosion of the spillway, damage to spillway pipes, and water seepage below the dam.

"Sometimes we'll see cracking on the dam, especially with the weather as dry as it is, and sometimes we'll see earthen slides," Samuelson says. "Sometimes there is such excessive vegetative growth we can't even inspect the dam. In that case, we require them to remove the vegetation."

Following an inspection, the TCEQ provides a report to the dam's owner. If any problems are found, the agency outlines them and the required actions needed to improve safety. Within 45 days, the owner is required to produce a plan and schedule for addressing the agency's findings.

The agency depends on the owner to set the deadline for dam repairs. Cost and the owner's available funds are often key factors in how quickly repairs are scheduled.

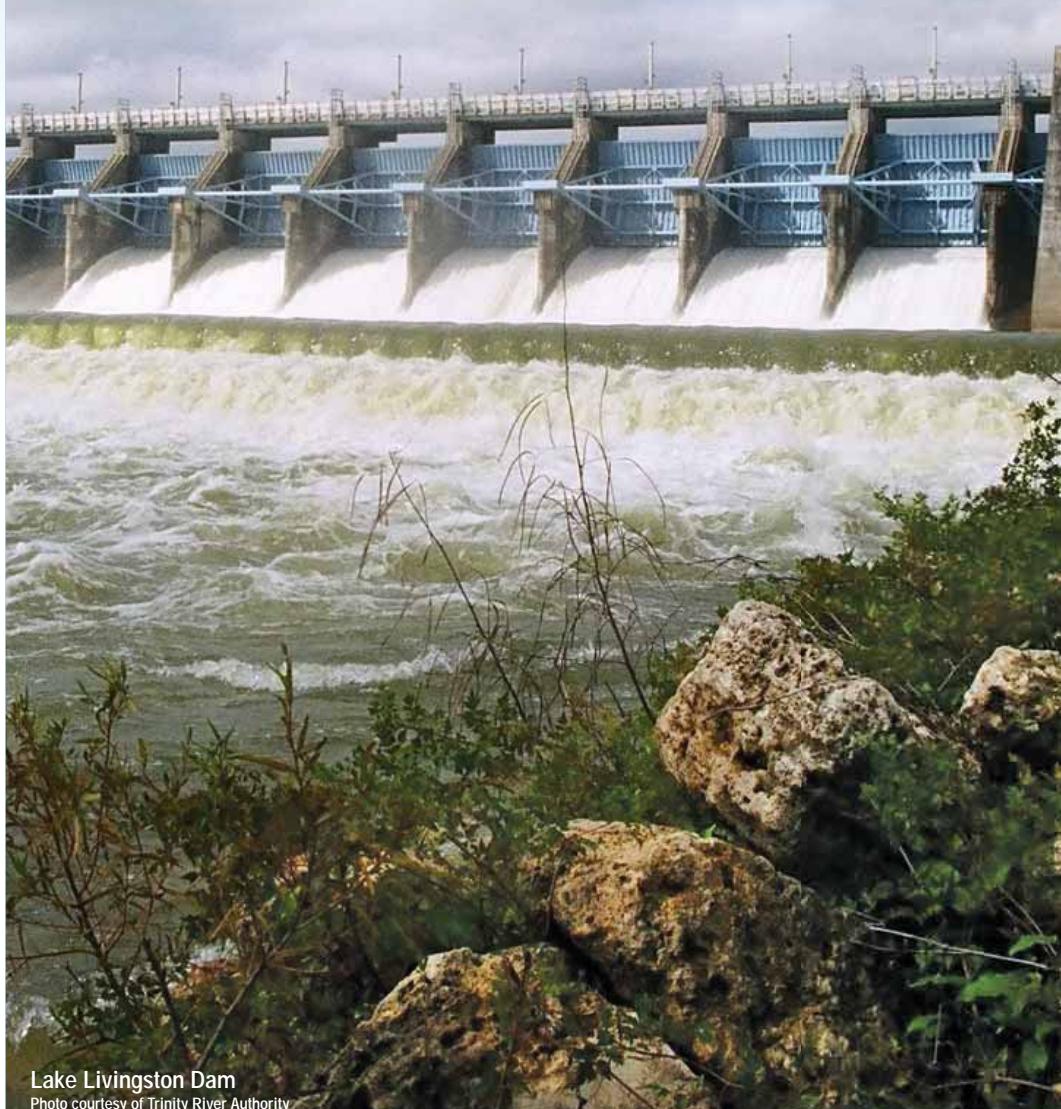
There is no state funding to help dam owners make required

repairs of their dams. "It's difficult sometimes for owners to get problems corrected because of lack of funds," Samuelson says.

After accomplishing its goal in August 2011, the program will use a risk-based method—considering

each dam's classification, condition, and age—to schedule routine dam inspections.

As dams continue to age and areas develop, there is a constant need to re-evaluate some dam classifications to ensure they are still appropriate. Dam



Lake Livingston Dam  
Photo courtesy of Trinity River Authority

Safety personnel use aerial photography, GIS maps from the Texas Natural Resources Information System, and Google Maps to check downstream land use. Increased development since a dam's previous classification could warrant a bump-up to a higher hazard rating.

### New Rules Support Enforcement

New state rules that went into effect at the beginning of 2009 (30 TAC, Chapter 299: "Dams and Reservoirs") improved the effectiveness of the Dam Safety Program. The rules provide the agency with more enforcement options through the courts.

"We can get an emergency order or go through the Texas Attorney General's office or district court to have a dam owner take required actions to repair the dam," Samuelson says.

The rules also changed the definition of "dam" to match the federal definition, which is:

- any artificial barrier 25 feet or higher that has a maximum impounding capacity of 15 acre-feet, or



The hiking trail at the top of the Upper Brushy Creek WCID's Dam No. 7 at Brushy Creek Lake Park in Cedar Park is popular with outdoor enthusiasts.

- any artificial barrier 6 feet or higher that has a maximum impounding capacity of 50 acre-feet.

This automatically took about 400 smaller dams off the regulatory books, allowing agency staff to focus on larger dams that could have a greater impact should they fail.

"Before, our rules said a dam was anything over six feet tall," says Samuelson. "That was regardless of capacity, and included farm ponds, stock tanks, and detention ponds in neighborhoods."

### Emergency Action Plans Required

In order to help prevent loss of life and property, the new state rules require owners of high- and significant-hazard dams to submit emergency action plans to the TCEQ by Jan. 1, 2011. These plans must include emergency response procedures, a list of responsible parties, a notification flow chart to clarify communications, and complete contact information for all responsible parties.

"I know there are a lot of folks working on them now," Samuelson says. "After submission to the agency, they'll need to review the plan annually to update phone numbers and they'll need to update the entire plan on a five-year frequency."

During Hurricane Rita, in 2005, the emergency action plan initiated by the Trinity River Authority for the Lake Livingston Dam called for a release of waters from the lake to help alleviate a serious problem with the stability of the dam. The lake, which is east of Huntsville in East Texas, is the second-largest reservoir in the state. During the hurricane, the dam was severely damaged by high winds and waves.

## Dam Hazard Classifications

The classification system of the federal Interagency Committee on Dam Safety categorizes dams according to the amount and type of damage that could occur should the dam fail, not according to the condition of the dam.

- High-hazard dam – loss of life is probable
- Significant-hazard dam – no probable loss of life, but a failure could result in economic loss, environmental damage, disruption of lifeline facilities, etc.
- Low-hazard dam – no probable loss of life and few economic or environmental losses other than those suffered by the dam owner

Reclassification could occur at any time based on:

- Inspection and downstream evaluation by the TCEQ or the dam owner's engineer
- Breach analysis
- Review of aerial photography or maps along with fieldwork

"The authority saw the damage and initiated the emergency action plan," says Samuelson. "They notified the correct emergency management folks downstream and took action to close roads. They made major releases from the lake to get the water level down."

## Program Increases Educational Efforts

The new rules cover the day-to-day operation and maintenance of dams. Each state-regulated dam must have an operation and maintenance plan, regardless of its classification. The plan must include scheduled

engineering and maintenance inspections and a list of regular maintenance activities. Although owners have no set deadline to complete these plans, they must produce them if requested by the TCEQ.

The Dam Safety Program has increased its educational efforts to explain these new rules, to promote proper dam maintenance, and to emphasize the responsibilities of dam owners. Samuelson says response from dam owners has been encouraging.

"We've been able to get a lot of good information to the owners and they keep telling us to come back."

Since 2007, Samuelson has presented to more than 800 people at more than a dozen workshops around the state. The Dam Safety Program also provides guidance documents and forms on its Web site, at [www.tceq.state.tx.us/goto/dams](http://www.tceq.state.tx.us/goto/dams).

## Challenges Met with Increased Awareness

Awareness about the deterioration of America's aging infrastructure—including its roads, bridges, drinking water systems, and dams—has grown, in part because of the *Report Card for America's Infrastructure*, which is issued annually by the American Society of Civil Engineers. This year, the group assigned U.S. dams a grade of D.

The Dam Safety Program's increased inspections and concentrated educational efforts are making a difference. "We have become more visible and folks know more about the program," Samuelson says. "We have people calling in and reporting situations to us. Sometimes owners who have been to a workshop and have seen something request an inspection."

Dam owners around the state are also becoming more interested in maintaining their dams and in understanding the state regulations more than ever before, says Samuelson, who has worked in the Dam Safety Program for more than 30 of his 37 years with the agency.

"We're getting a lot of response back from owners. They are trying to fix their dams. They realize their liability and responsibilities," he says. "A lot of people are paying attention to what we're saying." 

# Burrowing Beaver Contributes to Dam Collapse

The northeast Texas community of Edgewood received rain for a few days leading up to Thursday, March 12, 2009. That morning, rain fell again on the already damp town, and by 12:45 p.m. an earthen dam on the 25-acre private lake south of town had failed. A beaver had tunneled into the 14-foot-high earthen dam, contributing to the dam's collapse.

Water rushed through the southern parts of Edgewood, rising in lawns. The Edgewood Volunteer Fire Department reacted quickly, closing flooded FM 859. School buses were re-routed. Later, as the floodwaters receded, people were relieved to discover that no one was hurt and there was no significant property damage. The community was fortunate despite the dam's failure.

"We were scheduled to do an inspection there the following week," says Warren Samuelson, manager of the TCEQ's Dam Safety Program. "The dam's owner had seen water flowing through the dam but didn't completely understand the nature of the problem."

Texas has experienced dam failures in the past 20 years, according to Samuelson. In 2008, one dam failed, one dam's spillway failed, and one dam was overtopped. As of June of this year, in addition to the dam failure in Edgewood, the spillways of four other dams had failed. No dams had been overtopped. (Reporting is voluntary, so the actual numbers could be higher.)

While most recent Texas dam failures have occurred in remote areas and have had relatively little impact downstream, failing dams located upstream of developed, populated areas could cause loss of life and millions of dollars in damage to property and the environment. 

# Environmental Excellence Takes Center Stage

## *Environmental awards recognize notable achievements*

The Texas Environmental Excellence Awards program was created by the Texas Legislature in 1993 to recognize Texas citizens, communities, businesses, and organizations for their environmental efforts. The annual awards spotlight outstanding achievements in environmental preservation and protection in a variety of categories.

The winners of the 2009 Texas Environmental Excellence Awards were announced at the agency's Environmental Trade Fair and Conference in May.



### **Individual**

#### **Cliff Etheredge, Roscoe**

In the small West Texas agricultural town of Roscoe, 45 miles west of Abilene, farmers have long considered the wind a nuisance because it dries out the land and kills the crops. Cliff Etheredge, however, had a vision of how to turn that nuisance into an asset.

Several years ago, Etheredge, a cotton farmer, noticed that wind turbines were springing up around Texas and wondered whether Roscoe could benefit from the burgeoning new industry of wind energy. After learning everything he could about wind energy, he was instrumental in convincing more than 350 landowners—representing nearly 100,000 acres—to get on board.

He then found a developer to build a wind farm and formed the Roscoe Landowners Association to negotiate contracts and wind leases with the developer.



When completed later this year, the Roscoe Wind Farm will be the largest wind farm in the world, with 627 turbines and a total capacity of 781.5 megawatts—enough power to supply 265,000 homes.

### **Agriculture**

#### **Texas AgriLife Extension Service, College Station**

Agricultural runoff containing nitrogen and phosphorus is one of several sources of pollution in the Arroyo Colorado, a 90-mile-long body of water that runs the length of the Rio Grande Valley. A soil testing program initiated by the Texas AgriLife Extension Service is helping to protect this important channel by reducing the amount of fertilizer that ends up in the Arroyo.

The Nutrient Management Education Program teaches growers in Cameron, Hidalgo, Starr, and Willacy counties how to collect samples for soil tests to determine how much fertilizer their soil really needs. The program also teaches proper fertilizer application and other conservation measures. To date, nitrogen fertilizer applications have been reduced by 3.3 million pounds and phosphorus fertilizer applications by 3.8 million pounds.



The growers who are putting these conservation principles into action are not only helping the environment, they are also benefiting financially, having reduced their fertilizer costs by anywhere from \$9.47 an acre to more than \$27 an acre.

### Civic/Nonprofit

#### Build San Antonio Green, San Antonio

Build San Antonio Green is helping to move the practice of building green into the mainstream of San Antonio. The program certifies water- and energy-efficient homes through a quality review process. It also educates builders, remodelers, and homeowners about the benefits of green homes.

By May of this year, Build San Antonio Green had certified almost 247 new homes, representing an annual energy savings of 1.51 gigawatt-hours, which reduces nitrogen oxides by 2,492 pounds. This is the equivalent of taking 125 light-duty vehicles off the road for one year.

Build San Antonio Green was also honored on a national level this year when it received the Green Building Program of the Year award from the National Association of Home Builders.

### Education

#### The Institute of Environmental and Human Health, Texas Tech University, Lubbock

The Institute of Environmental and Human Health (TIEHH) at Texas Tech University is ranked as one of the country's top environmental

toxicology graduate programs. State-of-the-art laboratories are housed in six buildings covering more than 150,000 square feet. Researchers have partnered with almost 20 federal agencies and some of America's leading manufacturers.

An important study of Caddo Lake conducted by TIEHH aided in the cleanup of the Naval Weapons Industrial Reserve Plant, the transfer of Department of Defense property to the U.S. Fish and Wildlife Service, and the establishment of the Caddo Lake National Wildlife Refuge.

In April, TIEHH opened the Nonwovens and Advanced Materials Laboratory, where scientists are working to develop new textile materials, such as the recently patented Fibertect chemical decontamination wipe. Made from a unique nonwoven fabric, the product can absorb liquid and vapor toxicants and can be used on both people and equipment.

### Government

#### Texas Department of Transportation

The Texas Department of Transportation has created a wide range of programs to address the state's environmental needs. Initiatives such as Bats 'N' Bridges and Don't Mess with Texas—as well as the agency's wildflower, wetlands preservation, alternative fuels, compost, and recycling programs—contribute to Texas communities with innovative approaches to conservation and beautification.

Roads are a major focus area for TxDOT. Over the past three years, the agency has reused more than 11 million tons of roadway materials. This

saves landfill space and reduces emissions generated by producing and transporting new materials. To further cut emissions, the agency replaced fossil-fuel-powered engines with solar-powered ones on 250 roadway signs.

Underscoring its commitment to help drive Texas toward a cleaner future, TxDOT leads by example. More than 4,400 employees have signed up for the Clean Air Plan, the agency's internal air quality program, which includes a list of 22 actions employees can take to reduce ozone emissions. In addition, TxDOT's own fleet has more than 3,300 vehicles that use either compressed natural gas or propane.

### Innovative Technology

#### Energy Transfer Technologies, Dallas

Moving natural gas across the state through pipelines requires significant amounts of energy, which has historically been provided by gas-fired engines. With the development of the ESelect Dual Drive, Energy Transfer Technologies is changing the way gas is delivered to market. The "dual drive" compression technology uses a combination of gas engines and electric motors to move the gas through the pipelines, drastically reducing both emissions and operating costs.



The ESelect Dual Drive allows compressors to switch between gas and electricity in response to changes in the demand for electricity. The compressors run mainly on electricity but switch to gas engines during peak demand times

to help avoid the need to add generating capacity. Each 1,500 horsepower dual drive running on electricity can represent as much as a 95 percent reduction in exhaust emissions, along with reductions in noise, waste oil, and coolant usage.

## Don't Miss Deadline for 2010 Awards

*Deadline is October 16, 2009, for 2010 Environmental Excellence Awards*

If you have been working to conserve, protect, or preserve the Texas environment, apply for the 2010 Texas Environmental Excellence Awards. The application deadline is Oct. 16, 2009.

Presented annually by the Governor of Texas and the TCEQ, the awards recognize outstanding and innovative environmental programs in 11 diverse categories:

Agriculture	Large Business, Nontechnical
Civic/Nonprofit	Large Business, Technical
Education	Small Business
Government	Water Conservation
Individual	Youth
Innovative Technology	

The Texas Environmental Excellence Awards are the highest distinction of environmental honor in the Lone Star State. They celebrate businesses, organizations, and individuals of all ages who are making a difference toward protecting Texas. The TCEQ will hold a banquet in Austin on May 5, 2010, to honor the award winners. Part of the Environmental Trade Fair and Conference, this celebration of environmental achievements is hosted by the TCEQ commissioners, with the special participation of Governor Rick Perry.

To download an application form or to apply online, go to [www.teea.org](http://www.teea.org). \*

### Large Business, Nontechnical

#### Kimberly-Clark Corp., Paris

Kimberly-Clark, home to some of the world's most recognizable products for the home and personal care, takes a serious stance on environmental responsibility.

With sustainability as a core value, the K-C plant in Paris, Texas, has been working to improve the environment through energy conservation, waste reduction, and a sustainable use of natural resources. K-C recycles 99 percent of its manufacturing waste, which amounts to 23,000 tons per year. Recycled items include off-spec diapers, training pants, cardboard, metal (including soda cans), pallets, drums, trim, stretch wrap, and poly dust. For the last seven years, process water has been treated and used for landscape irrigation or has been recycled back into the process-water stream, conserving roughly 24 million gallons.

### Large Business, Technical

#### Mars Snackfood US LLC, Waco

As a leading manufacturer of snack foods, Mars has billions of customers worldwide. Its Waco plant makes three of its major products: Snickers, Starburst, and Skittles.

Through an innovative production process, the company has found a way to lower fuel costs by using methane instead of natural gas. Two years ago, the Waco plant invested in new boiler



controls and instrumentation that would enable it to burn methane, which travels through a five-mile pipeline from the Waco Regional Landfill.

Landfill gas currently supplies nearly 50 percent of the plant's boiler fuel needs, saving the company \$600,000 per year in energy costs.

## Water Conservation

Boerne Independent School District, Boerne

Water is a cherished commodity to the Boerne Independent School District. An innovative rainwater harvesting system at the district's eco-friendly Champion High School is the first of its kind in the Texas public schools. Water captured from air-conditioning condensation, surface runoff, and roof runoff is stored in two elevated storage tanks and an underground stormwater pipe that is five feet in diameter and 800 feet in length.

This unique system, designed so that BISD can predict the amount of water it will need for athletic fields and landscape areas, can hold more than 224,000 gallons of water. The project has the potential of saving the school district an estimated \$48,000 per year, with officials predicting that it will pay for itself in less than five years.

Champion High School also uses the collection system as part of its science curriculum, giving students valuable hands-on training in environmental stewardship.

## Youth

Science Rocks U Wetlands

Youth Brigade, Whiteface

In the small town of Whiteface, 45 miles west of Lubbock, an inventive group of teens is teaching the community valuable

*The Texas Environmental Excellence Awards program was created by the Texas Legislature in 1993 to recognize Texas citizens, communities, businesses, and organizations for their environmental efforts.*

lessons about water conservation. Three years ago, as members of the Science Rocks U Wetlands Youth Brigade, the students began raising awareness about the Ogallala Aquifer and the unique wetlands that replenish it.

The Wetlands Youth Brigade calls their outreach project SPLASH, which stands for "Studying Playa Lakes and Saving Habitat." The students promote the importance of the aquifer through public seminars, school programs, festivals, brochures, and a music video.

The efforts of the group are starting to attract national attention. The students were invited to present at the U.S. Fish and Wildlife Service's first Youth Forum for the Environment. They are also currently organizing a National Wetlands Youth Brigade, and student groups from New Jersey and New Mexico have already joined.

## Gregg A. Cooke Memorial Award

Richard E. Greene, Arlington

Richard E. Greene, former five-term Arlington mayor and Environmental Protection Agency Region 6 administrator, is the recipient of the 2009 Gregg A.

Cooke Memorial Award for Exceptional Environmental Excellence.

As EPA regional administrator from 2003 until 2009, Greene was responsible for overseeing federal environmental programs in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. His time at the EPA was marked by tremendous challenges, which he met with strong leadership. His experience working with the different communities of the region was a valuable asset when leading the agency's response to hurricanes Katrina and Ike.

Greene is currently an adjunct professor at the School of Urban Affairs at the University of Texas at Arlington.

*Gregg A. Cooke, who passed away in 2006, served as EPA Region 6 administrator from 1998 to 2003. The TCEQ created a permanent award in his name to honor his tireless efforts on behalf of the environment.* 

# TCEQ Water Program Fees Increase

## *Fees secure funds for state water programs*

A package of revised TCEQ rules, designed to ensure that sufficient funds are available to cover the cost of TCEQ water-program activities in the state for the 2010–2011 biennium, went into effect on July 30, 2009.

The fees affected by the rule package are the Consolidated Water Quality Fee, paid by holders of wastewater discharge permits; the Public Health Service Fee, paid by public water systems; and the Water Use Assessment Fee, paid by holders of water rights.

**Why an Increase Was Necessary**  
General revenue appropriations to the TCEQ have declined from the \$51 million received in the 2004–2005 biennium. For the 2010–2011 biennium, the 81st Legislature appropriated \$9.4 million per year in general revenue to

support the TCEQ's existing water programs, which is equivalent to what was appropriated for the previous biennium. This leaves the agency with an \$18 million per year shortfall to fully fund its water-program activities at the appropriated amounts for the 2010–2011 biennium.

To address this shortfall, it was necessary to increase the revenues collected from water fees deposited to Water Resource Management Account 153. This account is the primary source of state funding for all of the agency's water programs. While revenue from existing fees deposited to Account 153 has remained stable, the demand for funding from the account has increased. As a result, the fund balance is almost depleted.

Account 153 supports a wide range of activities and programs, including

those related to water rights, storm water, public drinking water, Total Maximum Daily Load development, water utilities, wastewater, river compacts, water-availability modeling, water assessment, concentrated animal feeding operations, sludge, the Clean Rivers Program, and groundwater protection.

The fee increases will allow the agency to maintain these activities at basically the current level.

### **Selection of Fees**

The agency considered all of its water fees when determining how to best ensure that it could continue to carry out its water related programs beginning in fiscal year 2010.

The Consolidated Water Quality Fee, Public Health Service Fee, and Water Use Assessment Fee were selected because they are within the agency's direct authority to adjust without statutory changes; they generate a significant percentage of the revenue deposited to Account 153; their revenue stream is generally constant; and their payers constitute a broad segment of the state's population, including industry, large and small municipalities, public and private utilities, and the public, indirectly, through monthly utility bills.

The increase in the Water Use Assessment Fee will generate approximately

## **Payment Cycle**

The payment cycle will not change under the new rule package, with payment of fees due thirty days from the billing date.

The bills will be mailed as follows:

Public Health Service Fee:	Oct. 2009
Consolidated Water Quality Fee:	Nov. 2009
Water Use Assessment Fee:	Jan. 2010

For more information, visit [www.tceq.state.tx.us/goto/waterfees](http://www.tceq.state.tx.us/goto/waterfees).

# New Laws Address Agency Priorities *cont. from page 7*

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\$554,000 of the amount the agency needs to address the shortfall for the 2010–2011 biennium. The increase in the Consolidated Water Quality Fee will generate an additional \$3 million per year, and the increase in the Public Health Service Fee an additional \$15 million per year. To generate that \$15 million, the Public Health Service Fee will be assessed at \$2.15 per connection per year. For the average Texan, this amounts to 18 cents per month per household.

## Previous Fee Increases

The Consolidated Water Quality Fee has not been increased since it first became effective on Oct. 6, 2002.

The Public Health Service Fee was last amended in 2001 to the current flat fee or per-connection calculation. Systems paying a flat fee have not seen an increase since 2001. The formula for calculating the per-connection rate also has not changed since 2001. Fees for the public water systems that pay per connection have increased due only to system growth.

In 1992, the TCEQ began assessing a fee on holders of water rights. In 2001, this fee became known as the Water Use Assessment Fee. The last changes to the fee were implemented in 1994. ☀

## Water

### Senate Bill 1757

#### Medical Waste Disposal

To help ensure that unused pharmaceuticals do not enter a wastewater system, the TCEQ will conduct a study and submit recommendations to the Legislature regarding the methods currently used in Texas to safely handle and dispose of pharmaceuticals, medical sharps, and other potentially dangerous waste; alternative methods used for that purpose, including the methods used in other states; and the effects of the various methods on public health and the environment.

SB 361 addresses that concern by requiring an affected utility to ensure the emergency operation of its water system during an extended power outage as soon as safe and practicable following the occurrence of a natural disaster. In addition, an affected utility must adopt and submit to the TCEQ for review and approval an emergency preparedness plan that demonstrates the utility's ability to provide emergency operations.

An affected utility is defined as a retail public utility, exempt utility, or provider or conveyor of potable or raw water service that furnishes water service to more than one customer in a county with a population of 3.3 million or more or in a county with a population of 400,000 or more adjacent to a county with a population of 3.3 million or more.

## Fees

### House Bill 1433

#### Texas Water Code Statutory Cap

The statutory cap set in the Texas Water Code for the water use assessment fee and the consolidated water quality fee has been raised from \$75,000 to \$100,000. The cap can be raised annually, up to a maximum of \$150,000, to reflect the percentage change during the preceding year in the Consumer Price Index for All Urban Consumers.

## Agency Administration

### House Bill 3544

#### Electronic Means of Information Transmission

The TCEQ is authorized to use electronic means of transmission for information issued or sent by the agency. The law also provides exemption from non-disclosure of e-mail addresses submitted for the purpose of providing public comment or receiving notices, orders, or decisions. If public information exists in electronic or magnetic medium, then a copy may be requested in either medium. If the information cannot be provided in the requested medium, the TCEQ will provide a copy in another medium that is acceptable to the requester. ☀

## Utilities, Districts, and Authorities

### Senate Bill 361

#### Emergency Preparedness

In the aftermath of a natural disaster such as Hurricane Ike, the availability of drinking water and effective wastewater treatment is a concern.



[www.takecareoftexas.org](http://www.takecareoftexas.org)  
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# TCEQ Strike Team

*Ready to communicate in a crisis*

By Diana Barkley,  
TCEQ Agency Communications

When Hurricane Ike tore through Galveston and other Gulf Coast communities last year, the TCEQ Emergency Response Strike Team was ready for storm duty. This year, the team is again prepared to play a key role in coordinating and supporting communication systems during disasters and other emergencies.

In June, Strike Team members participated in a Department of Defense exercise at Camp Mabry in Austin. The exercise featured a mock hurricane five days before landfall. The goal: test radio interoperability and satellite communication systems among partners from local, state, and federal agencies, including the



military—in the immediate local area, within Texas, and out of state.

The TCEQ team was able to connect and share radio and satellite communications with partners at three Texas sites—Austin, Midland, and the Rio Grande Valley—as well as 17 out-of-state sites. Testing the reach of the system, the team was also able to communicate with the International Space Station.

As a result of the exercise, the DoD certified the TCEQ's system, giving the

agency access to the National Guard's satellite communications system.

"This provides us with a secure communications and support system with a high satellite bandwidth, which enables us to use video streaming, wireless video, and high-quality VoIP [Voice over Internet Protocol] to make phone calls through computer networks," says Kelly Crunk of the TCEQ Strike Team. "This also helps us support other agencies during an emergency situation." 