FALL 1996

Natural OUTLOOK

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

SECURING A WET FUTURE

Hard lessons of drought stimulate water planning and management efforts in Texas

The withering summer of 1996 may mark a turning point in Texans' attitude toward water. As dozens of communities dependent on dwindling rivers, lakes, and reservoirs scrambled to find emergency supplies, the finite and precious nature of the resource was repeatedly driven home.

The fact is—Texas is approaching a crossroads. With its population projected to double over the next 50 years, there is a growing emphasis in the public and private sectors on the need for creative and accelerated water supply planning and development.

Reinventing Water Management

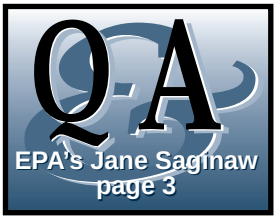
Across the Lone Star state, Texans are exploring diverse solutions and alternative water sources with renewed drive and focus.

In parts of Texas where water shortages are a fact of daily life or pose a future threat, options such as interbasin transfer of water are being pursued or considered, even in the face of entrenched opposition. More conservative approaches, such as the optimization of local supplies and improved reservoir operations, have also become a priority.

And although independent-minded Texans stiffen at the notion, the drought has again emphasized the importance of oversight through regional or local management of groundwater supplies, such as the system envisioned for the Edwards Aquifer Authority.

The tough lessons of the drought have reemphasized the urgency of long-range water planning. Timetables for action projected by the State Water Plan and the Trans-Texas Water Program are attracting serious attention from businesses, the public, and state leadership.

"Water is *the* quality-of-life and economic development issue of the future for Texas and states across this nation," said TNRCC Chairman Barry McBee. "Progress in addressing the state's water management and water supply issues will require innovation, as well as the courage to face up to some challenging, age-old issues."



Water Policy for Texas' Future

The Texas Natural Resource Conservation Commission (TNRCC), the Texas Water Development Board (TWDB), and the Texas Parks and Wildlife Department are in the process of reevaluating water supply and management needs in Texas.

Their reassessments will be spelled out in an updated State Water Plan that will be provided to the Legislature this fall.

These three agencies are jointly developing proposed regional plans in which the most cost-effective, environmentally sensitive strategies are pursued first. Their analyses will target water policy needs such as drought response management, criteria for approval of the interbasin transfer of water, the viability of privately owned water systems, and the conjunctive management of surface and groundwater supplies.

"The state should consider adopting a joint management approach for surface waters and groundwaters that are connected," McBee said. "Groundwater, which includes more than half of the state's water supply, will be a crucial factor in meeting the state's future water needs."

Another option under discussion is a property rights system for groundwater similar

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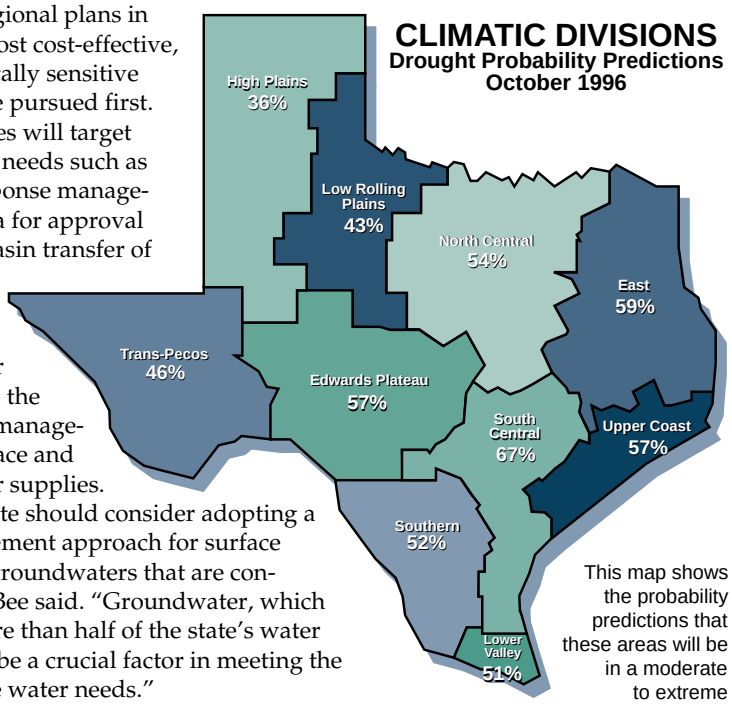

This map shows the probability predictions that these areas will be in a moderate to extreme drought through October 1996 according to PDSI ranges.

Data courtesy of the National Weather Service

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Looking Out for the Environment

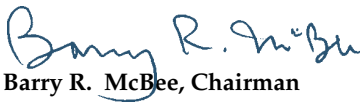
Welcome to the premiere issue of *Natural Outlook*. The idea for the publication developed last spring when the commissioners of the Texas Natural Resource Conservation Commission adopted nine principles to guide us in our mission of protecting the state's precious human and natural resources in a manner consistent with sustainable economic development.

The guiding principles call for promoting voluntary compliance and enhancing regulatory flexibility. They pledge us to base decisions on common sense and good science and to apply enforcement firmly, consistently, and equitably. The common thread that weaves these principles together is our dedication to public service.

To us, service means more than regulations, enforcement, and penalties. It means developing policies and programs that are respected for balance and fairness. It means achieving consensus on how to safeguard the environmental future of this great state. Service also means fostering meaningful public participation in decision-making. All those require keeping everyone informed of new developments in the Texas environment.

Natural Outlook will go a long way toward meeting that objective. It will augment the TNRCC programs that provide customer service, such as compliance assistance for small businesses and special help to prevent pollution. The publication shares the spotlight with our newest outreach effort, the Office of Public Assistance, which will provide a central point of access for public inquiries.

Natural Outlook is the next step in a continuing process to enhance public dialogue on environmental issues affecting all Texans. With reasoned debate, we can shape a system that protects all Texans' environmental and economic health.



Barry R. McBee, Chairman

Calling for Public Assistance

Every month, the TNRCC receives hundreds of calls from private citizens seeking information on permits and permitting.

To meet their needs, the Office of Public Assistance (OPA) opened in late September to provide a centralized clearinghouse for the public to contact with their permit-related questions.

"We want to serve the general public with staff highly skilled in communicating sometimes difficult information and to free up technical staff so they can spend more time doing the jobs they were hired to do," explained TNRCC Commissioner Ralph Marquez.

The duties of the former Ombudsman's Office have been absorbed into the OPA. Additionally, the Environmental Equity section has been transferred to the OPA but will maintain its identity. The section provides the assurance that all people have equal access and receive equitable benefits from the state's environmental regulatory system.

"The commission believes that the focus on Environmental Equity and the establishment of the new Office of Public Assistance will significantly further the agency's public participation goals," said TNRCC Chairman Barry McBee.

Environmental complaints will still be handled by regional offices because field staff must investigate the validity of the complaints.

Jody Henneke, OPA director, has built a veteran staff with a wide breadth of knowledge about the agency and particular expertise in the area of permitting processes.

"They are the type of employees who can handle citizen concerns and complaints with equanimity and a consistent service orientation," Henneke said.

An 800 number provides an easy point of access. Because of the many questions associated with permitting, the number will be published with all permit notices.

The toll-free number for the Office of Public Assistance is 1-800-687-4040. The staff can also be reached by mail at: TNRCC, Office of Public Assistance, MC-108, P.O. Box 13087, Austin, TX 78711-3087; or by fax at (512) 239-4007.

Q·A

Jane Saginaw: Regional Perspective

As the administrator of Region 6 for the Environmental Protection Agency, Jane N. Saginaw directs federal environmental programs in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. An honors graduate of the University of Texas Law School, Saginaw was previously a partner in the Dallas law firm of Baron & Budd.

Q This summer Congress passed the Safe Drinking Water Act legislation. What is its significance on the federal and state levels?

A The expanded right to know, where all citizens will receive consumer reports on the quality of their tap water, is very significant. The legislation also strengthens standards of public health so we can address the needs of special populations such as children and the elderly.

The legislation provides up to $9.6 billion through 2003 directly to states for communities to upgrade their drinking water systems. The money is yet to be appropriated, but it has been authorized. It is projected that there would be approximately $69.5 million for Texas, which will receive the second largest amount in the country.

Q Reflecting a national trend toward reinventing government, the EPA has initiated a number of programs such as Project XL and the Common Sense Initiative. What do you think will be achieved with these programs?

A These initiatives hold much promise for the next generation of environmental regulation. Project XL will implement alternative measures for compliance that lead to cheaper, cleaner environmental benefits, as well as smarter application of science and technology. Lucent Technologies in Mesquite is one of 13 sites participating nationwide.

In Texas City, Marathon Oil has volunteered to participate in the Common Sense program. The corporation is experimenting with putting all reporting requirements in one place, which creates information that is more accessible and understandable to the surrounding community.

Another reinvention initiative, the Environmental Leadership program, helps articulate and describe effective environmental protection leadership practices. Motorola's Oak Hill plant near Austin is one of the national sites. Corporate environmental leaders share traits such as executives who look beyond compliance as their goal and maintain aggressive programs for pollution prevention and source reduction.

Q Would you please explain the EPA's concerns with the Texas Environmental Audit Law?

A The audit aspect of the law is very good and is consistent with EPA policy. It includes self-reporting and self-correction, which both encourage compliance. What gives us pause are the privilege and immunity aspects of the law. (Editor's note: The Texas Audit Law provides privacy and legal immunity to companies that voluntarily self-disclose and offer to clean up sites.) In the privilege area, the government and the public must retain reasonable access to information to ensure compliance. Immunity raises issues about maintaining a level playing field among the states. A lawsuit recently filed by the Environmental Defense Fund is focusing added attention on these issues.

Jane N. Saginaw, EPA Regional Administrator

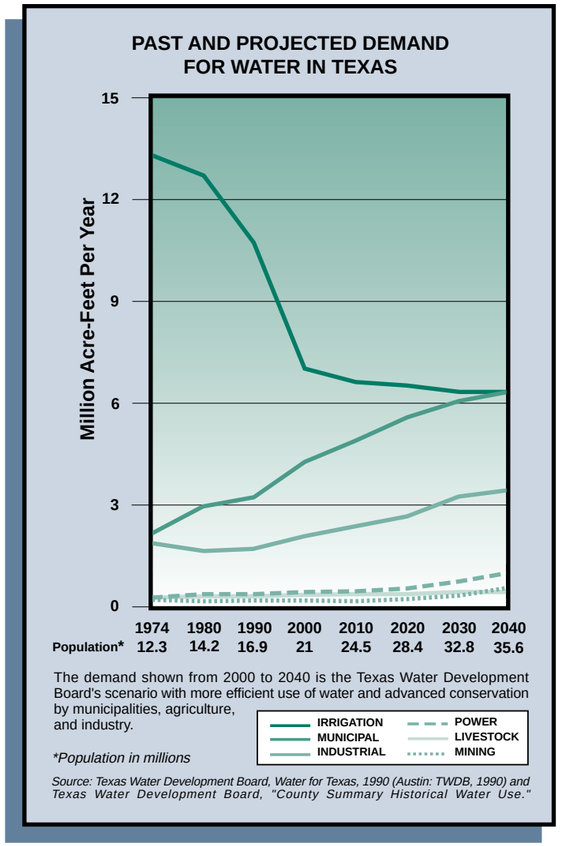
I've said on other occasions that philosophically the EPA and the state are coming at this from very different perspectives regarding privilege and immunity. We need to find a way to resolve these problems quickly and fairly so we can get on with it.

Q Texas has long sought to obtain delegation of the National Pollutant Discharge Elimination System program. What are the remaining obstacles to delegating it to the state?
(Editor's note: In mid-August, the TNRCC submitted an application for NPDES authorization to the EPA.)

A Privilege and immunity also come into play here. There are also long-standing questions and discussion with the state of Texas about public participation in the administrative and judicial

continued on page 7

"Today every state has sophisticated environmental agencies, and I think the TNRCC is a shining example in areas such as pollution prevention."



The demand shown from 2000 to 2040 is the Texas Water Development Board's scenario with more efficient use of water and advanced conservation by municipalities, agriculture, and industry.

*Population in millions

Source: Texas Water Development Board, Water for Texas, 1990 (Austin: TWDB, 1990) and Texas Water Development Board, "County Summary Historical Water Use."

"Water is *the* quality-of-life and economic development issue of the future for Texas and states across this nation."

Barry McBee,
TNRCC Chairman

MAKING EVERY DROP COUNT

continued from page 1

to that provided in oil and gas law. Such a "correlative rights" approach would vest land owners with better defined, real-property rights in groundwater that would bring market forces more to bear on the resource. At the same time, the system would place reasonable limits on groundwater use that consider the needs of all users.

Acknowledging that adequate water-related infrastructure is key to Texas' future growth and prosperity, the agencies are also reviewing the state's ability to assist regional and local governments at current levels of funding.

Water and the Economic Outlook

According to projections by the TWDB, some areas of the state that have enough water now will face shortages by 2030. Texas' water use for municipalities and industry will grow by 68 percent (with normal rainfall) to 88 percent (under dry conditions) through 2050. Although agricultural use is expected to decline, the additional demand from other sectors will be substantial.

Still, with current water supplies, coordinated regional planning, and advanced conservation, the overall Texas economy should have sufficient water resources to support growth well into the next century.

Eventually, however, water will become "a controlling factor on growth in the driest areas of the state if new water supplies are not put on line," said Craig Pedersen, TWDB executive director. "The provision of adequate water supplies for the future relies on proper management—including enforcement in water rights cases—and effective planning. States won't be equally successful in management and planning, which may affect their economies and ability to attract new enterprises over the long haul."

Craig Bell, executive director of the Western States Water Council, based in Midvale, Utah, notes that "so far there have not been severe economic dislocations because of water shortages in the West. In areas with very limited water resources, such as Nevada, decision makers are considering ways to manage growth without discouraging it."

Many western states, including Texas, have avoided economic problems related to water shortages by applying advanced conservation techniques and buying up water rights, Bell said. "For the time being, water transfers are keeping many high-growth areas from drying up," he said. "The growing trend is for municipalities to buy water from agricultural interests. How long that can go on is the big question."

Mary Miksa, a vice president at the Texas Association of Business and Chambers of Commerce, believes that the state's overall economic growth will not be curtailed in the short term but contends that action for the future is needed.

"The presence of adequate water supplies in many areas suggests there will not be significant impact on Texas' overall ability to attract new business and compete with other states," she said. "Long-term development will be affected, however, in those areas of the state where water availability is limited. We have already seen some impact on businesses above the Edwards Aquifer."

Although the effect of the drought has varied from region to region of the state, the revitalized search for better ways to manage water can be seen in every community.

Smarter, More Efficient Water Use

Two of the most compelling water management approaches advocated today in Texas are demand management and water marketing.

Demand management promotes efficient water use with measures such as modifying rate structures, reducing landscape water use, modifying plumbing and irrigation equipment, conducting educational programs, and metering.

Water marketing, which has been employed successfully in the Lower Rio Grande Valley, allows water to be transferred from willing sellers to willing buyers. The idea is that if owners of water being used for lower-valued uses are allowed to sell it at higher market prices, there will be a strong incentive to market and transfer that water to higher-valued uses.

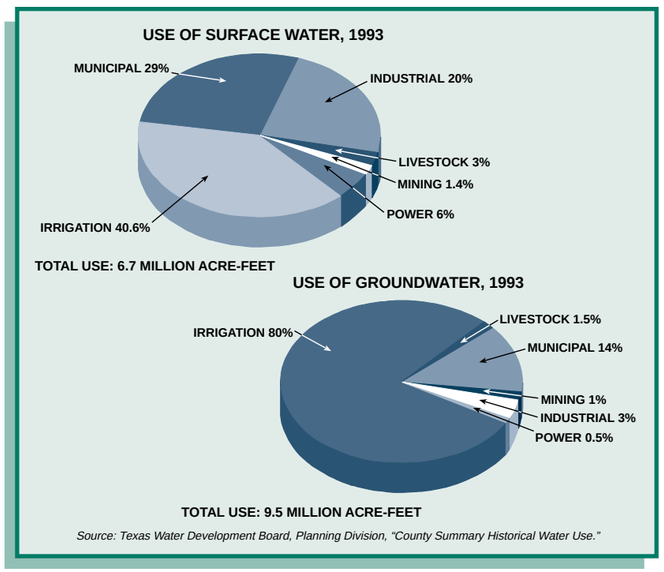
"For all the various approaches being examined, there is a consensus that conservation and efficient water use are the keys to all water management plans," said TNRCC Commissioner John Baker. "The common-sense, cost-effective approach is to optimize the yield of the existing water supply."

Working Together for a Wet Future

The spirit of consensus planning and public participation in efforts such as the Texas Water Plan reflects a trend toward collaboration and cooperation in water management.

During a drought, users and suppliers are more likely to develop an integrated, regional perspective, Baker said. "Small communities in particular will have to band together, perhaps looking to regional entities such as river authorities for supply."

TNRCC Commissioner Ralph Marquez believes that Texas faces formidable challenges in its efforts to resolve the varied, sometimes conflicting interests of stakeholders while providing for future water needs. "To avoid a stalemate and the subsequent costs to the environment, the economy, and society," he said, "we must be aggressive in our public information efforts and be willing to take the right course of action."



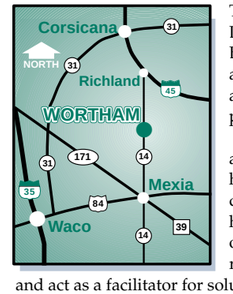
Source: Texas Water Development Board, Planning Division, "County Summary Historical Water Use."

PIPE DREAM

Quick Action Saves Town From Arid Fate

Wortham was good to the last drop. Earlier this summer, despite strict rationing, the town's sole water supply, Lake Wortham, was shriveling.

But the former oil boom town refused to give up. Residents met with a state drought assistance team from the TNRCC and the Texas Water Development Board that helped assess options and develop a plan.



"Wortham is an example of how during the drought we have had to put aside our routine regulatory role and act as a facilitator for solutions," said Steve Walden, manager of the TNRCC's Public Drinking Water Section.

The City of Corsicana agreed to sell water from its reservoir. The problem was how to transport it from the Navarro Mills Reservoir, some 20 miles north of Wortham, to 185-acre Wortham Lake.

The answer was found in an idled oil pipeline owned by the Chevron Pipeline Company. Chevron generously donated the use of the pipeline, as well as the equipment and labor.

The TNRCC tested the raw water before it started flowing into the lake to ensure that no contaminants were present.

In about 20 days, 60 million gallons of water filled Lake Wortham, providing a year's supply for the town.

"The state of Texas can provide technical expertise and expedite innovative approaches," said TNRCC Commissioner John Baker, "but there is no substitute for local initiative. We applaud Wortham and stand ready to help other communities help themselves."

Please visit the "Drought Information" web site on the TNRCC's home page. The Internet address is http://www.tnrcc.state.tx.us

Rational Cleanup
A Fresh Approach to Risk Reduction

The site of a former quarry in San Antonio seemed doomed to be a perpetual neighborhood eyesore. For decades, the Alamo Cement Company had dumped cement kiln dust on the acreage, rendering it unsafe for commercial or residential use.

A corporation seeking to reclaim the area for use as a golf course came to the TNRCC for approval of a plan to close the landfill in a manner that would be protective of human health and the environment.

Following a remediation engineering design created by the agency, the corporation capped the area with low-permeability, compacted clay and vegetation to keep water from reaching the contaminant and transporting it to groundwater sources.

The Quarry Golf Club, which was built on the site, is now rated one of the best public courses in the state.

The site was remediated using risk reduction rules, or risk-based corrective action, an approach that is making a significant impact around the state. Risk reduction provides standardized procedures for pollution cleanup and remediation using scientifically proven techniques. It is enabling small businesses and local governments to reclaim land formerly considered too expensive or too contaminated to clean up because of burdensome regulations. The risk-based goal is to clean up contaminated sites to the level where they pose no significant threat to human health or the environment for the intended use, whether it be residential, commercial, or industrial.

The risk-based approach has been used since 1992 at state Superfund sites and since 1994 at petroleum storage tank remediation sites.

Pulling together documents and expertise from those experiences, a team in the TNRCC's Office of Waste Management is now revising and integrating existing rules to create the Texas Risk Reduction Program. Their efforts are making Texas the first state to develop a comprehensive risk-based cleanup program with consistent standards that would be applied in every cleanup action where there is potential for harm to human health and the environment.

"Our goal is to develop a single program for evaluating hazards and implementing effective, protective, and rational cleanup strategies," said TNRCC Chairman Barry McBee. "The Texas Risk Reduction Program will provide a consistent standard that will allow Texas to focus on those contaminated sites that pose the greatest threat."

The risk-based approach is based partly on the premise that limited resources make it impossible to address every environmental problem.

"We all know that resources for remediating environmental contamination are strained," said TNRCC Commissioner Ralph Marquez. "This program, which will make risk management the basis for all cleanup actions in the state, will apportion those limited resources according to the amount of real risk presented by each particular site."

An additional program premise is that, given the constraints of limited budgets and other resources, some very low levels of risk are acceptable. It is rarely possible to return a contaminated site to pristine conditions without enormous capital outlay.

"The ultraconservative programs that require the removal of every last molecule of

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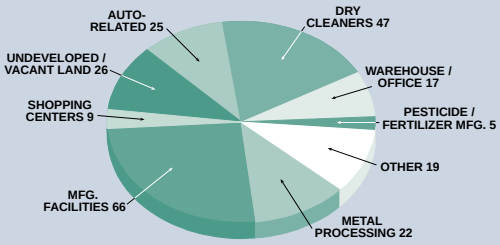
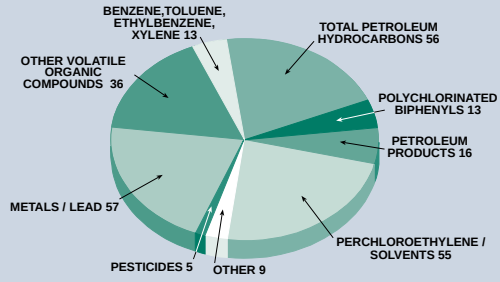
Voluntary Cleanup Revitalizes Land

Existing risk reduction rules have been applied successfully in the year-old Texas Voluntary Cleanup Program, which encourages the cleanup and revitalization of contaminated properties. These charts reflect the types of contaminants and facilities that will be remediated using the risk-based approach at 220 sites that were participants in the program as of August 1996.

Types of Facilities (220 Sites)



Contaminant Categories (220 Sites)



Source: Voluntary Cleanup Section, Office of Waste Management, TNRCC

contaminant have led to environmental and bureaucratic gridlock," said Chet Clarke, a manager in the TNRCC's Office of Waste Management. "That's why some businesses and industries have come to regard environmental regulations as a black hole."

These concepts have become increasingly popular among state and local officials who for decades have chafed under requirements to spend money on problems that they consider both low risk and low priority.

Consequently, in the 1990s, risk-related issues have risen to the top of environmental policy agendas nationwide and in many states.

In December or January, the rules proposed in Texas' new risk program are scheduled to be published in the Texas Register as part of a formal, public review process. The rules may be finalized early in the summer of 1997.

A major advantage of the Risk Reduction Program is that it gives the responsible party the flexibility to develop site-specific cleanup goals and performance-based remedial action plans. The procedures will both streamline the application and review process and speed the implementation of appropriate and cost-effective cleanup actions.

In developing the program, the TNRCC has solicited input from a wide cross section of its constituency.

The regulated community has generally responded favorably to initial drafts of the program, albeit with qualifications. Jon Fisher, a senior vice president at the Texas Chemical Council, a chemical industry trade association, calls it "one of the most ambitious risk reduction programs that this or any other agency has undertaken. We are committed to the development of a program that gives us a cleaner, safer environment." Fisher, however, challenged the TNRCC to develop a program that is "inherently flexible" to allow for the unique set of conditions at each cleanup site.

The response of the environmental community to risk reduction has also been generally positive, although concerns have been expressed about details in the TNRCC's program from groups such as the Lone Star chapter of the Sierra Club. The organization has criticized the document for revised definitions which they worry might water down remediation. Additionally, the club has expressed concerns that under the new rules, some existing sites may not get cleaned up as well as in the past, and some future sites might not get cleaned up at all.

Once the program is in place, Texas will be a step ahead of most states in taking a comprehensive approach to risk reduction, according to Gerald Carney, a toxicologist with the Environmental Protection Agency's regional Dallas office.

"The big picture is the best way to look at risk," he said. "If you only focus on water or air, for example, you miss some of the exposure pathways. Ultimately all states will adopt guidelines like those proposed by the TNRCC."

Saginaw *continued from page 3*

process. With that as background, I want to express my commitment to delegating programs to the states where appropriate. I believe the NPDES programs should be run by the states, but in a manner that is consistent nationwide.

Q Do you see the Environmental Protection Agency's role changing over the next few years?

A Today every state has sophisticated environmental agencies, and I think the TNRCC is a shining example in areas such as pollution prevention. I truly believe that the states now have the ability and the capacity to implement many of the national standards. Yet I also believe that it is the role of the EPA to have a strong enforcement presence and make sure that the playing field is level among all the states.

Q What have been the most satisfying aspects of serving as regional administrator?

A The most rewarding part of the job has been working with communities to reach collaborative solutions to environmental problems. One example is Corpus Christi, where we recently signed a flexible attainment agreement for maintaining air quality standards. The community was concerned that it might soon find itself out of attainment. So they took the bull by the horns. We have helped the city find a reasonable approach that the citizens support because they helped develop it.

PLANO COMES CLEAN

When the Plano city council introduced citywide recycling in the late 1980s, their initial motivation was to create a sound environmental program. In subsequent years the community was surprised to see it develop into a cost-effective method of solid waste disposal, with expanding markets for Plano's recyclables.

Plano has an impressive environmental record. Although population has grown nearly 17 percent during the past four years, the amount of residential waste destined for the landfill has decreased by more than one-third.

In 1994, the diversion of 19,261 tons saved taxpayers $402,818 in disposal costs. But their recycling program not only saved money—it earned money. Plano received $538,458 from the sale of recyclables, offsetting the cost of running their recycling program.

Success has made Plano a model member of CLEAN CITIES 2000, which provides recognition to local governments that develop programs to meet the CLEAN TEXAS 2000 goal of cutting waste in the state by 50 percent by the year 2000.

Current CLEAN CITIES 2000 membership includes 62 Texas cities that are reducing waste by composting, recycling, creating markets by buying recycled products, and collecting used oil and used tires.

"Education leads to wide participation, the key benefit of a successful CLEAN CITIES 2000 program," explained Andrea McCullough, Plano's environmental awareness administrator. "Citizens must understand a program before they buy into it."

The environmental efforts of cities such as Plano have been bolstered by the fact that recycling has become a big business. One sign of the growing economic significance of recycling is that the Chicago Board of Trade recently began trading recycled paper, plastic, and glass as commodities.

In Texas, companies that process and use recycled materials in manufacturing provide more than 20,000 local jobs. In recent years, Texas corporations have invested hundreds of millions of dollars in recycling processing and manufacturing.

The expanding market has helped boost interest in CLEAN CITIES 2000, said Andrew Neblett, director of the TNRCC's Office of Pollution Prevention and Recycling. "We work cooperatively with each city to develop a long-term, economically sustainable recycling program that will benefit each resident."

For information on the CLEAN CITIES 2000 program, call (512) 239-3156. To get a copy of the TNRCC's Market News, *a monthly newsletter that spotlights recycling market developments, contact the Recycling Market Development Program at (512) 239-6750.*

Private investment in recycling demonstrates the expansion of the recycling market in Texas. Overall, recycling manufacturing adds $2.8 billion in value to recycled products annually.

(source: Roy F. Weston Inc.)

These examples reflect investors' long-term commitment to the recycling industry:

- **Since 1993, Champion International has invested $100 million in constructing a de-inking mill for newspapers and magazines in Sheldon, as well as processing plants in Houston, Arlington, and San Antonio.**
- **This year Corrugated Services Inc. in Forney spent $67 million tripling the capacity of the company's mill that produces linerboard, paper used in corrugated cardboard boxes.**
- **Neches Fiber in Beaumont plans to break ground in late 1996 on an $85 million mill to produce de-inked pulp from office paper.**