VII. WATER POLICY

Current Issues

THE ISSUE

Water promises to be one of the most urgent, complex, and contentious issues for the 79th Texas Legislature. Demands of an expanding population compete with agricultural, industrial, and environmental needs for a plentiful water supply. While shortages have required some cities to transport water from distant sources over the past several years, there is more than sufficient water to meet the needs of all Texans today. However, water shortages could loom in the future if population growth fulfills expectations and drought constricts supply.

The State Water Plan proposes that future water needs be largely met by voluntary redistribution of water. The challenge is to find the means to redistribute water and to supplement this supply with emerging technologies, such as desalination. The high cost of redistribution and technologies have stimulated state government to expand public-private partnerships and private markets to help underwrite the cost. Now fundamental principles of state water law – state "ownership" of surface water, state regulation of ground water, prior appropriation, beneficial use, and rule of capture – must be reconfigured to meet the rapidly changing needs of Texans.

Although future water supply will largely depend on private sector engagement, at present the private sector is allowed a very restricted role in water production and distribution. Because ground and surface water are highly regulated, the current water debate focuses on the role of government. Policymakers ask if government regulation is the best way to protect public interest, determine fair water use, and protect the environment.

Some policymakers press to curtail private rights and increase government regulation to protect public interest and the environment against ruinous exploitation. Others press for the alternative to water regulation – water marketing – where supply and demand determine production, allocation, and use. Based on the experience of several western states, some policymakers believe water marketing is more effective than regulation in increasing water supply, conservation, and environmental protection. These policymakers propose strengthening private property rights for all water uses, making water rights freely transferable, and creating a legal system that will enforce these rights.

THE FACTS

- ☆ Texas' current population of 21 million is expected to double by 2050
- ☆ Texas has approximately 191,000 river miles flowing through 23 major river basins

- ★ Texas has 9 major and 20 minor aquifers
- ★ Texas is home to the Ogallala, the world's largest aquifer – it stretches across 8 states and underlies 174,000 square miles
- ★ Over half of the water Texans drink comes from aquifers
- ★ The average Dallas resident uses 250 gallons of water each day
- ★ Over three-quarters of irrigation comes from groundwater
- ★ By 2050, almost 50 percent of municipal demand for water may not be met if a drought occurs
- ★ Water development strategies proposed by regional water groups have a price tag of almost $18 billion
- ★ Texas needs 8 new major reservoirs and 10 minor reservoirs at a cost exceeding $4 billion, according to a report issued by the Texas Water Development Board
- ★ Almost 66 percent of future water needs will be met by voluntary redistribution
- ★ Almost 14 percent of future water needs could be met by water conservation measures

RECOMMENDATIONS

- ★ Strengthen private property rights
- ★ Make water rights freely transferable
- ★ Strengthen enforceability of private property rights
- ★ Allow individuals and associations to lease or purchase surface water from the state
- ★ Create a long-term plan for divesting the state of water ownership and regulation
- ★ Replace contested regulations with explicit legislation
- ★ Implement a long-term plan for water marketing to serve as the primary means of providing an adequate water supply for human, agricultural, industrial, and environmental needs
- ★ Transfer regulatory authority to local boards
- ★ Expand incentives for soil and water conservation
- ★ Focus state resources on serving as a clearinghouse for water marketing and banking, coordinating regional boards, providing scientific information, and proposing voluntary standards
- ★ Expand public-private partnerships for developing and delivering water
- ★ Encourage public utilities to privatize services

RESOURCE

- *Choppy Waters: Understanding The Challenges To Texas Water Policy* by Susan Combs, Katharine Armstrong, and Kathleen Hartnett White, Texas Public Policy Foundation, August 2004 (http://www.texaspolicy.com/pdf/2004-08-choopy-waters.pdf)

Desalination

THE ISSUE

Texas is now embarked on one of the most promising ways to meet future water needs – desalination of seawater. For decades, Texas has desalinated brackish ground and surface water, primarily for agricultural purposes, but no state, including Texas, is now using desalinated seawater. In late 2004, Florida is scheduled to open a major seawater desalination facility, the first in the nation, and California is now considering several major seawater desalination projects. If construction is completed as planned, Texas will open its first major seawater desalination plant on the Gulf Coast in 2006.

Although seawater desalination is new in the United States, it has been widely used throughout the world for decades. Many nations rely on seawater for drinking, agriculture, and industrial purposes. Water from seawater desalination is a reliable water supply that is becoming cost competitive.

The primary challenge of seawater desalination for Texas is financial; the costs of plant construction and delivery systems are prohibitively expensive for taxpayers. Texas has solved this problem by inviting the private sector into public-private partnerships, and privately owned companies are shouldering the larger share of responsibility for new seawater desalination plants. A secondary challenge for desalination is disposing brine in a way that does not harm the environment; for seawater desalination, this challenge is lessened because salt can be returned to the sea without adverse impact.

THE FACTS

- ☆ More than 10,000 desalination facilities are operating throughout the world today in over one hundred countries
- ☆ 20 percent of the world's desalination facilities are located in the United States – Saudi Arabia produces nearly 25 percent of the world's desalinated water
- ☆ Texas has more than 100 desalination plants operating today, using brackish ground or surface water to produce more than 40 million gallons of fresh water a day
- ☆ The first desalination facility in the nation to process saltwater is about to open in Tampa, Florida, and a facility is under construction in San Diego
- ☆ Texas plans to construct three seawater desalination plants on the Gulf Coast – Corpus Christi, Freeport, and Brownsville – the largest facility is expected to cost $226 million
- ☆ Cost of desalinating seawater has fallen from $6 per 1000 gallons in 1991 to less than $2 per 1000 gallons in 2004

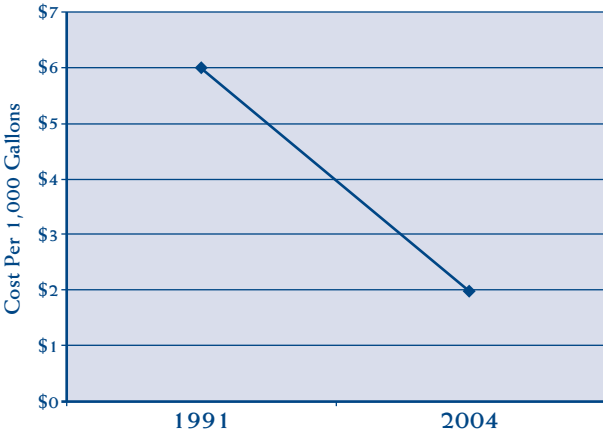
RECOMMENDATIONS

- ☆ Utilize desalination as one important alternative for Texas' future water supply
- ☆ Increase private sector involvement in desalination projects
- ☆ Strengthen contractual law to encourage public and private owners to engage in creative partnerships – designing, constructing, operating, maintaining, and financing desalination projects
- ☆ Identify environmentally safe methods of disposing brine

RESOURCE

- *Hold The Salt: The Promise Of Desalination For Texas* by James C. Smith, Texas Public Policy Foundation, September 2004 (http://www.texaspolicy.com/pdf/2004-10-desal.pdf)

The Cost Of Desalinating Seawater Is Falling



To compare:
1,000 gallons of Sparkletts drinking water cost $1,290

Water Transfer

THE ISSUE

Within the next 50 years, the population of Texas is expected to double. Finding sufficient water to meet rapidly growing demands presents a critical challenge for Texas policymakers. Both the 1997 and 2002 State Water Plans identify voluntary redistribution of water as one of the primary means to meet future water needs. Water transfer has been successfully used in Texas and throughout the American West to:

- ☆ provide water for growing cities, recreational purposes, and environmental needs;
- ☆ promote efficient water use and conservation;
- ☆ provide an alternative to reservoir construction; and
- ☆ encourage bargaining between divergent interests.

Cities, ranchers, farmers, and industries have been transferring water for decades. These transactions have proven that voluntary redistribution, instead of government-compelled reallocation and regulation, serves as the best means to meet growing water needs.

Private property rights must be strengthened and state regulatory burdens must be eased to encourage and expand efforts to transfer water from areas of surplus to areas of need.

Certain Texas laws and policies need rethinking.

- ☆ *Junior Water Rights*. Created in 1997 to discourage interbasin transfer, the junior water rights law makes rights to transferred water secondary to other rights in the basin. This rule makes ownership conditional on available supply; consequently, in times of water scarcity, purchasers of water have no rights to the water they purchase.
- ☆ *Regulatory Costs*. Regulatory requirements of the Texas Commission on Environmental Quality make small water transfers uneconomical. Although small transfers of 3,000 acre-feet have been determined to have no impact and are exempt from the junior water rights rule, the commission is required to subject small transfers to potentially expensive contested hearings.
- ☆ *Regulatory Brakes*. Groundwater districts exercise regulatory authority that acts as a chilling effect on water transfers. Districts have the authority to limit the amount of water that can be sold and can impose an export fee on transfers; they can also limit where water is transported and how it is used.
- ☆ *Legal Barriers to Private Sector Engagement*. Changing water needs require state law to allow the private sector a larger role in developing water sources, transporting water, and distributing water – particularly in municipalities.

THE FACTS

- ☆ Texans use about 16.5 million acre-feet of water annually
- ☆ Nine aquifers supply almost 97 percent of groundwater used in the state
- ☆ Groundwater accounts for about 60 percent of Texas usage

- ☆ Conservation districts cover 90 percent of groundwater in Texas
- ☆ 80 percent of groundwater is used for irrigation – municipal, industrial, mining, and livestock use accounts for the remaining 20 percent
- ☆ 65 percent of surface water is used for municipal and industrial purposes – irrigation only accounts for 35 percent of use
- ☆ Municipal and industrial use of water is expected to increase 5.4 million acre-feet annually and increase 28 percent over current use within the next 30 years
- ☆ Water transfer and marketing is now occurring in the Texas Panhandle, Far West Texas, the Lower Rio Grande Valley, and the Hill Country – Amarillo, Lubbock, and nine other Panhandle cities are pumping water from wells in rural areas
- ☆ 14 of the 16 Regional Planning Groups propose water transfer projects – groups propose transferring approximately 33 percent of Texas surface water and 25 percent of groundwater used today
- ☆ The Brazos Valley Water Alliance, a landowner cooperative, has accumulated 133,000 acres of land in Brazos, Burleson, and Milam counties and currently seeks a purchaser for its groundwater

RECOMMENDATIONS

- ☆ Reduce regulatory burden – allow transactions of less than 3,000 acre-feet to be exempt from the no-injury and contested case hearing rule if TCEQ determines there is minimal impact
- ☆ Eliminate the Junior Water Rights rule on interbasin transfers to strengthen private property rights and develop efficient water markets
- ☆ Remove legal barriers to private investment in providing surface and groundwater for municipal use
- ☆ Redefine the role of groundwater districts – restrict their authority to regulate private property rights to water and to limit the use of transferred water, and restrict their authority to impose export fees
- ☆ Provide specific authorization for local governments to contract with private entities for developing water sources, transporting water, and distributing water
- ☆ Examine the feasibility of developing a common carrier system to convey and transport water – regulating the conveyance system but allowing competing carriers within the piping network

RESOURCES

- *Solving The Texas Water Puzzle: Market-Based Allocation Of Water* by Ronald Kaiser, Texas Public Policy Foundation (Forthcoming 2005)
- *A Free Market Solution To Groundwater Allocation In Texas: A Critical Assessment Of The House Natural Resources Committee Interim Report On Groundwater* by Clay J. Landry, Texas Public Policy Foundation, December 2000 (http://www.texaspolicy.com/pdf/2000-12-01-environ-water.pdf)