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TEXAS LAND COMMISSIONER

Texas Water Facts

• Texas population is expected to double by the year 2050.

• The Texas Water Development Board estimates that Texas could experience a 35% water supply deficit by 2050.

• Caddo Lake is the State's only natural lake.

• Texas has over 191,000 miles of streams and rivers.

• There are 212 major reservoirs in Texas.

• There are seven major estuaries along the Texas coast contributing $2.5 billion per year to the state economy.

• Nine major and 20 minor aquifers have been identified within the state.

• Groundwater comprised 61% of the state's water supply in 1997, by 2050 groundwater will comprise 31% of the state's water supply.

The Patterson Plan for Texas Water

EXECUTIVE SUMMARY

The importance of water to the future viability of our state is undeniable. The availability of abundant clean water directly impacts the quality of life of all Texans. It is vital to economic growth, jobs, agriculture, fishing and tourism. Texas must comprehensively plan and manage its water resources so that our children and grandchildren can inherit a healthy economy, a clean environment and a bright future.

Traditionally, the Commissioner of the General Land Office's role in water issues was limited to water quality of bays and estuaries and coastal erosion. Senate Bill 2's designation of the Land Commissioner as one of the 11 members of the Texas Water Advisory Committee made the Land Commissioner a principle player in shaping water planning for future generations. This plan represents the guiding principles and specific policy proposals I will guide me as the next Texas Land Commissioner.

BACKGROUND

"Rule of Capture"

The common law "Rule of Capture" has governed Texas since the historic Texas Supreme Court ruling in 1904. Under the "Rule of Capture", a landowner can withdraw an unlimited amount of groundwater without incurring liability from an adjacent landowner. As the state's population continues to expand, water demand will also rise. The dynamics of the "Rule of Capture" create a special challenge in managing Texas groundwater. For landowners, the "Rule of Capture" makes it difficult to manage groundwater resources because while the landowner has "right" to their subsurface water, they don't actually own it until it is pumped and captured. Under the "Rule", landowners may be forced to "out-pump" each other to ensure that they have enough water to meet their needs. A "use it or lose it" mindset prevails under rule of capture. Such a system may actually encourage irresponsible groundwater pumping and have a negative impact on the state's water resources.

Senate Bill 1

Senate Bill 1 of the 75th Legislative Session represented a landmark in water planning for Texas. The bill mandated a "ground up" approach for water planning for the state, allowing local citizens and government officials to have a say in their water management decisions instead of having policies dictated to them by government officials in Austin. As called for by SB 1, over 450 local citizens and officials formulated 16 regional water management plans which were then used to build a comprehensive water plan for the state. Last December, the Texas Water Development Board (TWBD), in conjunction with these regional water planning groups and other state agencies, released the state Water Management Plan, *Water for Texas - 2002*.

Senate Bill 2

Senate Bill 2 of the 77th Legislative session built upon the efforts of SB1 by addressing implementation and financing strategies recommended by regional water plans in the state water plan. The Water Infrastructure Fund is administered by the Texas Water Development Board to provide funding for the implementation of water supply projects recommended through the state and regional water planning process. SB2 also established the Texas Water Advisory Council to advise the legislature on water policy initiatives. The Land Commissioner serves as one of the 11 members of the Council. Council Members include representatives from the Texas Natural Resource Conservation Commission, TWDB, Texas Parks and Wildlife, Texas Department of Agriculture, 3 State Representatives, 2 Senators and 3 Public Members (1 each to represent groundwater management, surface water management, and the environmental community).

GUIDING PRINCIPLES OF PATTERSON WATER PLAN

Local Control

Water planning should be left to local officials who best know the needs of their communities. The "ground-up" framework established by SB 1 for statewide water planning should not be altered. As Land Commissioner I will fight efforts to weaken the current water planning process by those wanting to consolidate more control in Austin. The Land Commissioner must respect the role of local water authorities.

Environmental Protection

All water planning efforts should consider the environmental impacts of various plans. Special attention should be given to the impact on downstream communities and habitats. The Land Commissioner must ensure that any new reservoir projects do not have a negative impact on our coastal bays and estuaries. Also, new reservoir projects must not contribute to coastal erosion by decreasing soil deposits from river outflows or reduce freshwater inflows to our bay and estuaries. Urban centers that have not implemented

substantial water conservation measures should have the lowest priority for resevoir construction.

Conservation

Texas cannot dam its way to water security. Austin, San Antonio, Corpus Christi and El Paso have made progress in water conservation while other urban areas lag behind. Water conservation and education efforts must be promoted to help ensure that our water resources are used wisely. Alternative strategies such as brush control, composting, rain water harvesting, and water re-use will play an important role in the state's water management activities.

New Technologies

Texas should embrace the latest desalination and water collection technologies to help increase water supplies, including desalination in non-coastal areas such as El Paso. Creative funding mechanisms, such as private activity bonds, should be studied and implemented. *Please see "desalination" under* ***Issues for Further Consideration***.

Water Rights

While the state maintains ownership of all surface water, it grants water rights to individuals or entities to use the water for beneficial purposes. While the entity does not own the water, it has the right to use it. State water policy should always recognize the right of the water rights holder while planning for the state's water needs. *Please see "water rights" under* ***Issues for Further Consideration***.

SPECIFIC PROPOSALS FOR PATTERSON WATER PLAN

I. Create a Water Advisory Committee to the Land Commissioner

As a permanent member of the Texas Water Advisory Council, the Land Commissioner will play a key role in helping the legislature and responsible agencies plan for our state's water needs. If elected, I will establish a GLO Water Advisory Committee to advise the GLO on water planning issues. The Group will consist of representatives from industry, natural resource groups, rural and municipal interests, agriculture, and water districts. Input from these groups and other citizens will help ensure that the policies proposed by the Land Commissioner have been adequately studied from all points of view.

II. Promote Water Conservation in GLO and on State Lands

A. Promote water conservation in state veterans loan programs

As Chairman of the Veteran's Land Board, the Land Commissioner should explore ways to further promote water conservation measures in the Veterans Home and Home Improvement loan programs. As Land Commissioner, I will work to establish additional loan incentives for veterans who use water conservation measures such as rain collection systems, drip irrigation, xeriscaping, and other water conservation measures.

B. Promote water conservation by state land leaseholders

The Texas Land Commissioner manages approximately 20 million acres of state land. Leaseholders on state lands have a responsibility to the taxpayers to take care of the land and its resources. As Land Commissioner, I will work toward establishing a comprehensive state land water conservation program in the Land Office which would mandate leaseholders to implement water conservation and brush control measures and participate in water re-use programs when utilizing state land and resources.

Brush control is the active removal of noxious brush like juniper, mesquite, salt cedar and other species which use water to a degree detrimental to water conservation. Currently, the Texas Soil and Water Conservation Board is spearheading brush control procedures and evaluation. Based on several studies, it is estimated proper brush control in a given area can potentially yield over 100,000 gallons per acre per year in deep drainage water for that area. As Land Commissioner I will work to establish brush control and water reuse programs on state owned lands.

C. Explore feasibility of rainwater harvesting on state land

Rainwater harvesting is the time-tested procedure of capturing rainwater runoff and storing it in cisterns or other containers. As Land Commissioner I will instruct GLO staff to explore the feasibility of rainwater harvesting projects on state lands and facilities. Study will include the possibility that water collected from rainwater harvesting could then be used at these facilities or sold to water supply companies or municipalities.

CONCLUSION

The General Land Office can play a vital role in promoting water conservation and planning for our state's water needs. There is no "silver bullet" that will address all Texas' water challenges, but utilizing a combination of conservation and development strategies will allow the state to address its long-term water needs, position itself for economic growth and maintain our current quality of life for all its citizens.

Water Issues for Further Consideration

These issues are presented as topics of discussion only. As the next Land Commissioner, I will examine the following issues in depth before reaching any policy conclusions.

State Water Program

The General Land Office should study the feasibility of leasing state lands for the pumping of groundwater where groundwater management districts are in place. Building upon the success of the State Power Program, which I proposed in 1997 and was successfully implemented by Commissioner Dewhurst, the agency could take advantage of available groundwater under state lands by leasing the lands to water supply companies and municipalities. Water could then be sold to school districts or other governmental entities at a discount as a reward for implementing conservation measures. The royalties paid to the state for the groundwater will add new dollars to the Permanent School Fund. Under this kind of State Water Program, the Permanent School Fund will realize additional revenues while school districts will save money on their water bills.

Pros

Leasing of state lands for groundwater pumping could bring additional needed dollars to the Permanent School Fund. School districts could also realize savings on their water bills by receiving delivered water at a discount.

Cons

The remote locations of state lands may make delivery of groundwater infeasible. Additionally, many of the state's lands are in drought-prone areas of the state. The availability of groundwater sources may be in question. Special consideration will need to be given to agricultural users and any pumping of water on state lands must follow local groundwater management district rules.

"Rule of Capture"

It is time that the state look closely at the "Rule of Capture" as the law of the land concerning the pumping and capture of ground water. The following are the leading approaches for the management of groundwater resources.

Rule of Capture: Unitization

Adopting an approach similar to that of oil and natural gas rights holders. Unitization of underground water will allow landowners the ability to pool their groundwater resources and split revenues and manage the groundwater for the good of the unitized groundwater field.

Pros

Groundwater ownership rights would be granted to surface land owners. Landowners could pool resources to allow the management and marketing of groundwater for the good of the group. Transaction cost of harvesting groundwater could be shared among the landowners. Additionally, by treating the groundwater as a single source rather than multiple sources divided by property line, pumping cost and extraction rates could be optimized.

Cons

Currently, unitization is voluntary, meaning that all property owners would have to volunteer to be unitized. Under unitization, all landowners must agree to participate. If a single landowner refuses, the field cannot be unitized and therefore the benefits cannot be realized. The unitization model was specifically designed for landowners intending to extract underground resources for offsite usage. It does not address extraction for personal or agriculture uses.

Rule of Capture: Yield-Stock Rights

Yield-Stock Rights allows the apportionment of groundwater rights to land owners in two ways. First, by assigning rights to a proportion of the aquifer's annual recharge rate. Second, by assigning rights to a percentage of the aquifer's storage. Initial groundwater allocation is based upon an individual's historic water use over a period of time.

Pros

Yield-Stock Rights utilize a "private property rights" approach to groundwater management. Because groundwater would become a private property right, land owners would be protected in case a neighbor began pumping of groundwater at an excessive rate that caused neighboring wells to become dry. Water could be traded or sold like mineral rights. Assigning value to water enables the free market to regulate its usage. The government would be responsible for enforcing pumping limits and dispute resolution

Cons

The initial allocation of water rights will be complicated and controversial. The government, most likely groundwater districts, will be placed in the position of enforcing pumping rights. During drought conditions, water rights may need to be limited to protect natural resources, thus necessitating pumpage restrictions. The apportionment of groundwater rights would favor those who have historically used large amounts of groundwater without regard to land surface area. Yield stock Rights do not address environmental issues and aquifer sustainability.

Rule of Capture: Proportional Rights

Proportional Rights allocate groundwater rights based upon the annual safe yield of the aquifer. This approach is designed to ensure that the aquifer maintains a safe level while utilizing market forces similar to the Yield-Stock model. However, water rights are apportioned every year and would fluctuate based upon the aquifer's yield. Rights would be allocated based upon a priority date system. Such a system would employ senior and junior water rights similar to surface water rights employed today. In drought years, junior water rights-holders could buy water rights to make up shortfall.

Pros

Proportional rights take a limited free market approach to water management allowing rights-holders to manage their water how they see fit. Maintaining a minimum aquifer yield would protect valuable natural resources. This would ensure that the aquifer is not over-pumped.

Cons

The Proportional Rights approach does not consider historical water usage in the same way as the Yield-Stock model. Setting a minimal aquifer yield may adversely impact economic growth and historical uses by agriculture interests. Farmers could be forced to buy water from other sources rather than pumping from under their property. Farmers may be put out of business.

Desalination

Desalination is the process of removing salt from seawater. Desalination is used around the world and provides water to many arid regions of the world, most notably Saudi Arabia. Texas should explore creative means to employ this technology to address the state's water needs. As the value of water increases, desalination approaches economic viability -- particularly when done in conjunction with another industrial process.

Pros

Texas has a vast coastline that would enable the state to construct desalination plants in close proximity to large population and agriculture centers. Utilizing seawater would reduce the state's reliance on groundwater thus protecting valuable natural resources. Desalination could help mitigate the need for additional surface water reservoirs and the negative environmental impacts associated with them.

Cons

Desalination plants are expensive to construct and maintain. Transport of desalinated seawater inland would require hundreds of miles of new pipelines creating additional expense. Also, salt solids can be a disposal problem, particularly in bays and estuaries.

Water Treaties

According to the Texas Department of Agriculture, the Rio Grande Valley lost an estimated $500 million due to drought and Mexico's failure to release amounts of water previously agreed upon. Mexico is estimated to be 1.5 million acre-feet in arrears. The Federal government is responsible for entering and enforcing all international treaties. The treaty signed between the United States and Mexico in 1944 allotted the Unites States 1/3 of the water from six tributaries that flow into the Rio Grande River. Since 1992, Mexico has fallen into arrears 450 billion gallons of water. Texas Farmers in the Lower Rio Grande Valley depend on these releases to irrigate crops. Mexico's failure to honor its treaty obligations has been especially devastating to Texas farmers due to the drought conditions of the past decade. While Mexico recently released 1.5 million gallons, it is far behind in its water debt to the United States.

Texas and its citizens should not be punished for the federal government's lack of success enforcing this treaty. Some have proposed that the United States should abrogate then renegotiate the 1944 treaty in hopes that Texas would receive more water than it currently is receiving. A potential pitfall in this approach is that Texas would relinquish its current negotiating strength and could end up receiving less water under a new treaty than it is currently entitled. Another option is for the federal government to grant South Texas some economic relief caused by Mexico's refusal to release the water as required by the treaty. This relief would be in the form of grants to Rio Grande Valley communities to repair water infrastructure and implement conservation projects. These options and others should be fully explored to ensure that South Texas receives the water it needs to sustain its economic viability.