Conference Proceedings

"Water and the Future of Rural Texas"

Austin, Texas
Lady Bird Wildflower Center
March 30, 2001

TCPS
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FOR POLICY STUDIES

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"It is imperative that we address this task with our eyes open and our minds clear. We must provide long-term solutions that benefit everyone, rather than quick fixes that benefit one sector of the economy and cause irreparable harm to another.."

Sen. David Bernsen

"Until we can find the mechanism to establish and insert the true value of fish and wildlife and rural values into the equation, and until we can convince urban people about these values – we'll always be on the short end of the stick."

Dr. Larry McKinney

Water and the Future of Rural Texas
Finding Common Ground

Introduction

The Texas Center for Policy Studies (TCSP) organized a conference entitled *Water and the Future of Rural Texas* on March 30, 2001 in Austin at the Lady Bird Johnson Wildflower Center. The goal of the conference was to explore the role of water management policy in preserving the viability of Texas rural communities and the state's natural heritage. These issues have taken on particular urgency as the regional water planning groups and the state begin to explore how to meet growing urban demands for water. The conference was one means of exploring how urban water needs can be met without undermining the future of rural Texas and without damaging our natural heritage.

The conference agenda included three paneled discussions involving distinguished speakers from diverse backgrounds. The panel topics included water and rural life, water for fish and wildlife, and water marketing and groundwater management. We were also honored to have three additional speakers who shared their knowledge and experience in working with water related issues: The Honorable David Counts, Chair of the House Committee on Natural Resources, Dr. Larry MacDonnell, president of Stewardship Initiatives of Colorado, and the Honorable Susan Combs, the Texas Commissioner of Agriculture. The wide range of speakers and the diversity of the almost 200 people that attended are attributable to the collaboration and support of the conference co-sponsors which included:

Texas Association of Regional Councils	Texas Alliance of Groundwater Districts
Sportsmen Conservationists of Texas	Hill Country Groundwater Alliance
Texas Rural Communities	Lone Star Chapter of the Sierra Club
Christian Life Commission	National Wildlife Federation
Independent Cattlemen's Association	Environmental Defense
Texas Rural Development Council	Texas Wildlife Association

This conference is the first of three annual TCPS sponsored events that will focus on water issues in the state. This effort is made possible through the generous support of the following contributors: The Houston Endowment, Inc, The Meadows Foundation, The Jacob and Terese Hershey Foundation, and the Magnolia Charitable Trust.

Welcoming Remarks

The Honorable David Counts, Chair of the Texas House Committee on Natural Resources, said he believed the state is moving along admirably on water issues. He congratulated the conference organizers and sponsors for bringing together rural and environmental interests to discuss their common issues.

Retrospective and Conference Purpose

An appropriate question to start the day with was "What is Rural Texas?" *Mary E. Kelly*, Director of the Texas Center for Policy Studies, opened up the conference by defining rural Texas as a place that has less than 20 percent of the state's population, but constitutes 90 percent of the land. Rural Texas is the setting for the farms and ranches that help feed the state. Rural lands also include our best remaining fish and wildlife habitats, contain many of our most important aquifer recharge zones, and provide sanctuary to the rich cultural heritage that makes Texas proudly unique.

Kelly explained how rural Texas is currently undergoing major transitions--demographically, economically, and socially. The growing urbanization and sub-urbanization of Texas – accompanied by an expanding population – presents major implications for the viability and future of rural Texas communities. One of the most important impacts could be the availability and quality of rural water supplies.

Panel Discussion: Water and Rural Life

Panel Members

Tom Beard, Rancher and President, Leoncita Cattle Company, Chair, Far West Texas Regional Water Planning Group

Terri Morgan, Director, Special Projects and Environmental Justice, Christian Life Commission

State Senator David Bernsen, Beaumont, Member, Senate Natural Resources Committee

Melinda Taylor, Program Manager, Environmental Defense

Moderator *Robert Potts*, Executive Director, The Nature Conservancy of Texas

Tom Beard spoke from the perspective of a 6th generation rancher who wants his daughter to be able to carry on the tradition. For Beard, resource sustainability is very important in making this family tradition possible. Beard explained that landowners and environmentalists often have the same goals, and walk the same paths. Sometimes they see through different glasses, but often, old adversaries make the best allies. He spoke of the negative aspects of mining a resource such as water (taking more water out of the aquifer than can be recharged, ultimately leading to its depletion.) He observed that Texas' "rule of capture" might lead to the death of rural Texas.

Terri Morgan expressed her concern that water management is at a critical juncture and suggested that we cannot leave the issues to another generation to solve. She talked

about the loss of family ranches and farms and how in many cases the decline of small-scale agriculture is driven by human decisions, or value biases that can be changed. If rural communities are to succeed, the policy makers must consider the value that rural communities and farming and ranching hold for society as a whole.

Melinda Taylor opened with a quote from Winston Churchill, "there are no permanent enemies, just permanent interests." She expressed her concern of the likelihood that rural families will feel the brunt of development in the coming years. Taylor suggested three areas where people could work together. Promoting policies that encourage demand side solutions with conservation coming first; secondly, looking for ways to modify the "rule of capture"; and lastly elevating the importance of instream flows to sustain fish and wildlife.

State Senator David Bernsen shared his concerns about the state of the water laws in Texas. He outlined the importance of farming and ranching in the state, and how these activities have survived many hardships. Our most difficult task in recent years has been providing water to the growing economy and growing population. He spoke of his involvement in the legislative debate over the status of junior water rights provisions, and the establishment and strengthening of groundwater districts. He also spoke of the need to create a comprehensive water plan that incorporates new technology, such as desalination, that would benefit all users.

Subsequent to the individual presentations, the panel discussed a range of issues including the changing attitudes in Texas regarding water, potential changes in the governing laws, and potential problems of treating water as a commodity. All panelists agreed that there is definitely a heightened awareness of water issues in the rural areas of the state. On the topic of water laws, several of the panelists repeated their concern that the law governing groundwater in the state-- the "rule of capture"--needs to be modified. There was also some concern that Senate Bill 2--the water bill currently in debate in the Legislature--could weaken groundwater districts, which, since the 1940s, have been empowered by the state to manage groundwater on a local basis.

Panelists also discussed the need to better understand available resources in the river basins. This would involve studies, using the best science possible, on how to minimize environmental impacts of increased water demand. The panel agreed that it was important not to build additional infrastructure before we know what the effects will be on rural lands and the environment. There was consensus that we could do some things now instead of adding additional water supply infrastructure. For example, repairing existing infrastructure (20 % of water losses is attributable to water distribution system losses), exploring aggressive conservation measures and pricing mechanisms, and/or providing incentives for population centers to conserve.

There was also a discussion of economic development activities and how it might be sensible to develop strategies that support the development of better job markets in smaller towns. This, in turn, might help alleviate some of the pressures caused by urban population concentration.

The panel touched on the subject of water marketing. Concerns about water marketing stemmed from the fact that it creates a price-driven market where rural communities and interests would loose out to the larger cities. There is also the ethical issue of water as a common good that we all hold and share. The fact that marketing water might potentially be a useful tool under certain scenarios, and within certain limitations, was discussed. Panelists suggested that protecting the sustainability of aquifers, not treating water like just another commodity, and taking into account rural and environmental considerations, might help make water marketing workable.

Panel Discussion: Water for Fish and Wildlife

Panel Members

Joseph Fitzsimons, San Pedro Ranch, Carrizo Springs, Member, Governor's Task Force on Conservation
Ted Eubanks, President, Fermata, Inc.
Myron Hess, Legal Counsel, National Wildlife Federation
Michael Davidson, Co-founder, Far Flung Adventures

Moderator *Larry McKinney*, Senior Director, Aquatic Resources, Texas Parks and Wildlife Department

Joe Fitzsimons observed that the conservation community, the agricultural interests, and residents of rural Texas are on the same side when it comes to protection of the state's water resources. Wildlife is occurring on the same land as farming and ranching, but that fact has been ignored by the Texas Water Development Board and the Regional Water Planning Groups: the word wildlife did not appear in any of the water planning groups' recommendations. He also suggested that the Texas Water Code should be amended to take wildlife into account. Fitzsimons believes the state must recognize wildlife management as a beneficial use of water. Prior to revamping the state's water policy, there is a need to remove some of the disincentives in the laws that prevent current water management from recognizing the needs of wildlife. Fitzsimons noted that the Governor's Task Force on Conservation made recommendations regarding adequate quantity and quality of water to support both land and water ecosystems. In addition, the Task Force recommended that the Texas Water Code be amended to better recognize in-

stream flows as critical water for the long-term maintenance of fish and wildlife resources, and provided specific strategy recommendations that promote agricultural water uses that also benefit wildlife.

Regarding the state water plan (Senate Bill 1), Fitzsimons said that before we talk about moving water to where it's needed in the future, there is a need to talk about where it's needed now. For now, Fitzsimons believes we need to encourage local control of water. Fitzsimons said he is not against water marketing, he believes it could be a friend of rural Texas as long as there is full cost accounting that includes environmental costs.

Ted Eubanks observed that ecology is the economics of nature, and that economics is the ecology of man. He went on to say that the common theme for all rural communities is their vulnerability. We are losing rural communities by attrition; it is a national crisis. He believes that what is at risk is our natural patrimony, our natural heritage. According to Eubanks, rural communities are faced with an immediate need for economic diversification, and that resource-based tourism is a viable economic approach. Most of these resource-based activities depend on water e.g., fishing, canoeing, hunting, kayaking, etc. But most often, water that could fuel economic diversification is not specifically appropriated for this purpose. He noted that we do not know the current value or the potential value of water related recreation. This lack of knowledge shows that we have not seriously considered resource-based tourism as an economic approach to help our rural communities survive. Eubanks believes we should look for concurrent or complementary uses of water; for example, water treatment facilities, playa lakes, stock ponds that can serve as habitats for birds and other wildlife and lead to resource-based tourism.

Myron Hess agreed with Joe Fitzsimons that fish and wildlife resources have been totally ignored by the Texas regulatory system. When the water regulatory system was developed back in the late 1800s, there were no stakeholders advocating for fish and wildlife, so those uses of water were not generally recognized. Though most of the water in Texas has been permitted, many water rights are not being used. For Hess, there is a need to analyze what water *is* available to protect wildlife resources. Hess also commented about the shortcomings of the SB 1 (State Water Plan) planning process. This process, too, has failed to take into account the needs of fish and wildlife resources. If the state is going to do a comprehensive water plan, we have to plan for <u>all</u> the needs. If we do not do this, we will not have plans we can rely on. Hess sees that with the current water planning process we have a unique opportunity to address fish and wildlife needs.

Michael Davidson remarked that water creates value wherever it is, whether it's used or not. Water even has value on paper. Maintaining the flow of the river has value in and of itself because it creates fish and wildlife habitat. As water becomes more expensive, every drop will have to be assessed in order to create the most value possible from that volume. An example of possible multi-valued use is the release of waters in a river system for agriculture needs coinciding with recreational interests, thereby increasing the value. He noted that agriculture uses water with little incentives to conserve, because if farmers and ranchers do not use it, they might not get their water allotment the next year. The public trust doctrine says "the state as sovereign owes to its citizens the duty to protect public resources." Davidson believes that this doctrine should be extended to include groundwater.

During the discussion period, questions were asked about the effects of population growth. One of the panelists remarked that population distribution is one issue since Texas' population is concentrated in a few major metropolitan areas. But, for many, the issue is how to make the rural community a viable community that attracts people. If we shift water out of the rural areas, we can't go back there.

Dr. Larry McKinney ended the session by expressing his view that until we can find the mechanism to establish and insert the true value of fish and wildlife as well as rural values into the water planning equation and into water law, and until we can convince urban people the value of fish and wildlife and rural communities, we'll always be on the short end of the stick and we can't afford it----we must come up with a solution.

The post-luncheon speaker was Dr. Larry McDonnell, President of Stewardship Initiatives based in Boulder Colorado.

McDonnell observed that Texas was actually further along in the discussion of water planning issues than other western states. He noted that with their populations concentrated in urban areas, the transformation of and pressure on rural areas in western states is increasing dramatically. This also reflects the changing nature of the economies of these states. Every place has the same set of options for water management open to them. Water development (pipelines, reservoirs) is one way to manage water needs, but it is also the most expensive option. Because of the nature of urban economies, water development remains at the top of the wish list for urban residents. Water marketing also has become an option with its pluses and minuses. The best water marketing practice is to have the system run by the water user community. Water banks are also a good water management strategy; with water banks, you can make a portion of available water to users through leasing mechanisms. This brings money back into the system for reinvestment and improvement. Water conservation has now become a core expectation, and, for McDonnell, the best solution, though pricing is hard to define. McDonnell believes we are going to need every option available to us.

McDonnell noted that the conservationists participating in this conference do share rural values. But he questioned who is the repository for what urbanites care about? Subdivisions have zero natural environments; when urbanites talk about wanting a good

environment, they are really talking about somewhere else. Urbanites do value open spaces, farmlands, and undeveloped parts of the state, so we must convince them to invest in rural land being maintained for us by landowners. The rural landscape is the watershed for all of us who live in the cities. Therefore, it is important for urbanites to support such programs as the Conservation Reserve Program, which paid farmers to take erodible cropland out of production, and the Wetlands Restoration Program, which helps create riparian buffers. These programs and similar state programs are investments in the rural landscape.

Panel Discussion: Water Marketing and Groundwater Management

Panelists

Ron Kaiser, Professor, Institute of Renewable Resources, Texas A&M University
Stovy Bowlin, General Manager, BS/EACD
Ken Kramer, Director, Lone Star Chapter of the Sierra Club
Ron Gertson, Rice Farmer, Wharton County, Member, Region K Water Planning Group

Moderator *Mark Macleod*, Economist Environmental Defense

Ron Kaiser noted that since most of the water in Texas rivers is spoken for (i.e. appropriated), reallocating water, or moving it around creates a tense situation. Kaiser gave a brief overview of water marketing, including some of the benefits and drawbacks. In some markets, it is the water, and not the right, that is transferred. This can be done through dry-year option leases, subordinations, conservation transfers, and water ranching. The key players in the market include the public, river authorities, water districts, cities, and private interests. Benefits of water marketing can include providing water to growing cities; serving as a tool for drought management and promoting efficient water use and water conservation. The current population growth and increasing urban demands, among other things, are driving the water market in the state. Lastly Kaiser gave an overview of some of the currently evolving issues which included the sale of treated effluent, interbasin transfer restrictions, the sale of conserved water, third party impacts, environmental water needs, and the role of water banks.

Stovy Bowlin began by stating that all groundwater challenges are opportunities in disguise. He explained that the two primary concerns with groundwater are quality and quantity. In discussing quantity, he used the Edwards Aquifer as an example. With the new production limits on the Edwards aquifer, water rights are becoming a marketable commodity, with the scarcity of the resource driving the price. He pointed out that the quantity of groundwater also affects the quality of groundwater. Bowlin pointed to the population growth of Hays and Comal counties, where the population is expected to double over the next 25 years and then double again in 2030.

Ken Kramer outlined three key points on water marketing. He said that there is a great deal of ambivalence towards water marketing, and there are often misunderstandings. People most often think of physical water transfers, but Kramer explained that there are also ramifications for the environment, including the potential loss of instream flows in the basin of origin. Second, he pointed out that marketing should be based on a true need for the water and should be judged on a case-by-case basis. With water marketing strategies, there should be rational management, including conservation, efficient use, and demand management. These strategies should be in place and extensively used before any water marketing is considered. Third, Kramer warned the audience to be skeptical of marketing schemes that move water long distances. He went on to talk about how even the limited authority of the groundwater districts was now in jeopardy in the legislature, and that we "have no rational policy toward groundwater in Texas." We say groundwater districts are the best way to manage groundwater but, on the other hand, we don't give them the authority to do so effectively.

Ron Gertson opened his remarks by explaining how the rice industry is part of a unique ecosystem that provides hundreds of thousands of man-made wetlands along the gulf coast, serving as habitat for waterfowl and other species. He brought up the point that the rice industry on the coast is often accused of using more than their fare share of water (1 million acre-feet annually), but explained how the industry is making efforts to improve efficiency. He shared his concern that water marketing threatens to reverse the movement of water running downhill by making it run "uphill" to money. Water marketing will possibly negatively affect rural communities that support our agriculture. He said that if marketing took into account environmental and quality of life values, then it would be workable, but in absence of this, we need local regulatory control. State water policies should force innovation rather than simply meeting needs. Gertson offered an example of regional sharing between Regional Water Planning Groups K and L, which calls for major water saving technology in rice farming in order to be able to transfer agriculture water to San Antonio to meet municipal needs. He understands the environmental community's apprehensions with this proposal because it could potentially scalp floodwaters which would normally go to in-stream flow. He believes however, that the proposed project is an innovative solution to future water supply problems.

The questions and answers covered some of the issues surrounding water marketing. Given that water marketing is a free market system, it does not take into account needs other than that of the buyer and seller. This is the type of transaction that the "rule of capture" promotes. If water transfers occur, there should be more than the two main parties involved. Water dealings need to be more transparent and open. A benefit of creating a water market is that in an open

market, the public has the opportunity to impose restrictions and establish the framework for the transactions.

Closing Remarks: The Honorable Texas Commissioner of Agriculture, Susan Combs.

Combs began her remarks by pointing out that all economic activity follows water. For example, in 1998 we had a terrible drought. The state lost $5.5 billion in cash receipts from agriculture. One of Combs' concerns is that the voice of rural Texans has been greatly reduced. Eighty-six percent of the population of Texas lives in cities, and only 1.9 percent of the population is involved with production agriculture. Under legislative redistricting, the voice of rural residents will most likely be further diminished. Combs believes that if we are to be successful in managing our water resources, we cannot have a rural versus urban mind set. If rural Texas dies off, eventually urban Texas will feel it.

The issue of water ranching (that is pumping the aquifer to transfer water from the rural areas to the urban areas) presents some serious issues for rural residents. Taking all the water from rural Texas is not sustainable. We should not have a public policy that encourages the transfer of water from wherever it is to elsewhere. What will happen if you kill off all of Texas west of IH-35?

Combs believes that we should follow the lead of other countries which have been using grey water, desalination, and cloud seeding. For Combs, conservation is also very important.

In response to questions from the audience, Combs suggested that Purchase of Development Rights (a program whereby landowners – usually a farmer or rancher – voluntarily sells conservation easements to a government agency or private conservation organization) was not only a great idea for land, but also for water. She also remarked that brush control was very successful in recapturing water lost to salt cedar and other brush. She also stated that Texas must ensure that our bays and estuaries are receiving enough fresh water flow, and that we should look to promoting agricultural crops that do not require a great deal of water.

Definitions

Beneficial use is defined as using the amount of water that is economically necessary for an authorized purpose, when reasonable intelligence and diligence are used in applying the water to that purpose (Texas Water Code (TWC) § 11.002 (4)).

The Texas Legislature in 1949 authorized the establishment of **Groundwater Conservation Districts** and groundwater management areas. The legislature designated groundwater conservation districts as the tool to conserve and protect groundwater resources of the state. Groundwater districts do not provide water or wastewater services; their main purpose is to manage groundwater. Districts are organized along county lines or along aquifer boundaries. Individual districts are legislatively given varying levels of authority from limiting groundwater withdraws (overriding the "rule of capture") to the taxing and permitting of water wells.

In general, **instream use** is defined as the use of state water for fisheries, water quality protection, aquatic and riparian wildlife habitat, freshwater inflows for bays and estuaries, and any other similar use of water. Instream use is not currently defined in the Texas Water Code, though it is defined in TNRCC regulations.

Prior appropriation is the principle that governs surface water use in the state. In Texas, surface water is publicly owned—a property of the state. Before using surface water, a municipality, corporation or individual must apply for a permit from the Texas Natural Resource Conservation Commission. The prior appropriation principle is based on who received the water permit first (senior water rights vs. junior water rights).

Rule of Capture is the governing doctrine for the use of groundwater in the state. Under Texas law, groundwater is privately owned and controlled by the owner of the land overlying the aquifer. The "rule of capture" allows landowners to withdraw unlimited amounts of water under their land, and use it or sell it.

Sustainability as it refers to groundwater means maintaining a balance of the resource and not withdrawing more water from the aquifer than is recharged.

Senate Bill 1 (SB 1) was enacted by the Texas Legislature in 1997. It establishes the framework for the regional water planning effort currently taking place in Texas. The state was divided into 16 regions and a Regional Water Planning Group (RWPG) was created for each region. Over the last 4 years, each RWPG developed a plan to provide for the water needs of its region for the next 50 years. All 16 regional plans were submitted to the Texas Water Development Board in January 2001. The Board is currently reviewing the regional plans and will incorporate these into a state-wide plan by January 2002. The regional plans and the state-wide plan will be updated and modified on a five-year planning cycle. See www.twdb.state.tx.us for additional information about the regional water planning process.

The proposed **Senate Bill 2** (SB 2) was introduced in the January, 2001 session of the Texas Legislature. SB 2 addresses many important water management issues that cannot be fully delineated here. To review the bill, see www.capitol.state.tx.us. You might also wish to contact the Texas Center for Policy Studies in Austin at 512.474.0811 for further information.

The **Texas Water Bank** was established and is currently managed by the Texas Water Development Board in order to facilitate water transactions and to provide sources of adequate water supplies for use within the State of Texas (TWC § 15.702). See www.twdb.state.tx.us/assistance/WaterBank/waterbankMain.htm for additional information.

The **Texas Water Trust** was established within the Texas Water Bank to hold water rights dedicated to environmental needs, including instream flows, water quality, fish and wildlife habitat, or bay and estuary inflows (TWC § 15.7031(a)). See www.twdb.state.tx.us/assistance/WaterBank/waterbankMain.htm for additional information.

Additional Resources

The Governor's Task Force on Conservation produced the report ***Taking Care of Texas***. This report summarizes the Task Force's in-depth look into the issues surrounding the future of conservation and outdoor recreation in the state. It can be viewed on-line at www.tpwd.state.tx.us.

Rural Texas in Transition, Texas Comptroller of Public Accounts, Strategic Research Division. This report is available on-line at www.window.state.tx.us, or by calling 800.531.5441.

House Select Committee on Rural Development, Texas House of Representatives, Interim Report 2000. This report is available on-line at www.house.state.tx.us/house/commit/reports/ruralsct.pdf.

Topics for the 77th Legislature, Focus Report, House Research Organization, December 12, 2000. This report is available on-line at www.capitol.state.tx.us/hrofr/hrofr.htm, or by calling 512.463.0752.

Managing Groundwater for Texas' Future Growth, Focus Report, House Research Organization, March 23, 2000. This report is available on-line at www.capitol.state.tx.us/hrofr/hrofr.htm, or by calling 512.463.0752.

Reprint

For Texas Now, Water and Not Oil Is Liquid Gold

April 16, 2001
By Jim Yardley
New York Times

MIAMI, Texas - The dirt road winds through the gray hills of T. Boone Pickens's sprawling Mesa Vista Ranch when an unlikely swath of green grass appears like an emerald in a sandbox. It is a lushly irrigated two-hole golf course, a playpen for a wealthy man, and a reminder that beneath this bleak, isolated terrain lies one of the prime untapped reserves of water in Texas.

And Mr. Pickens, the former oilman and corporate raider whose takeover bids once struck terror in boardrooms, has more in mind for the Mesa Vista than golf. At a time when nearly every major city in Texas is desperate for more water to meet runaway population growth, Mr. Pickens is proposing to pump tens of billions of gallons to the highest bidder.

"Water is the lifeblood of West Texas," said Mr. Pickens, 72, who is courting Fort Worth, Dallas, San Antonio and El Paso as potential customers and estimates that a deal could reap $1 billion. "They've got to get it somewhere."

For decades the gold beneath the ground in Texas was oil. But if oil built modern Texas, water is now needed to sustain it.

Water has become so valuable that a complicated scramble is under way for the rights to underground aquifers, reminiscent of the days when "land men," among them a young George W. Bush, solicited rural landowners to drill for oil. There are even "water ranches" popping up around the state.

The unanswered question is whether all this activity will skew who gets water and who does not in the future, or influence how much it will cost. In many parts of the country, water is considered a life-sustaining public resource. So there are already public policy concerns about whether pumping water for profit could threaten supply in some areas. Rural officials fear that large cities could simply outbid them in a profit-driven market. And Texas law offers few restrictions; groundwater is considered private property, and any landowner can pump the water out even if it leaves neighbors high and dry.

"You're going to devastate a large part of the state of Texas," said Tom Beard, a rancher who said he feared that arid West Texas could be pumped dry by water ranches owned by distant cities. "I'm not sure we can afford to treat water like cotton or cattle. And certainly not like oil. The approach to oil was to pump it up, use it up and do something else. We can't do that with water."

Throughout the country, drought and population growth have placed a premium on water. Such demand is amplified in Texas after four droughts in five years. The state's population is 20.8 million, second only to California's, and demographers predict that it will double in 50 years. Already, El Paso must find new sources of water or it could run out in 20 years. The Rio Grande, a primary water source for counties along the Mexican border, is so dry that this month it failed for the first time in 50 years to reach the Gulf of Mexico, stopping 50 feet short.

Until now, Texas has largely avoided the contentious political fights over water familiar to Western states like Arizona. But the Texas Legislature is considering a sweeping piece of legislation known as Senate Bill 2 that could determine how water is regulated and what is done to meet demand in the state for the next half-century. Regional water planning groups have proposed $17 billion in public works projects, conservation efforts and irrigation improvements. Lawmakers say it could cost at least $80 billion to upgrade the state's aging municipal water systems.

The political debate is complicated. Environmentalists want more conservation and tougher regulation, as opposed to new dams and aggressive pumping of groundwater. There are the competing demands of agriculture and urban areas. There are also differing needs and climates in the state's various regions, some of which depend on reservoirs and other surface sources while others depend on underground aquifers. The divide is starkly rural versus urban, particularly over who should have priority in times of drought when a water source is shared.

A major sticking point in planning is the difficulty in passing taxes to pay for any major water projects. Legislators have already stripped Senate Bill 2 of a tax increase on water and sewer bills that would have raised several hundred million dollars a year.

This lack of political will is one reason some lawmakers say water marketing - essentially allowing private companies to sell and move water like electricity - is the best solution.

"We can't pay for all of it - the state," said State Senator J. E. Brown, the influential Republican who is sponsoring the water legislation and who favors encouraging private efforts. "Either you've got to let the price of water go up, or we're going to have to collect fees."

State Senator David E. Bernsen, a Democrat who represents Beaumont, agreed that a fund-raising mechanism was needed for future water projects. But he warned of the potential consequences of privatization in a state where nearly 55 percent of the population depends on groundwater for drinking.

"It's kind of like the golden rule: those with the gold make the rules," Mr. Bernsen said. "If individuals like T. Boone Pickens are going to control groundwater, and water is already more valuable than oil, then they will set the economic policy for where Texas is going to grow. And that is a dangerous situation."

Here in Miami (pronounced my- AM-uh), which is tucked in a remote stretch of the Texas Panhandle, the equivalent of a water rush has been under way for more than year, though no major pumping has begun. Roberts County, which includes Miami, has fewer than 1,000 people and is hardly affluent. An acre of land costs only $250 because the rugged terrain makes farming difficult at best. But it does sit atop a mostly untouched section of the immense Ogallala Aquifer, which stretches as far north as South Dakota.

On a recent Saturday afternoon, about 60 ranchers in dusty jeans gathered inside the Roberts County Courthouse as Mr. Pickens explained the latest developments in his deal. One rancher had already signed a contract to sell water to Amarillo. Another group was looking for a customer to lease water rights on 190,000 acres. The regional Canadian River Municipal Water Authority, which provides water for much of the Panhandle, will next month become the first to actually start pumping in Roberts County.

The flurry of activity can be traced to both profit and fear. While there is water farming in most Western states, the level of regulation is relatively tight. In Texas, all surface water is considered public, while groundwater is private. Under the "rule of capture" in Texas law, a landowner can pump without regard for his neighbors. This can create a race to pump water before the aquifer goes dry, particularly with so much demand for it.

"All of us in the back of our minds are asking, `Is this the right thing to do?' " said Salem Abraham, the landowner who made the deal to sell water to Amarillo, albeit not for 25 years. "But you know you've got to do it or you'll get zero."

The safeguards to protect groundwater are local conservation districts, though their ability to restrict the pumping and export of water is limited. For example, Mr. Pickens's plan calls for building a pipeline and pumping enough water for a million people a year. Panhandle Ground Water Conservation District No. 3, which oversees Roberts County, initially tried to cut that volume in half. But Mr. Pickens prevented reduction by arguing that his proposed pumping level was the same as that already granted to the Canadian River authority, and that by law he should be treated equally.

C. E. Williams, manager of the conservation district, said the district's current policy allowed a landowner to pump the equivalent of 326,000 gallons annually for every acre. The Canadian River project controls 43,000 acres. Mr. Pickens controls 150,000 acres and is looking for 50,000 more, meaning that he could conceivably pump more than 60 billion gallons of water a year.

"We haven't ever seen any huge projects like this," Mr. Williams said, adding that the district could suspend pumping of all projects if the aquifer shows signs of undue depletion. "So it's kind of a fear of the unknown. If we make a mistake on this one, we affect generations to come for a long time. That's what makes me lay awake at night."

Mr. Pickens said his project would not endanger the aquifer. He noted that his proposal represented only a fraction of the amount of water already pumped by farmers in the Panhandle (more than 80 percent of the groundwater pumped in Texas is for agriculture). He also called his decision to sell a protective measure to ensure that the Canadian River authority's deal did not pump the water from beneath his land.

"When you hear people say Boone Pickens is going to turn Roberts County into a Dust Bowl," he told the ranchers, "well, that's wrong. We're never going to be without water."

That is a matter of debate. Mr. Pickens's projections, which jibe with estimates by the local water district, show that his project would reduce the water in Roberts and three surrounding counties by 50 percent over the next 100 years. But state statistics show that the section of the Ogallala beneath the entire Panhandle is very stressed. There is little rainfall, and at the current consumption rate the Ogallala could be depleted in Texas in 70 years.

These sorts of regional water wars are percolating across Texas. El Paso has angered rural ranchers by buying or leasing several water ranches for possible future pumping. A private company, Metropolitan Water, is actively leasing water rights across central Texas. There are scores of such deals being cut or discussed. In response, at least 40 localities are asking the Legislature to create new groundwater districts.

"People are going after groundwater because it's a lot quicker and cheaper than having to develop a reservoir project, which can take 30 years," said Paul Sugg, a government liaison with the Texas Association of Counties, which represents all 254 Texas counties.

Mr. Sugg said some farmers in West Texas were talking about forming co-ops to sell water rights and, as a result, stop farming.

"What happens to land values, to local and regional economies that are often based on agriculture?" Mr. Sugg asked. "What happens to the tractor dealer and the local car dealer when a farmer says, `Heck, I can make more money selling my water and stopping farming'?"