

The Senate Select Committee on Water Policy



**Interim Report
to the 79th Legislature**

December 2004

SENATE SELECT COMMITTEE ON WATER POLICY

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December 13, 2004

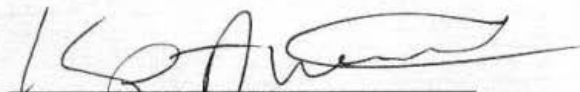
The Honorable David Dewhurst
Lieutenant Governor of Texas
Members of the Texas Senate
Texas State Capitol
Austin, Texas 78701

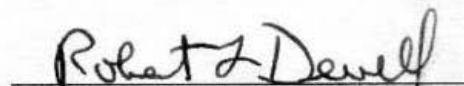
Dear Governor Dewhurst and Fellow Members:


The Senate Select Committee on Water Policy of the Seventy-Eighth Legislature hereby submits its interim report including findings and recommendations for consideration by the Seventy-Ninth Legislature.

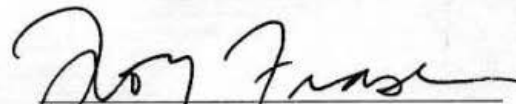
Respectfully submitted,

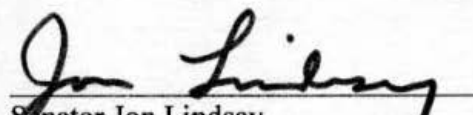

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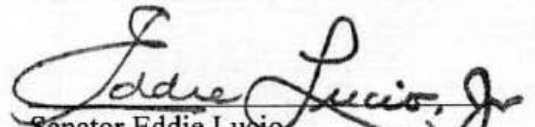

Senator Kip Averitt

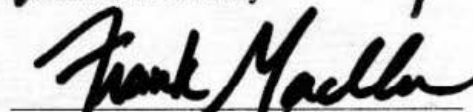

Senator Robert F. Deuell

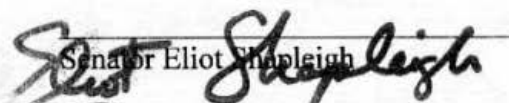

Senator Robert Duncan

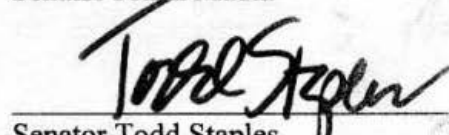

Senator Troy Fraser

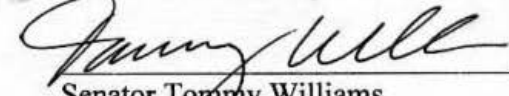

Senator Jon Lindsay


Senator Eddie Lucio


Senator Frank Madla


Senator Eliot Shapleigh


Senator Todd Staples


Senator Tommy Williams



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INTERIM CHARGE

The Committee shall:

1. Study all issues related to ground and surface water law, policy and management, including, but not limited to:
 - the role of federal, state, regional and local governments, and their coordination in setting consistent, nondiscriminatory water policies;
 - the authority of the Texas Commission on Environmental Quality (TCEQ) as it relates to water contracts;
 - the role of the Edwards Aquifer Authority;
 - the role of groundwater conservation districts;
 - regional water planning process;
 - conjunctive use of both ground and surface water resources;
 - rule of capture;
 - historic use standards;
 - water infrastructure and financing,
 - interbasin transfers;
 - junior water rights;
 - conservation;
 - water quality standards;
 - drought preparedness; and
 - water marketing.

2. Subcommittee on the Lease of State Water Rights: Study proposals to lease permanent school fund and permanent university lands and their water rights for the purposes of developing and marketing water.
 - Analyze the present and future effects of such proposals on local aquifers, historic stream flows, local underground water conservation districts, and other public and private water interests.
 - Study the process by which the General Land Office considers proposals to lease state water rights, including methodology for holding open meetings, obtaining public input, meeting competitive bidding requirements, and coordination with TCEQ and other governmental units with possible regulatory oversight.
 - Study and evaluate the current and future value of water rights that may be leased to private entities, including the value to state, residential and commercial interests.

3. Monitor the three on-going demonstration desalination projects by the Texas Water Development Board as one step toward securing an abundant water supply to meet Texas' future water supply needs. Study regulatory barriers that impair cost effectiveness of desalination (coastal and brackish) and how to facilitate use of this water source by municipalities

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INTERIM CHARGE NO. 1 -- REPORT AND RECOMMENDATIONS

The **Senate Select Committee on Water Policy** (Select Committee) conducted public hearings in Austin, El Paso, San Antonio, Victoria, Conroe, Waco, Lubbock and Brownsville, Texas. (See *Appendix A. for Select Committee Hearings - Postings, Agendas, Minutes and Witness Lists*).

Just as surface water and groundwater are linked together in the hydrogeologic cycle, all of the interim water charges are also interrelated. However, during the Select Committee's discourse, as well as the nature of the extensive testimony at the state-wide hearings, the issues organized into three major topics, with subcategories as indicated:

- 1. Groundwater Issues**
 - 1.1. Rule of Capture
 - 1.2. Role of Groundwater Conservation Districts
 - 1.3. Historic Use Standards
 - 1.4. Role of the Edwards Aquifer Authority

- 2. Surface Water Issues**
 - 2.1. Interbasin Transfers and Junior Water Rights

- 3. Conjunctive Management/Statewide Water Issues**
 - 3.1. Regional Water Planning Process
 - 3.2. Conjunctive Use of Both Surface and Groundwater Resources
 - 3.3. Water Marketing
 - 3.4. Water Infrastructure and Financing
 - 3.5. Water Conservation

Based on its findings and deliberations, the Senate Select Committee on Water Policy submits to the 79th Texas Legislature this report identifying general policy recommendations, with alternative legislative options for more specific policy development. *NOTE: The alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.*

- 1. GROUNDWATER ISSUES**
 - 1.1. Rule of Capture
 - 1.2. Role of Groundwater Conservation Districts
 - 1.3. Historic Use Standards
 - 1.4. Role of the Edwards Aquifer Authority

Recommendation 1.1. Rule of Capture

Clarify appropriateness of Rule of Capture Doctrine (as currently "modified" within Groundwater Conservation Districts) or an alternative judicial doctrine for groundwater in Texas.

In 1904, the Texas Supreme Court adopted the Rule of Capture. *Houston & Texas Central Railroad Co. v. East*, 81 S.W. 79 (Tex. 1904). This judicial doctrine, as applied to water well use, allows landowners to

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pump all the groundwater they can capture, without liability to neighboring landowners, even if the pumping interferes with the neighbor's use of groundwater.

Alternative judicial doctrines used in other states to govern groundwater resource management include; Prior Appropriation Doctrine; Reasonable Use Doctrine; Correlative Rights Doctrine; and the Restatement of Torts (2nd) approach. (See Appendix B. "The Rule of Capture in Texas, Ground Water Law in Other States, and Options for Changes to the Rule of Capture")

Existing Modification of Rule of Capture

Currently, the Rule of Capture is modified, to varying degrees, within local groundwater conservation districts (GWCDs) because GWCDs can regulate groundwater production through measures such as permitting limits on production or well spacing. (See Appendix C. "Overview of Regulatory Methods Available to GWCDs")

1.1. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Explicitly retain the Rule of Capture Doctrine for Texas (as currently modified within GWCDs), and reaffirm the State's policy that local groundwater conservation districts are the preferred method for managing the groundwater resources in Texas.
- Further modify the Rule of Capture to address specific issues, such as legislatively adopting a domestic well protection rule that subjects liability on an owner of a high-capacity, non-domestic well if the well interferes with a domestic-use well.
- Require GWCDs to adopt the management goal of "aquifer sustainability," with some exceptions, (for the Ogallala and certain other aquifers) to be achieved through strategies such as annual caps on pumping such that annual withdrawals may not exceed average annual recharge; or a flexible annual pumping cap that can fluctuate with rainfall-related recharge.
- Expressly, legislatively abandon the Rule of Capture doctrine and adopt one or a combination of the four alternative judicial doctrines based on more modern developments of law and more flexible systems better attuned to scientific knowledge and advancements.
- In recognition that the Rule of Capture, though appropriate in the past when Texas had abundant water supply relative to water demand, could now, however, result in some rural areas being reduced to 'water source areas' to support urban/industrial growth - replace Rule of Capture with a doctrine that could ensure more equitable groundwater management, such as the Correlative Rights Doctrine.

Recommendation 1.2. Role of Groundwater Conservation Districts

Consider legislative changes to improve the effectiveness of, and provide greater support for, groundwater conservation districts (GWCDs).

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The Select Committee determined that GWCDs, generally, are considered to be effectively and judiciously exercising their statutory powers and duties to manage the State's groundwater resources. (See Appendix D. "Summary of TCEQ's Current Authority Over Groundwater Conservation Districts")

However, the committee identified certain, specific concerns that might benefit from legislative attention.

These concerns include:

- single-county GWCDs, often with conflicting management goals, attempting to manage a regional groundwater resource;
- less than effective review process for statutorily-required GWCD management plans;
- GWCDs' use of widely-diverse terminology and methodologies to measure and define the actual amounts of groundwater subject to a GWCD's jurisdiction;
- the potential for excessive litigation relating to GWCDs' rulemaking and permitting decisions; and
- ability of large-quantity groundwater pumping just outside the boundaries of a GWCD to undermine the district's efforts to manage the groundwater resource.

1.2. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Change currently permissive strategies for cooperative groundwater management by districts over a single groundwater management area (GMA) - to mandatory requirements that would drive adjoining districts to essentially function as a multi-county, GMA-wide management district.
- Consider requiring single-county GWCDs to be incorporated into larger neighboring districts, where possible.
- Reorganize and/or merge certain GWCDs to better reflect hydrogeologic boundaries.
- Create aquifer-wide or GMA-wide 'super' districts with supervisory authority to coordinate planning and management and to integrate the efforts of the local GWCDs.
- Increase TWDB's staff resources to provide a staff hydrologist for each of the states 16 GMAs - to provide data-related assistance and technical expertise to all districts within the GMA.
- Require groundwater district rules to be based on sound science, respect property rights, promote conjunctive use of surface water and groundwater, and provide for permitting decisions that do not discriminate on the basis of place of use or purpose of use.
- Clarify Chapter 36, Water Code, to ensure sound, consistent hydrogeologic science is used by GWCDs in establishing well spacing and production limits.
- Require GWCDs to follow established procedures when considering rules or permits to provide landowners a fair opportunity to be involved in the process.

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- Direct the TWDB to revise its GWCD management plan review process from the current “checklist” practice, and replace it with a substantive review process to ensure quality control and state-wide consistency in GWCD management.
- Expressly identify issue areas in GWCD management plans for which a substantive, qualitative review by the TWDB would be of greatest benefit, including, but not limited to, the areas of data collection efforts and groundwater availability assessments.
- Repeal existing permissive authority for the State Auditor’s Office to perform audits of GWCDs.
- Define, in statute, a common lexicon of groundwater measurement terms and require GWCDs to consistently use the same measurement components and terms covering concepts such as the amount of groundwater that can be withdrawn on a sustainable basis without resulting in significant, sustained declines; the annual amount of withdrawals authorized by a local district; projected groundwater supply; total useable amount of groundwater within an aquifer; total aquifer storage; recharge; inflows; discharge; and outflows.
- Provide GWCDs with litigation assistance, possibly in the form of an appeal of GWCD rulings directly to the TCEQ for assignment to an administrative law judge to determine the legality of the GWCD ruling. The TCEQ decision would be appealable to the District Court, where the Attorney General would represent the TCEQ.
- Create a Statewide Groundwater District, to be administered by state water agencies, for areas not currently within a GWCD, to include state-owned land. This would require affected counties to opt into a current GWCD or allow for the formation of a multi-county, GMA based district. Any county not willing to take part in these actions would be subject to state regulation.
- Encourage future GWCDs to establish boundaries that reflect underlying GMA boundaries.

Recommendation 1.3. Historic Use Standards

Clarify statutory provisions relating to historic use standards as used by groundwater districts as a permitting strategy.

1.3. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Prohibit any future GWCDs from using historic use standards.
- Allow GWCDs the discretion of using appropriate historic use standards.
- Prohibit existing GWCDs not currently using historic use from adopting it as a permitting strategy.
- For districts currently using historic use, options include:

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- ensure that historic use standards may not discriminate against owners of land enrolled in government Conservation Reserve Programs;
- allow continuation of historic use production amounts, but only for as long as the permittees continue to use the water for their initial purpose of use - for example, if they change their use from irrigation to marketing, their historic use production amounts would automatically decrease to the production amounts allowed for non-historic use permittees;
- incrementally decrease the historic use permit amounts, over a set period of years, to eventually achieve equity with other permittees.

Recommendation 1.4. Role of the Edwards Aquifer Authority (EAA)

Clarify the role and jurisdictional authority of the EAA and of the Texas Commission on Environmental Quality (TCEQ) within and outside the boundaries of the EAA.

1.4. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Require the Edwards Aquifer Authority (EAA) and the South Central Texas Water Advisory Committee (See Appendix E. “TCEQ’s Role in South Central Texas Water Advisory Committee’s Appeal of EAA’s Actions”) to periodically report to the appropriate legislative oversight committees with progress and status updates on:
 - the EAA’s Habitat Conservation Plan;
 - the EAA’s Critical Period Management Plan;
 - the EAA’s proposed bifurcated (junior/senior) pumping caps; and
 - Kinney County Groundwater Conservation District issues.
- Authorize aquifer recharge projects to take water from the Edwards-Trinity Aquifer and recharge it into the Edwards Aquifer, and limit the use of the recharged water to areas within the EAA.
- Include part or all of Kinney County in the EAA, and dissolve the Kinney County Groundwater Conservation District.
- Statutorily recognize the aquifer boundary between the Edwards Aquifer and the Edwards-Trinity Aquifer as being the Spofford Fault, with description delineating its location.
- Clarify that the aquifer pumping caps and other restrictions placed on permits for the Edwards Aquifer do not apply to permits for the Edwards-Trinity Aquifer and other minor aquifers in Kinney County (e.g., the Austin Chalk).

2. SURFACE WATER ISSUES

2.1. Interbasin Transfers and Junior Water Rights

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Recommendation 2.1. Interbasin Transfers and Junior Water Rights

Evaluate the appropriateness of the junior water rights provision and other interbasin transfer permit requirements added to Section 11.085, Water Code, as part of Senate Bill 1 in 1997.

Interbasin transfers (IBT) of surface water and the associated junior water rights are some of the most volatile and controversial issues in the current water policy/water politics arena. Since the passage of Senate Bill 1 in 1997, "interbasin transfers (IBTs)" have been the subject of endless discussions and the focus topic of innumerable water law conferences, legislative hearings (Interim and Session), water policy seminars and symposiums, state agency agendas, work sessions and briefings, and a wide range of other public policy forums.

A concise historical overview of IBT issues, recently presented at a state agency work session, is partly reproduced in the text following this paragraph.¹ Also, see *Appendix F. "Interbasin Transfers of Water Rights,"* for more detailed information TCEQ process and requirements regarding water right applications involving IBTs.

BACKGROUND: INTERBASIN TRANSFER ISSUES

The sources of water in Texas do not always align with its population. The greatest amount of water is found in the east, especially the Sabine and Sulphur basins. These areas are sparsely populated. For these reasons, interbasin transfers (IBTs) -- or the movement of water from one river basin to another river basin -- have historically been an important way to provide water throughout Texas.

To obtain the right to use water outside the river basin in which the water is located, an individual or entity must obtain an IBT permit. Current statute makes an IBT junior in priority to water rights granted before the IBT application is accepted for filing. (This will be called the "junior priority provision.") The issue of priority is important because Texas uses a "first in time first in right," or prior appropriation doctrine for surface water allocation. This doctrine gives the person with the earliest priority date the right to call on the use of water first. Thus, all water rights granted before the IBT have a right to use the water first.

The junior priority provision does not impact a new permit that includes an IBT, since the priority date of the IBT will be the same as the entire water right. It may impact a water right holder seeking to amend an existing water right to add an IBT, since the junior priority provisions means the IBT could not obtain the priority date of the original right. Before the junior priority provision was enacted, TCEQ issued some IBT amendments with the priority date of the original right, and issued others with the priority date of the application for the IBT.

The junior priority provision, now found at Water Code Section 11.085(s), was added with the passage of S.B. 1 in 1997, when *many other changes* were made to the method for reviewing and granting IBTs. These include:

¹ The reproduction of this work session briefing document begins following this paragraph - as set off by the double line break - and ends at the start of Section 2.1. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE.

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S.B. 1 Standard for granting IBT:

The 1997 amendments allow an IBT to be granted *only to the extent* that:

- detriments to the originating basin are less than benefits to the receiving basin, and
- the applicant has a drought contingency plan and a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within the applicant's jurisdiction.

SB 1 IBT Permit Review criteria.

S.B. 1 added significant review criteria. These include weighing the effect of the transfer by considering:

- the needs of the basin of origin and receiving basin for the period of transfer, but not more than 50 years,
- mitigation or compensation proposed to basin of origin, and
- factors identified in the regional water plan, including:
 - alternative supplies in the receiving basin,
 - amount and purpose of use of the water,
 - conservation and drought contingency efforts in the receiving basin,
 - efforts of the receiving basin to put the water to beneficial use,
 - economic impact in each basin, and
 - impacts of the transfer on existing water rights, instream uses, water quality, aquatic and riparian habitat and bays and estuaries. The analysis for amendments is based on historical use of the water right (as opposed to full use of the paper right, which is the test applicable to general amendments of permits).

The statutory changes resulting from S.B. 1 may have reduced consideration of IBTs as a water management strategy. Because amendments to IBTs lose their priority date, they often become less reliable, thus less feasible. [See Appendix H. "List of Pending Water Rights Applications Involving Interbasin Transfers"] The review standards for new IBTs may be imposing. These two factors may have increased consideration of both groundwater transfers and the building of new reservoirs rather than relying on existing out-of-basin reservoirs.

State Water Plan Recommendations

In Water for Texas - 2002, the TWDB recommended that the legislature consider needed changes to continue crafting a policy that addresses the imbalance between the location of water resources and the location of water needs, while recognizing broad public interests and the need to weigh the interest of the basin of origin and the needs in the receiving basin.²

2.1. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

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² The reproduction of the agency work session briefing document ends here.

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- Keep junior rights provision, Section 11.085(s), Water Code, but with “modifications” as needed to move forward with critical water supply projects and to assure adequate future supply of the water resource for the region of origin and for the environment..
- Keep Section 11.085(s), Water Code, the junior rights provision itself, but repeal some of the other additional “protection of basin of origin” IBT permit requirements added by SB 1 (75thR), to assure adequate future supply of the water resource for the region of origin and for the environment.

3. CONJUNCTIVE MANAGEMENT/STATEWIDE WATER ISSUES

- 3.1. Regional Water Planning Process
- 3.2. Conjunctive Use of Both Surface and Groundwater Resources
- 3.3. Water Marketing
- 3.4. Water Infrastructure and Financing
- 3.5. Water Conservation

Recommendation 3.1. Regional Water Planning Process

Consider legislative changes to improve the effectiveness of and support for the Regional Water Planning Process.

Senate Bill 1 (75th Regular Session, 1997) was a comprehensive water resource management bill that restructured the process of water planning in Texas. Among the legacies from that bill are the efforts of the state’s sixteen Regional Water Planning Groups (RWPGs), created by S.B. 1 to assess the water needs in each region, and to develop regional water plans to meet those needs. Built on the foundation of those regional water plans, in December 2002, the TWDB adopted the first Senate Bill 1 water plan, “Water for Texas - 2002.” (Available on the TWDB’s website at http://www.twdb.state.tx.us/publications/reports/State_Water_Plan/2002/FinalWaterPlan2002.asp)

Senate Bill 2 (77th Regular Session, 2001), the surface water/groundwater conjunctive management water bill, enacted significant amendments to the regional water planning process. Since 2001, the RWPGs have effectively implemented many changes directed by S.B. 2.

3.1. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Maintain the Regional Water Planning process and, to the extent possible, support the Regional Water Planning process with state funding and/or technical assistance.
- Amend the regional water planning process to create an expedited notice and hearing process for minor amendments to the Regional Water Plans (Section 16.053(h), Water Code). Limit the use of the expedited amendment process to only those amendments that are expected to have little impact on other water rights, the water resources, or the environment. (Currently, each

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amendment to a Regional Water Plan must comply with rigorous notice and hearing requirements that are expensive and involve long time frames.)

- Provide more opportunity, via the Regional Water Planning process and/or other venues, for technical input into the development of the State's water planning tools, such as the Groundwater Availability Models (GAMs) or the surface water Water Availability Models (WAMs).
- Provide for the Regional Water Planning process to evaluate and consider aquifer recharge and enhancement and maintenance of springflows.
- Amend Chapters 16 and 36, Water Code, to provide for more consistency of groundwater management goals established by GWCDs with the Regional Water Plans; i.e., direct TWDB to develop management tools to optimize aquifer use and development - to be used by GWCDs and by RWPGs under their stated management goals.
- Direct the TWDB to facilitate joint planning efforts between GWCDs and RWPGs within a GMA, to avoid or resolve conflicts, and direct GWCDs to reflect future demands for groundwater consistent with demand projections made by the RWPGs.

Recommendation 3.2. Conjunctive Use of Both Surface and Groundwater Resources

Reaffirm policy of the State endorsing the conjunctive use of surface and groundwater resources and explore mechanisms by which to promote conjunctive use projects.

Water management in Texas must become more cohesive and less fragmented. Water itself is inextricably linked throughout every stage of the hydrological cycle. Water policy and water management frameworks must reflect these interconnections and conjunctively address both surface water and groundwater.

Texas regulations, laws, and institutions will have to continue to evolve in order to keep pace with, and sometimes to encourage, new developments in technology, better science and increased understanding of the complex issues involved in sustaining our ground and surface water resources so that they can, in turn, sustain Texas and its economies.

3.2. ALTERNATIVE LEGISLATIVE OPTIONS INCLUDE:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Direct the TCEQ and the TWDB to evaluate the relationship between groundwater and surface water to ensure that riverine base flows derived from groundwater springs are maintained. The TCEQ and the TWDB should work with other state water agencies to issue a report to the Legislature by January 1, 2006.
- Amend the Water Code to include clear policy statement that effective rural watershed management be considered an essential tenet of State water policy; and that rural, riverside, and coastal land stewards, both public and private, must be included in the development and

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implementation of state surface water and groundwater policy. (See Appendix I. Position Paper by Texas Wildlife Association, submitted as "Testimony on the Interim Charges of the Senate Select Committee on Water Policy" March 17, 2004, Victoria hearing.).

- Articulate state policy that supports water marketing efforts, particularly conjunctive water projects that are consistent with local GWCD's groundwater management plan and/or an adopted Regional Water Plan.
- Legal, regulatory and policy changes are needed in order to level the playing field for desalination to be recognized as a cost-comparable alternative to surface and groundwater strategies currently being used to ensure water availability. Enact legislation that recognizes the economic value of surface and groundwater, not currently reflected in the "cost" of water, including the economic harm to communities, instream flows, and/or bay and estuary systems incurred by the movement of surface or groundwater.
- Protect water providers' access to remaining unappropriated surface water for purposes of incorporating the junior water rights into conjunctive use projects, where they can be firmed up via storage in off-channel reservoirs or Aquifer Storage and Recovery (ASR) projects. These water rights can then be substituted for the use of more senior water rights during droughts, thereby freeing up some senior water rights to meet environmental flow needs.
- Strengthen programs and increase funding for programs to address abandoned oil and gas wells to minimize the contamination of groundwater supplies and/or surface water resources.
- Develop programs to implement and enhance good land stewardship management practices to augment the quality and quantity of the State's surface water and groundwater resources. (For more detailed recommendations and information, see full report by Texas Wildlife Association, on "Recognizing Land Stewardship's Untapped Potential" at <http://www.texas-wildlife.org/Water%20Rports.htm>)

Recommendation 3.3. Water Marketing

Consider the many issues necessary to accomplish the State's goal of ensuring that the growing water needs of all regions of the State are met, while protecting and managing existing water supply and rights.

The issue of water marketing in Texas is inevitably linked with and shares the controversies associated with interbasin transfers of surface water and exports of groundwater. The Select Committee recognizes that water marketing in Texas faces a multitude of barriers and challenges, including legal, regulatory, and attitudinal frameworks and engineering, financing, hydrological and economic limitations.

Consequently, the legal and/or regulatory strategies that would advance water marketing in Texas would involve some of the same strategies that would allow and/or facilitate the movement of both surface and groundwater. Workable water markets will sometimes require water movement.

3.3 ALTERNATIVE LEGISLATIVE OPTIONS:

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NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Initiatives to advance water marketing that relate to the movement of water must be implemented with essential restraints, to assure adequate future supply of the water resource for the region of origin and for the environment.
- A key component necessary for proposed water marketing projects must involve mechanisms to benefit the exporting communities, including but not limited to reasonable transfer of value and the consequent benefit to the basin of origin.
- Effective water marketing will require the development of options to ensure compliance with surface water rights statutory and regulatory requirements, such as instituting Watermaster programs where needed, or some comparable water rights implementation and enforcement mechanisms.

Recommendation 3.4. Water Infrastructure and Financing

Evaluate the proposals included in the TWDB’s report “Funding Analysis of the State Role in Financing Texas’ Water Needs” submitted to the Select Committee on Water Policy, and consider implementation options to ensure financing for crucial water needs.

3.4. ALTERNATIVE LEGISLATIVE OPTIONS:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Consider recommendations identified in the TWDB’s report “Funding Analysis of the State Role in Financing Texas’ Water Needs” (See Appendix J.)
- Amend engineering requirement to allow municipalities to consider design-build procurement for water facilities.
- Ensure that the State Participation program within the TWDB is adequately funded, in order to maintain one of the best available tools for funding municipal projects.
- Promote regionalization of water and wastewater facilities, in order to maximize state and local investment.
- Provide water suppliers with more latitude and protections in assessing a price for water that more closely approximates the true value of water.

3.5. **Water Conservation**

Senate Select Committee on Water Policy
Senator Ken Armbrister, Chair

Consider the implementation of recommendations proposed in the “Water Conservation Implementation Task Force Report to the 79th Legislature.”

The Water Conservation Implementation Task Force was established in 2003, by the 78th Texas Legislature through passage of Senate Bill 1094, by Senator Duncan. For a copy of the Water Conservation Implementation Task Force [Report to the Legislature](#) (88 pg. pdf) and the Water Conservation Implementation Task Force [Best Management Practices \(BMP\) Guide](#) (266 pg. pdf) visit the TWDB website at: <http://www.twdb.state.tx.us/home/index.asp> or contact the TWDB at: 1700 North Congress, P.O. Box 13231, Austin, Texas, 78711-3231. Phone: (512) 463-7850.

3.5. ALTERNATIVE LEGISLATIVE OPTIONS:

NOTE: These alternative legislative options were presented to the committee for consideration during the interim hearings. These options are not recommendations of the committee but reflect the range of alternatives discussed.

- Consider implementation of the recommendations developed by the Water Conservation Implementation Task Force.
- Allow TWDB to grant favorable interest rates to water suppliers that are implementing advanced water conservation strategies.
- Encourage state agencies to implement water conservation Best Management Practices (BMPs) according to the schedule proposed by the Water Conservation Implementation Task Force.
- The BMP Guide was developed as a resource for voluntary conservation efforts. The intent of voluntary compliance should remain a viable option for the legislature, as well as state and local agencies.

INTERIM CHARGE No. 2 -- Subcommittee on the Lease of State Water Rights: Study proposals to lease permanent school fund and permanent university lands and their water rights for the purposes of developing and marketing water.

- Analyze the present and future effects of such proposals on local aquifers, historic stream flows, local underground water conservation districts, and other public and private water interests.
- Study the process by which the General Land Office considers proposals to lease state water rights, including methodology for holding open meetings, obtaining public input, meeting competitive bidding requirements, and coordination with TCEQ and other governmental units with possible regulatory oversight.
- Study and evaluate the current and future value of water rights that may be leased to private entities, including the value to the state, residential and commercial interests.

Senator Madla chaired the Subcommittee on the Lease of State Water Rights, and submitted an Interim Report to the Senate Select Committee on Water Policy. The Select Committee adopted the Subcommittee Report for consideration by the 79th Legislature. For a copy of the Subcommittee’s Interim

Senate Select Committee on Water Policy
Senator Ken Armbrister, Chair

Report, visit the Texas Legislature Online website at:
<http://www.senate.state.tx.us/75r/senate/commit/c755/c755.htm> or contact Senator Madla's office at P.O. Box 12068, Austin, TX 78711-2068; Phone: 512-463-0119.

INTERIM CHARGE No. 3 -- Monitor the three on-going demonstration desalination projects by the Texas Water Development Board as one step toward securing an abundant water supply to meet Texas' future water supply needs. Study regulatory barriers that impair cost effectiveness of desalination (coastal and brackish) and how to facilitate use of this water source by municipalities.

For a copy of the Texas Water Development Board report, visit the website at:
<http://www.twdb.state.tx.us/Desalination/Desal/Index.asp> or contact the agency at P.O. Box 13231, Austin, TX 78711-3231. Phone: 512-463-7850.

CONCLUSION

The Select Committee on Water Policy recognizes that Texas clearly has significant water-related statutory, regulatory, and policy challenges ahead. Overcoming these challenges will require leadership, political resolve, judicious policies, and responsive institutions.

APPENDIX A.

SELECT COMMITTEE ON WATER POLICY

HEARING POSTINGS, AGENDAS, MINUTES, AND WITNESS LISTS

SENATE
NOTICE OF PUBLIC HEARING

COMMITTEE: Water Policy, Select Interim
TIME & DATE: 10:00AM, Wednesday, January 14, 2004
PLACE: Capitol Extension E1.012
CHAIR: Senator Kenneth Armbrister

Organizational Meeting

Adoption of Committee Rules

Invited Testimony:

State Agency Overview Briefings on Issues Identified in Charge 1.

AGENDA

Organizational Meeting Invited Testimony Only

**Wednesday, January 14, 2004
10:00 AM
Capitol Extension, Room E1.012
Austin, Texas**

- I. Call to Order and Roll Call
- II. Committee Business
 - A. Introduction of Staff
 - B. Adoption of Committee Rules
- III. Review of Interim Charges for the Select Committee on Water Policy
 - A. Charge #1 Study of Issues Related to Ground and Surface Water
 - B. Charge #2 Subcommittee on the Lease of State Water Rights
 - C. Charge #3 Monitor Demonstration Desalination Projects
- IV. Select Committee on Water Policy - Interim Work Plan (Working Document)
- V. Subcommittee on the Lease of State Water Rights
- VI. State Agency Overview Briefings Relating to Charge #1
 - Texas Department of Agriculture, Commissioner Susan Combs
 - Texas Commission on Environmental Quality, Margaret Hoffman
 - Texas Water Development Board, Kevin Ward
 - Texas Parks and Wildlife Department, Larry McKinney
- VII. Other Business
- VIII. Recess

MINUTES
SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, January 14, 2004 10:00 a.m.
Capitol Extension, Room E1.012

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, January 14, 2004, in the Capitol Extension, Room E1.012, at Austin, Texas.

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Troy Fraser
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Tommy Williams

MEMBERS ABSENT:

Senator Bob Deuell
Senator Robert Duncan
Senator Jon Lindsay
Senator Todd Staples
Senator Eliot Shapleigh

The chair called the meeting to order at 10:10 a.m. There being a quorum present, the following business was transacted:

Senator Armbrister introduced committee staff that will be handling the Select Committee on Water Policy. Senator Lucio asked to make comments on water issues in South Texas and the chair recognized him to do so.

Senator Shapleigh moved adoption of committee rules, without objection, it was so ordered.

Senator Armbrister went over Charge 1 of the Select Committee. He then went over the interim work plan and dates for future meetings.

The Chair then recognized Senator Madla, the Chair of the Subcommittee on the Lease of State Water Rights. Senator Madla gave comments on the Subcommittee's meeting on December 18, 2003, and plans for the subcommittee's next meeting which will be held in Dell City on February 11, 2004.

The Chair then introduced invited testimony from Commissioner Susan Combs, Texas Department of Agriculture, Margaret Hoffman, Executive Director of Texas Commission on Environmental Quality, Chairman Rod Pittman, Chairman, and Kevin Ward, Executive Administrator of the Texas Water Development Board, and Robert Cook, Executive Director of Texas Parks & Wildlife Department, to give briefings relating to Charge 1. A complete witness list is attached.

There being no further business, at 12:20 p.m. Senator Armbrister moved that the Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

Senator Kenneth Armbrister, Chair

Kelly Gilbert, Clerk

WITNESS LIST

Water Policy, Select Interim
January 14, 2004 - 10:00 AM

Charge 1

ON: Ward, Kevin Executive Administrator (Texas Water Development Board), Austin, TX
Combs, Susan Commissioner (Texas Department of Agriculture), Austin, TX
Cook, Robert Executive Director (Texas Parks & Wildlife Department), Austin, TX
Hoffman, Margaret Executive Director (Texas Commission on Environmental
Quality), Austin, TX
Mace, Robert (Texas Water Development Board), Austin, TX
McKinney, Larry Director Aquatic Resources (Texas Parks & Wildlife Department),
Austin, TX
Pittman, Rod Chairman (Texas Water Development Board), Austin, TX

SENATE

NOTICE OF PUBLIC HEARING

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 10:30AM, Tuesday, February 3, 2004

PLACE: University of TX El Paso

CHAIR: Senator Kenneth Armbrister

The Committee will be meeting in UTEP's Natural Gas Conference Center

-
- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Recess
-

AGENDA

Tuesday, February 3, 2004

10:30 a.m.

Natural Gas Conference Center, University of Texas, El Paso

El Paso, Texas

- I. Call to Order and Roll Call

- II. Invited Testimony
 - General Land Office Commissioner Jerry Patterson
 - Representatives of Rio Nuevo, Ltd.

 - Ed Archuleta, El Paso Public Service Board, General Manager
 - Ari M. Michelsen, Texas Agricultural Experiment Station
 - John Ashworth, LBG Guyton & Associates
 - Chuy Reyes, El Paso Water Improvement District No. 1
 - Tom Beard, Far West Texas Regional Water Planning Group

 - Bill Mullican, Texas Water Development
 - Larry McKinney, Texas Parks & Wildlife Department
 - Carolyn Brittin, Texas Commission on Environmental Quality

- III. Public Testimony

- IV. Other Business

- V. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Tuesday, February 3, 2004

10:30 a.m.

Natural Gas Conference Center, University of Texas, El Paso, El Paso, TX

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Tuesday, February 3, 2004, in the Natural Gas Conference Center, University of Texas, El Paso, El Paso, TX

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Bob Deuell
Senator Jon Lindsay
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh

MEMBERS ABSENT:

Senator Robert Duncan
Senator Troy Fraser
Senator Todd Staples
Senator Tommy Williams

The chair called the meeting to order at 10:40 a.m. There being a quorum present, the following business was transacted:

The Chair recognized Senators Shapleigh and Madla to make comments welcoming everyone to El Paso.

The Chair introduced Mayor Joe Wardy of El Paso, County Commissioner Miguel Teran, Representatives Norma Chavez, Pat Haggerty, and Chente Quintanilla and thanked them for attending the hearing.

The Chair explained the charges.

The following invited testimony was given:

Commissioner Jerry Patterson, General Land Office
Representatives of Rio Nuevo, Ltd.
Ed Archuleta, El Paso Public Service Board
Ari Michelsen, Agricultural Research and Extension Center, Texas A&M University
John Ashworth, LBG Guyton & Associates

Tom Beard, Far West Regional Water Planning Group
Bill Mullican, Texas Water Development Board
Dr. Larry McKinney, Texas Parks & Wildlife Department
Herman Settemeyer and Carolyn Brittin, Texas Commission on Environmental Quality

Public testimony was given following all invited testimony.

A complete witness list is attached.

The Chair announced the next hearing in San Antonio, TX on Wednesday, February 18, 2004.

There being no further business, at 6:15 p.m. Senator Armbrister moved that the Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

Senator Kenneth Armbrister, Chair

RuthAnn Nicholson, Clerk

WITNESS LIST

Select Committee on Water Policy - El Paso Hearing

February 3, 2004 - 10:30 AM

ON: Appington, Bill Farmer (El Paso Group Sierra Club), Sierra Blanca, TX
Archuleta, Ed General Manager (El Paso Public Service Board), El Paso, TX
Ashworth, John Groundwater Geologist (LBG Guyton & Associates),
Austin, TX
Beard, Tom Attorney (Far West Texas Water Planning Group), Alpine, TX
Bramblett, Kit Lawyer (Hudspeth County), Sierra Blanca, TX
Brewton, Larry (Self), Dell City, TX
Brittin, Carolyn (Texas Commission on Environmental Quality), Austin,
TX
Canon, Robert (Rio Nuevo, Ltd.), Midland, TX
Carpenter, Robert Farmer (Farmers in Dell Valley), Dell City, TX
Covarruhias, Armundo Chili Processor (Self), Dell City, TX
Dowdey, Don (Big Bend Regional Sierra Club), Alpine, TX
Gilbert, Risher Lawyer (The Lynch Family), El Paso, TX
Guitar, Phil Rancher (Guitar Holding Company, L.P.), Abilene, TX
Johnson, Russell Partner-Bracewell & Patterson (Guitar Holding Company,
L.P.), San Antonio, TX
Kelly, Mary Attorney (Environmental Defense), Austin, TX
Kihine, Jim Rancher (Self), Dell City, TX
Langford, David (Texas Wildlife Association), Comfort, TX
Lynch, Linda (Self), Dell City, TX
Martinez, Oscar Rice Mayor, City of Marfa (Concerned Citizens of Marfa),
Marfa, TX
McDonald, Kyle Lawyer (Rio Neuvo, Ltd.), Midland, TX
McKinney, Dr. Larry Director Water Policy (Texas Parks & Wildlife
Department), Austin, TX
Michelsen, Ari Resident Director (TAES, Texas A&M University), El
Paso, TX
Moreland, Robert Attorney (General Land Office), Austin, TX
Mullican, Bill (Texas Water Development Board), Austin, TX
Pack, David (Self), Roswell, NM

Patterson, Jerry Commissioner (General Land Office), Austin, TX
Ponton, Rod Attorney (City of Presidio), Alpine, TX
Robinson, Van (Self), Ft. Davis, TX
Ross, Lauren Engineer (Self), Austin, TX
Schrader, Curtis (City of Marfa), Marfa, TX
Settemeyer, Herman (Texas Commission on Environmental Quality),
Austin, TX
Snodgrass, Chris John Deere Dealer (Farmers in Dell City), Lubbock, TX
Stovell, J. Robert (Self), Alpine, TX
Teran, Miguel County Commissioner (El Paso County), El Paso, TX
Turner, John Rancher (Cerro Alto Water System), El Paso, TX
Davidson, Michael (Brewster County Tourism Council), Terlingua, TX
Frizell, R. Duane Attorney (Guitar Holding Company, L.P.), El Paso, TX
Rakestraw, Kenneth Hydrologist (U.S. Section, International Boundary &
Water Commission), El Paso, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 1:00 PM, Wednesday, February 18, 2004

PLACE: San Antonio, Texas

CHAIR: Senator Kenneth Armbrister

The Committee will be meeting in the San Antonio City Council Chambers

- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn/Recess
-

AGENDA

1:00 p.m., Wednesday, February 18, 2004

San Antonio City Council Chambers

San Antonio, Texas

I. Call to Order and Roll Call

II. Invited Testimony

- City of San Antonio, Mayor Ed Garza
- San Antonio Water Systems, Leonard Young, Sr. Vice President
- Edwards Aquifer Authority
 - Chairman Doug Miller
 - General Manager, Greg Ellis
- South Central Texas Water Advisory Committee, Mayor Gary Middleton
- South Central Texas Regional Water Planning Group, Evelyn Bonavita

- Texas Commission on Environmental Quality
 - Mary Ambrose
 - Stephanie Bergeron
- Texas Water Development Board, Jorge Arroyo
- Texas Parks & Wildlife Department, Larry McKinney

III. Public Testimony

IV. Other Business

V. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, February 18, 2004

1:00 p.m.

San Antonio City Council Chambers

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, February 18, 2004, in the San Antonio City Council Chambers

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Bob Deuell
Senator Robert Duncan
Senator Troy Fraser
Senator Jon Lindsay
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh
Senator Todd Staples

MEMBERS ABSENT:

Senator Tommy Williams

The chair called the meeting to order at 1:40 p.m. There being a quorum present, the following business was transacted:

The Chair thanked the City of San Antonio for hosting the committee hearing.

The Chair recognized Senator Frank Madla. Senator Madla welcomed the committee to San Antonio. He then gave a briefing on the Subcommittee on the Lease of State Water Rights hearing in Dell City on February 11, 2004.

The Chair welcomed Senator Leticia Van de Putte to the hearing. Senator Van de Putte welcomed the committee to San Antonio.

The Chair explained the purpose of interim committees and briefly explained the charges of the Select Committee on Water Policy.

The Committee then heard invited testimony from:

Leonard Young, Senior Vice-President of San Antonio Water Systems
Chairman Doug Miller and General Manager, Greg Ellis of Edwards Aquifer Authority
Victoria Mayor Gary Middleton of South Central Texas Water Advisory Committee
Evelyn Bonavita of South Central Texas Regional Water Planning Group
Mary Ambrose and Stephanie Bergeron of Texas Commission on Environmental Quality
Jorge Arroyo of Texas Water Development Board

Following the invited testimony, the Committee heard public testimony. All witnesses testifying are shown on the attached list.

The Chair announced that the next meeting of the committee will be held in Victoria on March 17, 2004, at 10:30 AM.

There being no further business, at 8:45 p.m. Senator Armbrister moved that the Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

Senator Kenneth Armbrister, Chair

RuthAnn Nicholson, Clerk

WITNESS LIST

Select Committee on Water Policy - San Antonio

February 18, 2004 - 1:00 PM

ON: Albach, Michael Water Utility Manager (Bexar Met Water District), San Antonio, TX
Alles, Richard Licensed Engineer (Self), San Antonio, TX
Ambrose, Mary (Texas Commission on Environmental Quality), Austin, TX
Arroyo, Jorge (Texas Water Development Board), Austin, TX
Bergeron, Stephanie Attorney (Texas Commission on Environmental Quality), Austin, TX
Bonavita, Evelyn Chairman (South Central Texas Regional Water Planning Group), San Antonio, TX
Brown, Kirby Executive Vice-President (Texas Wildlife Association), San Antonio, TX
Ellis, Gregory General Manager (Edwards Aquifer Authority), San Antonio, TX
English, Charles President (Jefferson Heights Association), San Antonio, TX
Finger, Jack (Self), San Antonio, TX
Fithian, Lisa (Greater Edwards Aquifer Alliance), Austin, TX
Garcia, Joleen (Esperanza Environmental Justice Project), San Antonio, TX
Gilpin, Cheryl (Self), New Braunfels, TX
Harrell, John City Manager (City of Uvalde), Uvalde, TX
Karin, Joel (Self), San Antonio, TX
Kesterbaum, Marianne Executive Director (Smart Growth - San Antonio), San Antonio, TX
Middleton, Gary Mayor, City of Victoria (South Central TX Water Advisory Committee), Victoria, TX
Miller, Doug Chairman (Edwards Aquifer Authority), San Antonio, TX
Millikin, Jay Comal County Commissioner (Guadalupe Basin Coalition), New Braunfels, TX
Moore, Jr., Joe Professor (Texas Water Quality Board), Austin, TX
Mullican, Bill (Texas Water Development Board), Austin, TX

Paleczny, Dr. Barbara Professor (School Sisters of Notre Dame, Dallas Province), San Antonio, TX

Rice, George (Self), San Antonio, TX

Rimkus, A. Murice (Self), Uvalde, TX

Rodriguez, Elginio (Self), San Antonio, TX

Ross, Lauren Environmental Engineer (Greater Edwards Aquifer Alliance), Austin, TX

Rothe, Gregory General Manager (San Antonio River Authority), San Antonio, TX

Van Coppenolle, Loretta (The Sierra Club), San Antonio, TX

Villarreal, Christel (Self), San Antonio, TX

Wassenich, Dianne Executive Director (San Marcos River Foundation), San Marcos, TX

West, Bill (Self), Seguin, TX

Young, Leonard Sr. Vice-President (San Antonio Water System), San Antonio, TX

Butler, Susan Water Resources Director (San Antonio Water System), San Antonio, TX

Calvert, T.C. (Neighborhoods First Alliance), San Antonio, TX

Conner, Bonnie (Self), San Antonio, TX

Davila, Paul (Self), San Antonio, TX

Eisenhauer, Olivia (Self), San Antonio, TX

Finch, Calvin Conservation Director (San Antonio Water System), San Antonio, TX

Patterson, Kirk (Regional Clean Air & Water Association), San Antonio, TX

Townsend, Allen (Smart Growth - San Antonio), San Antonio, TX

Youngblood III, Benjamin Attorney (Self), San Antonio, TX

Day, Joe Executive Director (Cypress Creek Conservancy), Wimberly, TX

Dietrick, Marlys (Self), San Antonio, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 10:30AM, Wednesday, March 17, 2004

PLACE: Victoria, Texas

CHAIR: Senator Kenneth Armbrister

The Committee will meet at Victoria College Student Center, 2200 E. Red River

- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn / Recess
-

AGENDA

10:30 a.m., Wednesday, March 17, 2004

Victoria College Student Center

Victoria, Texas

I. Call to Order and Roll Call

II. Invited Testimony

- City of Victoria, Mayor Gary Middleton
- Texas Commission on Environmental Quality
 - Carolyn Brittin
 - Stephanie Bergeron
- Texas Water Development Board
 - Kevin Ward
- Texas Parks & Wildlife Department
 - Cindy Loeffler

III. Public Testimony

IV. Other Business

V. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, March 17, 2004

10:30 a.m.

Victoria College Student Center

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, March 17, 2004, in the Victoria College Student Center

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Troy Fraser
Senator Jon Lindsay
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh
Senator Tommy Williams

MEMBERS ABSENT:

Senator Kip Averitt
Senator Bob Deuell
Senator Robert Duncan
Senator Todd Staples

The chair called the meeting to order at 10:50 a.m. There being a quorum present, the following business was transacted:

Senator Armbrister welcomed everyone to Victoria and thanked them for coming. He thanked Victoria College for hosting the meeting.

Senator Armbrister recognized Mayor Gary Middleton of Victoria. Mayor Middleton gave welcoming remarks to the committee. Senator Armbrister then recognized Representative Geanie Morrison of Victoria and thanked her for attending the hearing.

The Chair explained the purpose of interim committees and how the hearings are conducted and briefly explained the charges of the Select Committee on Water Policy.

The Committee heard invited testimony from:

Carolyn Brittin and Stephanie Bergeron from the Texas Commission on Environmental Quality.

J. Kevin Ward of the Texas Water Development Board.

Cindy Loeffler of Texas Parks & Wildlife Department.

The Chair acknowledged County Judge Don Posey and City Councilman Jim Wyatt in the audience and thanked them for attending.

Following the invited testimony, the Committee heard public testimony. All witnesses testifying are shown on the attached list.

The Chair announced that the next meeting of the Committee will be in The Woodlands at Montgomery College, on March 31, 2004, at 10:30 am.

There being no further business, at 3:50 p.m. Senator Armbrister moved that the Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

Senator Kenneth Armbrister, Chair

RuthAnn Nicholson, Clerk

WITNESS LIST

Select Committee on Water Policy - Victoria

March 17, 2004 - 10:30 AM

ON: Barron, Colette Attorney (Texas Parks & Wildlife Department), Austin, TX
Bergeron, Stephanie Attorney (Texas Commission on Environmental Quality), Austin, TX
Blackburn, Jim Attorney (D.M. O'Connor Interests), Houston, TX
Bluntzer, Charles Attorney & Rancher (Self), Victoria, TX
Bonine, Barkley General Counsel (Steel & Concrete USA, Inc.), San Antonio, TX
Brittin, Carolyn (Texas Commission on Environmental Quality), Austin, TX
Burke, John Engineer (Lower Colorado Regional Water Planning Group), Bastrop, TX
Clark, Gordon (Self), Hallettsville, TX
Cockrum, Charles Shea (Self), Cuero, TX
Dodson, James Water Resources Manager (J.F. Welder Heirs, Ltd.), Corpus Christi, TX
Dohmann, Art Rancher (Self), Weesatche, TX
Engelking, Garrett General Manager (Refugio Groundwater Conservation District), Refugio, TX
Gangluff, Rick Chemistry Manager (STP Nuclear Operating Company), Wadsworth, TX
Gimler, Jim Farmer (Self), Sweet Home, TX
Johnson, Jr., Carl (Self), Victoria, TX
Keith, Bob Consultant (South Coastal Texas Water Advisory Committee), Victoria, TX
Loeffler, Cindy (Texas Parks & Wildlife Department), Austin, TX
Middleton, Gary Mayor (City of Victoria), Victoria, TX
Myers, David Farmer/Rancher (Self), Hallettsville, TX
Neely, John General Manager (Steel & Concrete USA, Inc.), Refugio, TX
Nolen, B.J. Rancher (Self), Hallettsville, TX
Pilsner, Ray (Self), Victoria, TX
Schustereit, Kenneth (Water Research Group), Victoria, TX

Simon, Haskell President (Coastal Plains Groundwater Conservation District), Bay City, TX

Thurmond, Jimmie President (Texas Wildlife Association), San Antonio, TX

Ward, J. Kevin Executive Administrator (Texas Water Development Board), Austin, TX

Wassenich, Dianne Executive Director (San Marcos River Authority), San Marcos, TX

Weiss, Bob (Self), Hallettsville, TX

Wendler, Carl Rancher (Fayette County Groundwater District), Schulenburg, TX

West, Bill (Guadalupe Blanco River Authority), Seguin, TX

West, D.A. (Self), Victoria, TX

Callaway, Glenda (Galveston Bay Foundation)

Dentler, Walter Rancher (Self), Victoria, TX

Kuhlmann, Donald Environmental Manager (INVISTA - Victoria Plant), Victoria, TX

Pleoger, Dorothy (Self), Gonzales, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 10:30AM, Wednesday, March 31, 2004

PLACE: The Woodlands

CHAIR: Senator Kenneth Armbrister

The Committee will be meeting at Montgomery College's Auditorium Building B, General Academic Center

- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn/Recess
-

AGENDA

10:30 a.m., Wednesday, March 31, 2004
Montgomery College Auditorium
B102, Building B, General Academic Center
3200 College Park Drive,
Conroe, Texas

- I. Call to Order and Roll Call

- II. Invited Testimony
 - Texas Commission on Environmental Quality, Carolyn Brittin
 - Texas Water Conservation Association, Dean Robbins

 - North Harris Regional Water Authority, Jimmy Schindewolf
 - San Jacinto River Authority, Jim Adams
 - Woodlands Operating Co., L.P., Fred LeBlanc

 - Mesa Water, Inc., Boone Pickens
 - Sprouse Shrader Smith P.C., Marty Jones

- III. Public Testimony

- IV. Other Business

- V. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, March 31, 2004

10:30 a.m.

Montgomery College

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, March 31, 2004, in the Montgomery College

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Bob Deuell
Senator Robert Duncan
Senator Troy Fraser
Senator Jon Lindsay
Senator Todd Staples
Senator Tommy Williams

MEMBERS ABSENT:

Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh

The chair called the meeting to order at 10:35 a.m. There being a quorum present, the following business was transacted:

The Chair thanked Montgomery College for hosting the committee.

The Chair explained the Select Committee on Water Policy charges.

The following invited testimony was given:

Carolyn Brittin, Texas Commission on Environmental Quality
Dean Robbins, Texas Water Conversation Association
Jimmy Schindewolf, North Harris Regional Water Authority
Jim Adams, San Jacinto River Authority
Fred LeBlanc, The Woodlands Operating Co., L.P.
Boone Pickens, Mesa Water, Inc.
Marvin Jones, Sprouse Shrader Smith P.C.

Public testimony was then given. A complete witness list is attached.

The Chair announced that the next meeting of the committee would be in Lubbock on April 21, 2004.

There being no further business, at 3:30 p.m. Senator Armbrister moved that the Committee stand recessed subject to the call of the chair. Without objection, it was so ordered.

Senator Kenneth Armbrister, Chair

RuthAnn Nicholson, Clerk

WITNESS LIST

Select Committee on Water Policy - The Woodlands

March 31, 2004 - 10:30 AM

ON: Adams, Jim (Region H & San Jacinto River Authority), Conroe, TX
Brittin, Carolyn (Texas Commission on Environmental Quality), Austin,
TX
Chance, Sr., Jackie (Self), The Woodlands, TX
Harden, Robert Hydrologist (Mesa Water/R.W. Harden & Associates, Inc.),
Austin, TX
Jackson, III, Guy (Self), Anahuac, TX
Jones, Marvin Attorney (Hemphill County Water Group), Amarillo, TX
Langford, David Vice President Emeritus (Texas Wildlife Association),
Comfort, TX
LeBlanc, Fred Environmental Manager (The Woodlands Operating Co.,
L.P.), The Woodlands, TX
Pickens, Boone (Self), Dallas, TX
Robbins, Dean (Texas Water Conservation Association), Austin, TX
Rochelle, Martin Attorney (San Jacinto River Authority & San Antonio
Water System), Austin, TX
Schindewolf, Jimmie General Manager (North Harris Co. Regional Water
Authority), Houston, TX
Sledge, Brian Attorney (Lone Star Groundwater Conservation District),
Austin, TX
Stegenga, Linda (Self), Cleveland, TX
Wagner, John (Self), Montgomery, TX
Woychesin, Jacqueline (Self), Cleveland, TX
Huddleston, Mark County Commissioner (Chambers County), Winnie, TX
Mendoza, Sr., Carlos (U.S. Fish & Wildlife Service), Houston, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 10:30AM, Wednesday, August 4, 2004

PLACE: Baylor Law School, Kronzer Appellate Courtroom, Room 127

CHAIR: Senator Kenneth Armbrister

The hearing will be held at Baylor Law School, 1114 University Parks Drive, Waco, Texas 76706

- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn/Recess
-

SENATE SELECT COMMITTEE ON WATER POLICY

AGENDA

10:30 am, Wednesday, August 4, 2004

Baylor Law School

1114 University Parks Drive

Waco, Texas 78706

- I. Call to Order and Roll Call

- II. Welcoming Remarks
The Honorable Mae Jackson, Mayor, City of Waco

- III. Invited Testimony
Commissioner Larry Soward, Texas Commission on Environmental Quality

Phil Ford, General Manager, Brazos River Authority

Kevin Ward, Executive Administrator, Texas Water Development Board

John Foster, Natural Resource Specialist, Texas State Soil & Water Conservation Board

Ned Meister, Commodity & Regulatory Programs, Texas Farm Bureau

The Honorable Leon Smith, Mayor, City of Clifton

Dick Collins, President, Acton Municipal Utility District

Groundwater - Agricultural - Rural Issues Panel
Trey Powers, Texas Department of Agriculture
Richard Bowers, President - Texas Alliance of Groundwater Districts
Gary McGehee, Natural Resources Committee, Texas Farm Bureau
Boone Pickens, Mesa Water, Inc., and Panhandle Ranchers
Robert Harden, R.W. Harden & Associates, Inc.
Mary Kelly, Environmental Defense

David Langford and Kirby Brown, Texas Wildlife Association

The Honorable John Leedom, Former Senator, Weather Modification Association

- IV. Public Testimony

V. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, August 4, 2004

10:30 a.m.

Baylor Law School, Waco, Texas

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, August 4, 2004, in the Baylor Law School, Waco, Texas

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Bob Deuell
Senator Troy Fraser
Senator Jon Lindsay

MEMBERS ABSENT:

Senator Robert Duncan
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh
Senator Todd Staples
Senator Tommy Williams

The chair called the meeting to order at 10:40 a.m. The following business was transacted: Senator Armbrister recognized Senator Averitt for welcoming remarks. Senator Armbrister then recognized The Honorable Mae Jackson, Mayor for the City of Waco for welcoming remarks. Senator Armbrister then introduced Kingsbery Otto, the new General Counsel for the Senate Natural Resources Committee.

Senator Armbrister reviewed the charges for the Select Committee on Water Policy and recognized the following for invited testimony:

Commissioner Larry Soward, Texas Commission on Environmental Quality
Phil Ford, General Manager, Brazos River Authority
Joe Hinton, Brazos River Authority
Kevin Ward, Executive Administrator, Texas Water Development Board
John Foster, Natural Resource Specialist, Texas State Soil and Water Conservation Board

Ned Meister, Commodity and Regulatory Programs, Texas Farm Bureau
The Honorable Leon Smith, Mayor, City of Clifton
Dick Collins, President, Action Municipal Utility District
Boone Pickens, Mesa Water, Inc., and Panhandle Ranchers
Richard Bowers, President, Texas Alliance of Groundwater Districts
Mary Kelly, Environmental Defense
Robert Harden, R.W, Harden and Associates, Inc.
Trey Powers, Texas Department of Agriculture
David Langford, Texas Wildlife Association
The Honorable John Leedom, Weather Modification Association

The Chair then opened public testimony and recognized the following for testimony
(see attached list for complete list of witnesses).

There being no further business at 5:25 PM, Senator Armbrister moved the Committee stand
recessed, subject to the call of the Chair.

Senator Kenneth Armbrister, Chairman

Kelly C. Gilbert, Committee Clerk

WITNESS LIST

Water Policy, Select Interim

August 4, 2004 - 10:30 AM

Interim Charges

ON:

Bingham, George Farmer (Self), Comanche, TX
Bowers, Richard Manager (North Plains GCD, Tx Alliance of Groundwater Districts), Dumas, TX
Collins, Dick (Action Municipal Utility District, Hood County Intergovt. Coalition), Grandbury, TX
Cooper, Joe Manager (Middle Trinity Groundwater Conservation District), Gustine, TX
Etheridge, Linda (Self), Waco, TX
Ford, Phil General Manager (Brazos River Authority), McGregor, TX
Foster, John (Texas State Soil and Water Conservation Board), Temple, TX
Grace, Horace Director (Clearwater Underground Water Conservation District), Belton, TX
Harden, Robert (R.W, Harden and Associates, Inc.), Austin
Hawk, Curtis Deputy City Manager (City of Burleson), Burleson, TX
Hinton, Joe (Self), Crawford, TX
Isom, Rex (Tx State Soil and Water Conservation Board
Tx State Soil and Water Conservation Board), Temple, TX
Jackson, Dr. Mae Mayor (City of Waco), Waco, TX
Kelly, Mary (Environmental Defense), Austin, TX
Langford, David (Tx. Wildlife Association), Comfort, TX
Leedom, John Chairman (Weather Modification Association), Dallas, TX
Light, Dudley (Self), Waco, TX
Mahoney, Mike General Manager, Evergreen UWCD (Tx Alliance of Groundwater Districts), Pleasanton, TX
Manning, Steve Rancher (Leon River Rest), Gatesville, TX
Meister, Ned Director of Commodity & Regulatory (Texas Farm Bureau), Waco, TX
Mullican III, William Deputy Executive Administrator - Planning (Tx Water Development Board), Austin, TX
Patterson, Ron City Manager (City of Kerrville), Kerrville, TX
Pickens, Boone Chairman (Mesa Water, Roberts County Landowners), Dallas, TX

Powers, Trey (Tx. Department of Agriculture), Austin, TX
Smith, Leon Mayor (City of Clifton and other municipalities on the Bosque),
Clifton, TX
Soward, Larry Commissioner (Texas Commission on Environmental
Quality), Austin, TX
Ward, Kevin Executive Director (Texas Water Development Board),
Austin, TX
Adams, Larry Rancher (Self), Gustine, TX
Baskett, Charles County Commissioner (Pct 2, Hood County), Grandbury,
TX
Bingham, Brian Farmer/Rancher (Self), DeLeon, TX
Davenport, Jim (Texas Commission on Environmental Quality), Austin, TX
DuPuy, Virginia (District III Waco City Council, Greater Waco Chamber,
Water Quality Task Force, Waco Business League)
Goodwin, Tony President (Brazos River Conservation Coalition), Millsap,
TX
Groth, Larry City Manager (City of Waco), Waco, TX
McDurham, Robin Mayor - Pro-Tem (City of Waco), Waco, TX
Musick, Steve Program Administrator (Tx Commission on Environmental
Quality), Austin, TX
Stocker, Spencer (Wohlgemuth for Congress), Burleson, TX
Vaughan Jr., James President (Greater Waco Chamber of Commerce),
Waco, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim

TIME & DATE: 10:00AM, Thursday, August 12, 2004

PLACE: Lubbock Texas

CHAIR: Senator Kenneth Armbrister

This meeting will take place at Texas Tech International Cultural Center.

- I. Call to Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn/Recess
-

AGENDA

Texas Tech International Cultural Center, Lubbock, Texas

10:00 am, Thursday, August 12, 2004

I. Call to Order and Roll Call

II. Welcoming Comments

Councilmember Jim Gilbreath, City of Lubbock

Dr. Jon Whitmore, President, Texas Tech University

III. Senator Duncan

Texas Water Advisory Council

SB 1094 Water Conservation Task Force

IV. Invited Testimony

Dr. Gabriel Eckstein, Professor, Texas Tech Law School

Overview of Rule of Capture and Alternatives

Bill Mullican, Texas Water Development Board

Agricultural Conservation Demonstration Initiative

Regional Water Planning Panel

Region A, C.E. Williams, Chair

Region O, Bo Brown, Chair

Region F, John Grant, Chair

Kent Satterwhite, Canadian River Municipal Water Authority

Jim Conkwright, High Plains Underground Water Conservation District #1

Municipal Panel

Ches Carthel, Lubbock Water Commission

Drew Darby, San Angelo Water Advisory Board

V. Public Testimony

VI. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Thursday, August 12, 2004

10:00 a.m.

Tx Tech International Cultural Center, Lubbock, Texas

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Thursday, August 12, 2004, in the Tx Tech International Cultural Center, Lubbock, Texas

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Robert Duncan
Senator Troy Fraser
Senator Jon Lindsay

MEMBERS ABSENT:

Senator Kip Averitt
Senator Bob Deuell
Senator Eddie Lucio, Jr.
Senator Frank Madla
Senator Eliot Shapleigh
Senator Todd Staples
Senator Tommy Williams

The Chair called the meeting to order at 10:23 a.m. The following business was transacted:

Senator Armbrister recognized Senator Duncan for welcoming remarks and introduction of Council Member Jim Gilbreath with the City of Lubbock and Dr. Jon Whitmore, President, Texas Tech University. Senator Armbrister then recognized Senator Duncan to give an overview of the Texas Water Advisory Council and the Water Conservation Task Force.

The Chair then recognized the following for invited testimony:

Dr. Gabriel Eckstein, Professor, Texas Tech Law School
Bill Mullican, Texas Water Development Board
C.E. Williams, General Manager, Panhandle Groundwater Conservation District, Chair Region A
Bo Brown, Chair Region O

John Grant, General Manager, Colorado River Municipal Water District and Region F
Kent Satterwhite, Canadian River Municipal Water Authority
Jim Conkwright, High Plains Underground Water Conservation District #1
Ches Carthel, Lubbock Water Commission
Drew Darby, San Angelo Water Advisory Board

The Chair then recognized the following for public testimony (see attached for complete list of witnesses).

There being no further business at 4:05pm, the Chair moved the Committee stand recessed, subject to the call of the chair, without objection, it was so ordered.

Senator Kenneth Armbrister, Chairman

Kelly C. Gilbert, Committee Clerk

WITNESS LIST

Water Policy, Select Interim

August 12, 2004 - 10:00 AM

Interim Charges

ON:

Baskin, Steve Rancher (Panhandle Alliance Inc.), Stratford, TX
Bowers, Charles (Panhandle Water District), Pampa, TX
Bowers, Richard General Manager (North Plains GCD), Dumas, TX
Bramblett, Kit Farmer, Ranch, County Attorney (Hudspeth County), Sierra Blanca, TX
Brown, Jr., Bo (Self), Lubbock, TX
Carpenter, Robert L. Farmer and member of Board HUGWD #1 (Self), Dell City, TX
Carthel, Chester Water Planning Manager, City of Lubbock (Self), Lubbock, TX
Conkwright, Jim (High Plains Underground Water Conservation District #1), Lubbock, TX
Darby, Drew (City of San Angelo Water Advisory Board), San Angelo, TX
Davis, Tally Farmer (HCUWCD #1 Dell City), Dell City, TX
Eckstein, Dr. Gabriel (Self), Lubbock, TX
Everheart, Harvey (Mesa Underground Water Conservation District), Lamesa, TX
Gilbreath, Jim (Lubbock City Council), Lubbock, TX
Grant, John General Manager (Colorado River Municipal Water District and Region F), Big Spring, TX
Haldenby, Roger Vice President - Operations (Plains Cotton Growers Inc.), Lubbock, TX
Howell, Donald C. (Self), Grandfalls, TX
Krienke, Daniel Producer (Tx Grain Sorgum Association), Lubbock, TX
Langford, David K. (Texas Wildlife Association), Comfort, TX
Lynch, Mick Landowner (Self), Dell City, TX
Moore, David President (North Plains Water District), Dumas, TX
Mullican, William Deputy Executive Administrator (Tx Water Development Board), Austin, TX
Musick, Steve Program Administrator (Tx Commission on Environmental Quality), Austin, TX
Neitsch, Roger Farmer (Wester Peanut Growers Association), Seminole, TX
Rainwater, Ken Director (Texas Tech Water Resources Center), Lubbock, TX
Satterwhite, Kent (Canadian River Municipal Water Authority), Sanford, TX
Sledge, Brian Attorney (Lone Star GCD, Middle Trinity GCD, CI Machinery Co, Clearwater uWCD, Rolling Plains GCD), Austin, TX
Snodgrass, Chris (Self), Brownsfield, TX
Snodgrass, Lindsay Rancher, Farmer (Hudspeth County Water District), Dell City, TX

Whitmore, Dr. Jon President (Texas Tech University), Lubbock, TX

Williams, CE General Manager (Panhandle Groundwater Conservation District), White Deer, TX

Brown, C. Mark County Extension Agent - Lubbock Co. (Self), Lubbock, TX

Keith, Karen (Self), Amarillo, TX

Laing, Malcolm Environmental Investigator (Texas Commission on Environmental Quality),
Lubbock, TX

Guthrie, Janet General Manager (Hemphill Co. UWCD), Canadian, TX

Lange, Allan General Manager (Lipan Kickapoo Water Conservation
District), Vancourt, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim
TIME & DATE: 10:00AM, Wednesday, September 8, 2004
PLACE: UT: Brownsville
CHAIR: Senator Kenneth Armbrister

The Committee will meet at the University of Texas at Brownsville in the Gorgas Boardroom
The address is 80 Ft Brown, Brownsville, Texas 78520

- I. Call To Order
 - II. Roll Call
 - III. Invited Testimony
 - IV. Public Testimony
 - V. Other Business
 - VI. Adjourn/Recess
-

AGENDA

**Gorgas Board Room, The University of Texas at Brownsville
Brownsville, Texas**

10:00 a.m. Wednesday, September 8, 2004

I. Call to Order and Roll Call

II. Welcoming Comments

- The Honorable Eddie Trevino, Jr., Mayor, City of Brownsville

III. Subcommittee on the Lease of State Water Rights Update

- The Honorable Frank Madla, Senator, Texas Senate District 19

IV. Invited Testimony

Water Supply Security Panel

- Buck Henderson, Texas Commission on Environmental Quality
- Jack Colley, State Coordinator, Governor's Division of Emergency Management
- Richard Cortez, Public Utilities Board, City of McAllen

Water Infrastructure Financing and Revenue Options

- Kevin Ward, Exec. Administrator, Texas Water Development Board

Watermaster Program

- Carlos Rubenstein, Regional Director, Texas Commission on Environmental Quality; Rio Grande Watermaster

Overview of Application of Historic Use Standards

- Lynn Sherman

IBWC Issues/1944 Water Treaty Panel

V. Public Testimony

VI. Recess

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, September 8, 2004

10:00 a.m.

Gorgas Boardroom, UT Brownsville

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, September 8, 2004, in the Gorgas Boardroom, UT Brownsville

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Eddie Lucio, Jr.
Senator Frank Madla

MEMBERS ABSENT:

Senator Jon Lindsay
Senator Bob Deuell
Senator Robert Duncan
Senator Troy Fraser
Senator Eliot Shapleigh
Senator Todd Staples
Senator Tommy Williams

The chair called the meeting to order at 10:15 a.m. The following business was transacted: Senator Armbrister made opening remarks with a brief overview of the committee's charges and introduced Mayor Eddie Trevino for opening remarks. The Chair then recognized Dr. Juliet Garcia, President of the University of Texas at Brownsville. The Chair then recognized Senator Madla for and update on the Subcommittee on Lease of State Water Rights.

The Chair recognized the following for invited testimony:

Buck Henderson, Texas Commission on Environmental Quality
Jack Colley, State Coordinator, Governor's Division of Emergency Management
Jim Darling, City Attorney, City of McAllen
Charles Amos, McAllen Public Utility Board
Roel Rodriguez, General Manager, Public Utility Board
Kevin Ward, Executive Administrator, Texas Water Development Board

Carlos Rubenstein, Regional Director, Texas Commission on Environmental Quality
Jimmie Steidinger
Wayne Halbert
Jo Jo White
Bobby Sparks

The Chair then opened public testimony and recognized the following. See attached list for complete list of witnesses.

There being no further business to come before the committee, at 1:50, the Chair moved the committee stand recessed subject to the call of the Chair. There being no objection, it was so ordered.

Senator Kenneth Armbrister

Kelly C. Gilbert, Committee Clerk

WITNESS LIST

Water Policy, Select Interim
Brownsville, Texas
September 8, 2004 - 10:00 AM

Interim Charges

ON:

Amos, Charles McAllen PUB Trustee, Place 1 (McAllen Public Utility Board),
McAllen, TX
Carpenter, Robert L. Hudspeth County Water District (Self), Dell City, TX
Colley, Jack State Coordinator (Governors Division of Emergency Management), Austin, TX
Darling, Jim City Attorney (City of McAllen), McAllen, TX
Garcia, Dr. Juliet President (University of Texas at Brownsville), Brownsville, TX
Halbert, Wayne General Manager (Harlingen Irrigation District, Adams Gardens
Irrigation District, Tx Irrigation District), Harlingen, TX
Henderson, Buck Manager - Public Drinking Water (TCEQ), Austin, TX
Perez, Noe E. (Self), Laguna Vista, TX
Rodriguez, Roel General Manager (McAllen Public Utility), McAllen, TX
Rubinstein, Carlos Regional Director & Watermaster (Tx Commission on
Environmental Quality), Harlingen, TX
Snodgrass, Chris (Self), Lubbock, TX
Sparks, Bobby Farmer (Self), Mercedes, TX
Steidinger, Jimmie Farmer (Self), Donna, TX
Trevino Jr., Eddie Mayor (City of Brownsville), Brownsville, TX
Ward, Kevin Executive Administrator (Tx Water Development Board), Austin, TX
White, Jo Jo Irrigation District - Mercedes (NAFTA Claim Participants), Mercedes, TX

**SENATE
NOTICE OF PUBLIC HEARING**

COMMITTEE: Water Policy, Select Interim
TIME & DATE: 1:30PM, Wednesday, November 3, 2004
PLACE: E1.036 - Finance Com. Rm.
CHAIR: Senator Kenneth Armbrister

If you have comments or written testimony that you would like to submit to the committee for consideration, that information must be submitted at this hearing.

- I. Call to Order / Roll Call
 - II. Invited Testimony
 - III. Public Testimony
 - IV. Other Business
 - VI. Adjourn / Recess
-

AGENDA

Select Committee on Water Policy

1:30 pm, Wednesday, November 3, 2004
Senate Finance Committee Room, E1.036
Capitol Extension
Austin, Texas

I. **Call to Order and Roll Call**

II. **Invited Testimony**

Report from Subcommittee on the Lease of State Water Rights

Senator Frank Madla

Key Surface Water Policy Issues

Edmund R. McCarthy, Jr., Jackson, Sjoberg, McCarthy & Wilson

Application of Historic Use Standards by Groundwater Districts

Lynn Sherman, Water Texas, Inc.

State Role in Oil and Gas Permitting

Ron Kitchens, Railroad Commission of Texas

III. **Public Testimony**

IV. **Recess**

MINUTES

SENATE COMMITTEE ON WATER POLICY, SELECT INTERIM

Wednesday, November 3, 2004

1:30 p.m. Capitol Extension, Room E1.036

Pursuant to a notice posted in accordance with Senate Rule 11.18, a public hearing of the Senate Committee on Water Policy, Select Interim was held on Wednesday, November 3, 2004, in the Capitol Extension, Room E1.036, at Austin, Texas.

MEMBERS PRESENT:

Senator Kenneth Armbrister
Senator Kip Averitt
Senator Bob Deuell
Senator Troy Fraser
Senator Jon Lindsay
Senator Todd Staples

MEMBERS ABSENT:

Senator Robert Duncan
Senator Eddie Lucio, Jr.
Senator Eliot Shapleigh
Senator Tommy Williams
Senator Frank Madla

The chair called the meeting to order at 1:50 p.m. There being a quorum present, the following business was transacted:

The Chair recognized Senator Madla for an overview of the Subcommittee on Lease of State Water Rights interim report. Senator Madla moved the adoption of the Subcommittee Report. There being 7 Ayes and 0 Nays and 4 absent, the report was adopted.

The Chair recognized the following for invited testimony:

Mr. Edmund R. McCarthy, Jr., Jackson, Sjoberg, McCarthy & Wilson
Mr. Lynn Sherman, Water Texas, Inc.
Mr. Ron Kitchens, Railroad Commission of Texas

The Chair then recognized the following for public testimony:

Mr. Gary Middleton, Chairman of South Central Water Advisory Committee
Mr. Mike Mahoney, General Manager, Texas Groundwater District Coalition
Mr. Jace Houston, General Counsel, Texas Groundwater District Coalition
Mr. C.E. Williams, General Manager, Panhandle Groundwater Conservation District
Mr. William Lynch, Dell City, Texas
Mr. Brian Sledge, Austin, Texas

Mr. David Nabors, Paris, Texas
Ms. Nanette Schultz, Whitehouse, Texas
Ms. Teresa Goss, Troup, Texas
Mr. Mark Flynn, Whitehouse, Texas
Mr. Tommy Hayes, Kilgore, Texas
Ms. Debra Christian, Tyler, Texas
Mr. Alan Goss, Troup, Texas
Ms. Barbara Nash, Troup, Texas

The following registered but did not testify before the committee:

Mr. David K. Langford, Texas Wildlife Association

The following registered and submitted written testimony but did not testify:

Ms. Lila C. Marsh, Mesa Water
Mr. Gordon Morgan, Headwaters Groundwater Conservation District

There being no further business to come before the committee, at 6:50PM, the Chair moved the committee stand recessed, subject to the call of the Chair. There being no objection, the motion prevailed.

Senator Kenneth Armbrister, Chairman

Kelly C. Gilbert, Committee Clerk

WITNESS LIST

Water Policy, Select Interim
Austin, Texas
November 3, 2004 - 1:30 PM

Interim Charges

ON: Christian, Debra (Self), Tyler, TX
Flynn, Mark (Self), Whitehouse, TX
Goss, Alan (Self), Troup, TX
Goss, Teresa (Self), Troup, TX
Hayes, Tommy (Self), East Texas, TX
Houston, Jace General Counsel (Texas Groundwater District Coalition),
Friendswood, TX
Kitchens, Ron Executive Director (Texas Railroad Commission), Austin,
TX
Lynch, William Rancher/Farmer (Self), Dell City, TX
Mahoney, Mike General Manager (Tx Groundwater District Coalition),
Pleasanton, TX
McCarthy, Edmond Attorney (Self), Austin, TX
Middleton, Gary Chairman (Southcentral Water Advisory Committee),
Victoria, TX
Nabors, David Farmer / Rancher (Self), Paris, TX
Nash, Barbara (Self), Troup, TX
Sherman, Lynn President, Water Texas (Self), Austin, TX
Shultz, Nanette (Self), Whitehouse, TX
Sledge, Brian Attorney (Numerous groundwater districts with historic use
periods), Austin, TX
Williams, C.E. General Manager (Texas Groundwater District Coalition),
White Deer, TX
Langford, David (Texas Wildlife Association), Comfort, TX
Marsh, Lila Attorney (Mesa Water), Dallas, TX
Morgan, Gordon President (Headwaters Groundwater Conservation District),
Kerrville, TX

APPENDIX B.

SELECT COMMITTEE ON WATER POLICY

The Rule of Capture in Texas, Ground Water Law in Other States,
and Options for Changes to the Rule of Capture

Testimony of

Gabriel E. Eckstein

**Associate Professor of Law
Texas Tech University School of Law
gabriel.eckstein@ttu.edu**

on

**The Rule of Capture in Texas, Ground Water Law in Other
States, and Options for Changes to the Rule**

before the

Texas Senate Select Committee on Water Policy

August 12, 2004

- 1. Chairman Armbrister, members of the Committee, my name is Gabriel Eckstein. I am an associate professor of law here at Texas Tech University. I am a lawyer and geologist by training, and I specialize in the areas of US and international water law with an emphasis on ground water resources.**
- 2. I have been invited here today to discuss the Rule of Capture in Texas and how other states handle ground water rights, and to suggest possible changes to the Rule of Capture. Thank you for this opportunity to speak on this fascinating topic.**

The Rule of Capture in Texas

- 3. The Rule of Capture** in Texas originated from the English law of Absolute Ownership. Under the pure form of the Rule, each landowner has an unqualified right to extract ground water from beneath her property for any purpose regardless of extraordinary conditions (such as drought) and regardless of any consequences to surrounding landowners.
4. Over the years, a number of important exceptions to the Rule emerged. These exceptions restrict landowners from pumping ground water if they know that their pumping would be considered wasteful, if they maliciously pump ground water in a way that causes injury to a neighbor, or if they know that the pumping would cause subsidence on a neighbor's property.
5. The Rule in Texas also has been modified by the State's numerous ground water conservation districts. The districts, which were authorized by the Legislature to regulate ground water withdrawals, have adopted various rules and policies, including requiring well permits and imposing restrictions on well location, spacing, construction, and pumping rates. While these regulations certainly have diminished the potency of the Rule of Capture, due to considerable differences in the rules and enforcement among the many districts, the Rule of Capture is still the prevalent ground water law in Texas.
6. In recent years, the Rule of Capture has been the subject of considerable criticism. While not all of it may be deserved, there is a growing consensus that the Rule may have outlived its usefulness. While the Rule is particularly notable for allowing the market to freely allocate water to uses regarded by the market as most valuable, it results in a fair allocation of resources only where supplies are abundant and all competing users make similar uses of the resource. The Rule becomes inefficient and counterproductive where ground water supplies are limited, where various uses with different use values exist, and where future uses are valued more highly than current uses. In Texas, the lack of restraints on the Rule of Capture has led to diminished supplies and the deterioration of water quality in many parts of the State, and threatens greater water problems for the future of Texas.

7. Despite the criticism, the Supreme Court of Texas has been reluctant to challenge the sanctity of the Rule. In fact, the Court reaffirmed the Rule in 1955,¹ 1978,² 1983³, and most recently, in 1999, in the well-known Sipriano case.⁴ The Court has based its tolerance of the Rule largely on its interpretation of the 1917 Conservation Amendment to the Texas Constitution,⁵ and the 1997 Water Bill (Senate Bill 1). The Conservation Amendment declares that conservation, preservation and development of the State's natural resources, including water, are *duties of the state*. Accordingly, only the State Legislature has the authority to amend the water laws of the State. Moreover, in adopting the 1997 Water Bill, which expressly recognized ground water districts as the State's preferred method of ground water management, the Court deduced that the Legislature has specifically chosen not to abandon the Rule of Capture. Whether this is true or not remains for the Legislature to address.
8. This year, the Rule of Capture celebrates its 100th year as this State's system for ground water governance. While the century mark may be a distinguishing attribute, Texas is today the only state west of the Mississippi to adhere to the Rule. Although it also survives in five other states (Connecticut, Indiana, Louisiana, Maine and Rhode Island) it does so with numerous modifications.⁶ In the rest of the country, including in those states that abandoned the Rule, the laws governing ground water resources have evolved along four legal doctrines: Prior Appropriation, Reasonable Use, Correlative Rights, and the Restatement of Torts approach. In the appendix to my testimony, I have attached a table comparing the five doctrines, which might be helpful in understanding some of the characteristics of and differences among the doctrines.

Prior Appropriation Doctrine

9. The Prior Appropriation Doctrine⁷ governing ground water is quite similar to the prior appropriation system applied to surface water in Texas. Water rights under this doctrine are based on a priority of right, meaning senior appropriators have a superior claim to the water over junior appropriators. To obtain a water right, an appropriator must make beneficial use of the water, must be able to quantify the appropriation as to the amount of water appropriated, and must have a specified point of diversion or withdrawal (such as a well). An appropriative right can be lost for non-use, and can be transferred or sold if the transfer

¹ City of Corpus Christi v. City of Pleasanton, 276 S.W.2d 798 (Tex. 1955).

² Friendswood Development Co. v. Smith-Southwest Industries 576 S.W. 2d 21 (1978).

³ City of Sherman v. Public Utils. Comm'n of Texas, 643 S.W. 2d 681 (Tex. 1983).

⁴ Sipriano v. Great Spring Waters of America, Inc., 1 S.W.3d 75, 76 (1999).

⁵ Tex. Const., Art. XVI, § 59(a).

⁶ For the most part, these modifications involve the creation of ground water districts and/or the adoption of permitting requirements.

⁷ Prior Appropriation principles are applied to ground water resources primarily in the Western U.S. in states like Idaho, Kansas, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. Colorado applies the doctrine only to designated ground water basins and to tributary groundwater.

and use of the water results in no harm to other appropriative water rights holders. Most states that apply this doctrine have established permitting authorities to manage appropriation applications and claims.

10. The concept of prior appropriation is designed to protect established investments in land, equipment, and business made with the expectation of a stable water supply. Strict adherence to this doctrine, however, is often not always practical since, in most cases, pumping by new and junior pumpers will likely affect the wells of existing, more senior wells. Most appropriation states moderate the doctrine by setting reasonable pumping levels.

Reasonable Use Doctrine

11. Under the Reasonable Use Doctrine,⁸ also known as the American Rule, a landowner may use as much underlying ground water on her overlying land as she desires so long as the amount is necessary for a reasonable and beneficial use. Each adjoining landowner also enjoys the same right in the sense that each has an equal right to an amount of water that is necessary for the reasonable use of her land. Reasonableness is not determined here in relation to other uses or other users, but rather in light of the circumstances. In effect, the question considered is whether the use is reasonable taking into account circumstances like well location, the amount of water, the purpose of the use, the placement of the water, the extent to which the use is wasteful, and other criteria.
12. Traditionally, use on non-overlying land was *per se* unreasonable and prohibited under Reasonable Use. Today, some Reasonable Use states permit off-land use so long as such use does not interfere unreasonably with the pumping and water use of neighboring landowners. Whether this includes the right to a fixed water table level or fixed pressure in the aquifer is still unclear, and states split on whether these issues are subject to a reasonableness standard.

Correlative Rights Doctrine

13. Under the Correlative Rights Doctrine,⁹ ground water must be shared equitably among overlying landowners, as well as between overlying and non-overlying landowners. Each overlying landowner is entitled to a “fair and just” portion of the common pool. Non-overlying owners are permitted to use the ground water, but are treated as appropriators and are subordinate to the correlative rights holders. Non-overlying owners may extract and transport ground water only if two conditions are met: 1) there is a surplus of water, defined as water in excess of safe annual yield, and 2) the surplus water is not be needed by

⁸ The Reasonable Use Doctrine is applied to ground water resources in many Eastern states, such as Alabama, Florida, Kentucky, Maryland, New York, North Carolina, and Tennessee.

⁹ Although the Correlative Rights Doctrine is almost singularly associated with California, where it was conceived, courts in Arkansas, Delaware, Missouri, Minnesota, Nebraska, and New Jersey have also applied the rule.

overlying landowners. In times of shortage or when conflicts arise, overlying landowners have priority over non-overlying users, and their “fair and just” share of the water is typically allocated in proportion to land owned over the aquifer.

Restatement of Torts (2nd) § 858

14. The fourth approach to managing ground water resources is provided in the Restatement of Torts (2nd).¹⁰ Section 858 of the Restatement applies to ground water resources and adopts some aspects of Reasonable Use and of Correlative Rights. It discards the preference for overlying land over non-overlying uses, and assesses reasonableness of a use by comparing the reasonableness of all uses and all users.
15. Under to the Restatement’s approach,¹¹ liability for well owners can arise under three scenarios: 1) where the withdrawal interferes with the withdrawals of other well owners by lowering the water table or reducing water pressure; 2) where the withdrawal results in pumping more than the well owner’s reasonable share; or 3) where the withdrawal interferes with the level of streams and lakes that depend on the ground water, or has a “direct and substantial” impact that unreasonably harms surface water right holders on streams and lakes. The principal effect of this rule is to give small pumpers a cause of action against large pumpers and ensure that large pumpers and irrigators do not impose excessive economic costs upon smaller water users.

Alternatives to the Rule of Capture

16. As you can see, there are a number of alternatives to the Rule of Capture that might be appropriate for Texas. While it is debatable and very controversial which of the four doctrines might work best for Texas, there are two points that should be considered. First, in comparison to the Rule of Capture as presently applied in Texas, all four of the alternative doctrines described are based on more modern developments of law and are more flexible systems better attuned to scientific knowledge and developments. Of course, all of them also have various drawbacks. Nevertheless, I believe that any of the four doctrines would serve as a strong system for protecting, conserving, and properly managing the State’s ground water resources.
17. The second point is that none of these alternative doctrines are perfect. None of them alone will fully address all of the ground water problems in Texas. Many states that have adopted a particular doctrine have modified the doctrine to fit their specific needs. Some states have even selected more than one doctrine to address their multiple and complex circumstances.

¹⁰ The Restatement is a treatise-like publication produced by eminent scholars and practitioners under the auspices of the American Law Institute. It offers concise summaries of the best aspects of American state tort law.

¹¹ Michigan, Ohio, Nebraska and Wisconsin have adopted the Restatement approach into their state water codes. In addition, many reasonable use states have incorporated some aspects of the Restatement into their ground water regulatory system.

Nebraska, for example, follows a mix of Reasonable Use and Correlative Rights rules supplemented by special district regulations.

18. The point here is if the Texas Legislature decides to consider an alternative system for managing the State's ground water resources, it should carefully investigate the advantages and disadvantages of each of these doctrines specifically in relation to the State's circumstances, possibly by commissioning an in-depth study. Only then will the Legislature be able to decide which, if any, of the doctrines are appropriate for Texas, whether the State should modify one of the doctrines to the State's needs, or whether the State should adopt the best aspects of two or more of the doctrines.
19. Of course, the State also could decide to maintain and modify the Rule of Capture. In either case – replacement or modification – I would offer the following recommendations, which could be incorporated either into the Rule of Capture or an alternative doctrine. These recommendations, I believe, will enhance the State's ability to protect, conserve, and manage ground water in Texas.

Liability for Well Interference

20. Well interference is often caused by the pumping of high-capacity wells near shallow low-capacity wells, typically owned by homeowners and used for domestic purposes. The interference may be temporary or permanent depending on the frequency and rate of pumping in the high-capacity well, and generally lowers the water level in the smaller wells. Under the Rule of Capture, well interference generally is not subject to liability, and where interference occurs, it is most often a homeowner who incurs the costs of digging a deeper well and installing a more powerful pump.
21. To address this problem, the Legislature could adopt a domestic well protection rule that subjects liability on an owner of a high-capacity, non-domestic well if the well interferes with a domestic-use well. This could be done in a number of ways: 1) based on a reasonableness standard; 2) by adopting well spacing standards to insure that high-capacity wells are not situated near pre-existing domestic wells; or 3) by adopting a preference schedule for ground water use similar to the schedule found for surface water in the Texas Water Code §11.024, which could be used to rank preferred uses in resolving well interference disputes.
22. Such a rule would protect private property rights and home ownership values. Domestic wells would be protected from unreasonable interference from high-capacity non-domestic wells, and they in turn would be allowed to pump so long as pumping is reasonable. This approach also would serve as a low-cost, negotiation-based framework for resolving conflicts and disputes between domestic and non-domestic users. Moreover, it would promote economic efficiency and equity by requiring offending parties to assume the costs of well interference.

Protecting and Conserving Aquifers

23. The State also should consider establishing standards for aquifer sustainability based on optimal safe yield criteria.¹² Such criteria could be defined through modeling and adjusted for climatic conditions, as well as economic, social, and environmental factors. These standards would bring predictability and consistency to the State's ground water districts while still giving them flexibility in local means of implementation. Monitoring and reporting requirements could be established to ensure that local districts conform to the State goal of aquifer sustainability.
24. The Legislature also could establish depletion rates for non-recharging aquifers.¹³ Aquifers like the Ogallala in north-west Texas and the Hueco-Mesilla Bolson in the El Paso area are examples of non-recharging aquifers, which, under the Rule of Capture, have experienced depletion at an alarming rate. In order to ensure some measure of predictability, the desired life span of non-recharging aquifers should be assessed with regard to the expected and desired growths in the local economy and population, and which allows for a transition time to other resources or another economic base. Once a socially and politically acceptable life span is agreed upon, the State should establish depletion rates to ensure that the resource is available for the duration of the life span.
25. In addition, the Legislature should consider quantifying ground water rights. Quantifying water rights has been an especially effective management tool for surface water resources, including in Texas. For ground water, this can be done by capping and permitting withdrawals, and by setting reporting requirements. The Edwards Aquifer Authority has managed that aquifer's water quite successfully through a permitting process based on historic use, and by capping total ground water withdrawal in the aquifer.

Conjunctive Management of Interrelated Surface and Ground Water Resources

26. Another action that the Legislature should consider is mandating the application of conjunctive management to interrelated surface and ground water resources. Conjunctive management is an administrative concept that regards interrelated waters as a single resource and manages them comprehensively. In many situations, ground water and surface water resources are hydraulically connected and interactive.¹⁴ Comprehensive management of such interrelated water resources has shown to increase yield, improve short-term and sustain long-term supplies, and prevent depletion of the water resources.

¹² Safe yield refers to the optimal quantity of water that can be continuously withdrawn from an aquifer without adverse economic, environmental, and aquifer impacts.

¹³ Non-recharging aquifers are aquifers that receive little or no natural replenishment. By definition, such aquifers cannot be used sustainably; continued pumping will eventually exhaust the resource.

¹⁴ For example, seepage from a stream or lake can recharge an underlying aquifer, and an aquifer often serves as a source of water for a stream or lake.

27. Some western states, such as Nevada and Utah, manage all water resources under a single water code without distinguishing between surface and ground water. This is true conjunctive management. Other states, like California, Colorado, and New Mexico, apply conjunctive management to related water resources only in specific critical areas. Still other states, such as Idaho and Wyoming, manage groundwater and surface water separately, but require permit applications to address effects on all water users, including both surface and ground water.

Aquifer-wide or Regional Authority

28. The Legislature also should reexamine the State's ground water conservation district system. Texas today has more than eighty such districts. In contrast, the State has only nine major and 20 minor aquifers. While local rule is a laudable and important objective, it is often an inadequate response to regional or statewide problems. Aquifers that have statewide or regional economic, environmental and social significance may not be effectively managed by locally controlled districts. This is especially concerning where multiple districts overlay a single regional aquifer, and the districts operate under competing and conflicting philosophies and strategies.

29. To improve ground water management, the Legislature should consider two possibilities: 1) reorganize and merge some of the ground water conservation districts to better reflect hydrological reality; or 2) create aquifer-wide or regional super districts to coordinate planning and management and to integrate the efforts of the local ground water districts. These super districts could have coordinating or supervisory authority similar to that used by the Edwards Aquifer Authority.

Closing

30. The suggestion I have offered here are some of the more important changes that Texas should consider in addressing its ground water resources. There are others. Due to time constraints, though, I will conclude my remarks and thank you for this opportunity to address this highly important and fascinating topic. It has been a pleasure, and I wish you well in your effort to confront the State's multiple and complex water issues.

Testimony of Gabriel E. Eckstein
Associate Professor of Law
Texas Tech University School of Law
Appendix

Summary Comparison of Legal Doctrines Governing Ground Water Resources in the United States

Doctrine	Type of Right	Basis for Water Rights	Use on Non-Overlying Land	Liability	Loss of Right	Transferability of Water Rights
Prior Appropriation	Right to Use the Water	First in Time For a beneficial use Quantifiable Specified point of diversion/withdrawal	No restriction	For violating rights of senior rights holder For committing waste in water withdrawal or use	For non-use For failure to abide by permit in permit states	Permitted, so long as no harm is suffered by other appropriators
Reasonable Use	Right to Use the Water	Overlying Land Ownership	Traditionally prohibited Today, some states allow so long as off-land use does not interfere unreasonably with neighboring landowners	For violating reasonable use in withdrawing water	Generally cannot be lost, even for non-use Can be forfeited for failure to abide by permit in permit states	Traditionally, right to the water cannot be severed from the land, therefore prohibited Some states allow transfer so long as use does not interfere unreasonably with rights of neighboring landowners
Correlative Rights	Right to Use the Water	Overlying Land Ownership Landowner entitled to "fair and just" portion of common pool	Preference for use on overlying land Non-overlying users treated as: <ul style="list-style-type: none"> o holders of appropriative not correlative rights o subordinate to correlative rights users Non-overlying use permitted only if: <ul style="list-style-type: none"> o surplus of water available o surplus is not needed by overlying landowners 	For withdrawing water in violation of "fair and just" proportion For violating bases for use on non-overlying land	Generally cannot be lost, even for non-use Can be forfeited for failure to abide by permit in permit states	Transferable, but subject to the use limitation for non-overlying land
Restatement of Torts (2nd)	Right to Use the Water	Permit system	No preference or restriction	For interfering with other wells by lowering water table or reducing water pressure For pumping more than reasonable share For interfering with level of streams/lakes that depend on	Generally cannot be lost, even for non-use Can be forfeited for failure to abide by permit in permit states	Freely transferable

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Associate Professor of Law
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Appendix

				the ground water and with right holders on streams/lakes.		
Rule of Capture in Texas	Property Right in the Water	Overlying Land Ownership	No restriction	For committing waste For maliciously injuring neighbor or her land For knowingly causing subsidence on neighbor's land	Cannot be lost	Freely transferable

APPENDIX C.

SELECT COMMITTEE ON WATER POLICY

**Overview of Regulatory Methods Available to Groundwater
Conservation Districts (GWCDs)**

OVERVIEW OF REGULATORY METHODS AVAILABLE TO GROUNDWATER CONSERVATION DISTRICTS

By Jace A. Houston and Gregory M. Ellis*

Description	Goal / Burden	Comments
Method: Permitting only; no spacing or production limits		
District establishes a permitting program and begins collecting data and studying aquifer, but does not immediately establish any substantive regulations for spacing or production.	Goal is to establish the foundation for future management decisions. Enables district to begin compiling data on the types and quantity of gw use. Does not place a regulatory burden on any gw users other than basic permitting and reporting requirements.	Permitting and permit fees, if applicable, are regulatory tools in and of themselves. They make gw users more aware of waste prevention and conservation. Substantive regulations, once established by the district, would be implemented through the existing permitting system. Gives permittees advance notice of future regulations and ability to participate in decision-making process. Permits can be issued on a term basis, such as one, five, or ten years; or permits can be issued on a long-term basis, like a permanent gw right.
Method: Spacing of wells		
District establishes minimum spacing requirements, or setbacks from: <ul style="list-style-type: none"> - other nearby wells - property lines - areas of potential contamination. Spacing requirements often vary by well capacity, pump size, or casing diameter; i.e. the larger the well or capacity, the larger the spacing requirement.	<p>Primary goals are to prevent interference or encroachment between wells and/or to ensure that the gw being pumped from a well is coming from beneath that well owner's land.</p> <p>Also used to prevent the movement of poor quality or contaminated water.</p> <p>Can be used in some aquifers as an indirect method of limiting production; i.e. if wells in the area have a limited capacity due to aquifer characteristics, then larger spacing requirements will limit amount that can be produced.</p>	<p>Appropriateness of spacing as a regulatory tool depends greatly on hydro-geologic conditions of the aquifer. Spacing works well in unconfined, relatively homogenous aquifers. Under these circumstances, spacing basically creates a condition where each well owner is pumping water from under his own land. In karst aquifers, spacing is generally not appropriate. In semi-karst aquifers, each district will have to investigate the pros and cons of spacing to determine if it is appropriate.</p> <p>Spacing is generally not workable in urban or developed areas.</p> <p>Spacing is limited as a regulatory tool because it only applies to new wells.</p> <p>Often used in conjunction with production limits.</p>
Method: Production limits in general		
District determines the amount that may be withdrawn by each permitted well. Many variations for implementing production limits (see below).	<p>Goal is to manage or control the amount of gw withdrawn from an aquifer to prevent:</p> <ul style="list-style-type: none"> - any declines in water levels, or - unacceptable declines in water levels. <p>In many cases, the district is trying to prevent other problems caused by water-level declines such as decreased spring flow, subsidence, or drying up other wells.</p>	<p>Establishment of production limits should not occur until a district has researched and developed its goals for an aquifer; i.e. what amount of decline is acceptable, if any? Determining the amount of gw available from the aquifer depends on numerous factors such as:</p> <ul style="list-style-type: none"> - what would be the impact from water-level declines? - would shallower wells be affected? - would spring flows be impacted? - would subsidence occur? - would the impacts from water-level declines be

		<p>limited to the well owner's property or would they extend to other areas?</p> <p>Establishment of production limits also involves consideration of economic impacts.</p> <ul style="list-style-type: none"> - are there alternative supplies available to meet demands? - in the absence of a district, shallower, up-dip wells would naturally be depleted by the lower, down-dip wells. Is it appropriate to maintain the water levels in the shallower wells at the expense of those with deeper wells? What about the stored water that is left untapped? - if a policy of maintaining water levels in shallow wells is adopted, who will bear the burden of the production limits?
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Method: Production limits based on acreage or tract size

<p>District establishes a certain quantity of water that can be withdrawn per acre or section of land owned, leased, or irrigated.</p> <p>District may limit production based on contiguous acreage.</p>	<p>This method essentially sets up a correlative rights approach where each landowner is entitled to withdraw a certain amount of water from beneath his property.</p> <p>This method tends to facilitate the marketing of groundwater by creating more certainty regarding how much water can be withdrawn from beneath each acre of land.</p>	<p>This method is commonly used by districts in the Ogallala Aquifer because of the tremendous amount of water in storage and the desire to allow each landowner to use his portion of the gw under his land. This method is well-suited to the hydrogeologic conditions of the Ogallala, i.e. unconfined aquifer, fairly homogeneous. Of course, this method also means the aquifer will be slowly mined if recharge is limited.</p> <p>This method is difficult to implement in an aquifer where the district is trying to maintain a certain water level and recharge is limited. Once the available recharge is divided across all the acreage in the district, it's not enough water to sustain most forms of agriculture.</p> <p>Districts should keep in mind that a correlative rights approach generally favors owners of large tracts of land, and it does not necessarily work well for large water users. For example, farmers may own relatively large tracts of land, but it still may not equate to enough water for the particular crop they are raising. Also, municipalities may have a difficult time because they are large water users, but they generally do not own large tracts of land.</p> <p>Also, if the water in an aquifer is not spread relatively uniformly across the district, such as in a karst aquifer, a correlative rights method would allocate the same amount of production to all landowners regardless of whether they have producible gw beneath their property or not.</p>
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Method: Production limits based on proportionate reduction

<p>District establishes a cap on withdrawal from the aquifer, and once the cap is reached, each permittee is proportionately</p>	<p>Goal is to maintain a certain water level in the aquifer by requiring each permittee to reduce his gw usage a certain percent until the total</p>	<p>Any regulatory method that requires permittees to reduce their gw usage generally requires the existence of some form of alternative supply. Some permittees may be able to simply reduce their gw</p>
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<p>reduced to make room for new permits.</p> <p>Another variation is to assign a percent reduction that applies to all permittees, including new permittees, and then periodically (perhaps every few years or when the mgmt plan is updated) adjust the percent reduction if the cap is being exceeded.</p> <p>Until the cap is reached, permits would be issued based on proven, non-wasteful, beneficial use.</p>	<p>gw pumpage for the district is approximately equal to recharge or sustainable yield.</p> <p>Although the percent reduction required may be the same for each permittee, the burden of meeting that goal is by no means equal. Reducing gw usage generally requires finding an alternative water supply, and some permittees cannot afford more expensive alternative supplies.</p>	<p>usage through conservation or other means, but most will have to seek alternative supplies to meet their total water demand.</p> <p>When requiring permittees to seek out alternative supplies, the district must consider the economic impacts of their proposed regulations. The regulations must be feasible to implement.</p> <p>The district should provide as much flexibility as possible to permittees in meeting the district's requirements. For example, allowing one permittee to buy out another permittee's permit can provide an alternative means of keeping total pumpage below the cap. If one permittee is located close to an alternative water supply, he could reduce his gw pumpage more than the required amount so that other permittees could stay on gw. However, transferring pumpage this way can result in localized areas of decline if pumpage becomes too concentrated. Gray water and effluent reuse can also provide flexible alternatives.</p> <p>In adopting any regulations that involve limiting production, districts must consider the economic impact and feasibility of their regulations. Stakeholders should be involved in the development of the regulations because they can offer important insights regarding the availability of alternative supplies, and their participation can often lead to gaining their buy-in and support for the regulations.</p>
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Method: Production limits based on “first in time, first in right”

<p>District establishes a cap on withdrawal from the aquifer, and once the cap is reached, no new permits are issued.</p> <p>Until the cap is reached, permits would be issued based on proven, non-wasteful, beneficial use.</p>	<p>Goal is to maintain a certain water level in the aquifer by not issuing any new permits once the total gw pumpage for the district is approximately equal to recharge or sustainable yield.</p> <p>This method places the burden of meeting the goal on new gw users or existing permittees who need to increase their gw use. This method also requires finding some alternative water supply, and some gw users cannot afford more expensive alternative supplies.</p>	<p>See comments above for production limits based on proportionate reduction.</p>
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Method: Production limits based on protecting historical use

<p>Chapter 36 states that when implementing production limits, a district may implement rules to preserve historical use.</p> <p>There are a variety of different ways to implement historical use rules, but the basic premise</p>	<p>The basic goal of historical use regulations is to place the burden of production limits on new users within the district while protecting the historical users. However, this method also places a burden on landowners with no historical use or no evidence to support their</p>	<p>Historical use rules are generally implemented in conjunction with other types of production limits. For example, once the cap has been reached, new users may face a proportional reduction limit or some other type of limit, while historical users are allowed to pump their historical amount.</p> <p>If the aquifer cap is less than the total amount of</p>
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<p>involves the following:</p> <ul style="list-style-type: none"> - at a point in time, generally at the time of rule adoption, the district defines a specified class of users as historical users - a certain amount of gw is then allocated to each historical user, generally based on the annual amount of gw the user can prove he put to a non-wasteful, beneficial use during some historical use period of time - then when the district decides it is necessary to implement production limits, historical users can be allowed to continue pumping their historical use amount while production limits are applied only to new users 	<p>historical use.</p> <p>In some variations of historical use rules, the historical user receives a permanent, marketable gw right. This means that the historical user has the option of selling his gw right if he so chooses. This variation still places the burden of regulation on new users, but it creates an additional option for the new user by creating a market where he can buy gw rights.</p> <p>Another variation of the historical use method would define historical users and establish a historical use amount, but the historical user's permit is neither permanent nor transferable. For example, a district could limit a historical use permit to the specific type of historical use. This means that the historical agricultural user can continue to pump his historical amount for his agricultural operations, but he cannot sell his permitted quantity to another type of user.</p>	<p>historical use (eg. Edwards Aquifer Authority), then the district may choose not to permit any new users and may also have to limit historical users.</p> <p>Historical use rules do not mean that the district cannot regulate historical users, it simply means that the district can restrict new users differently than historical users.</p> <p>Historical users generally must prove their historical use. Evidence used to prove historical use may include items such as:</p> <ul style="list-style-type: none"> - pumpage records, such as meter logs, electric bills, or fuel bills - records of irrigated acreage, such as aerial photos, crop records, receipts for seed, fertilizer, or other chemicals that would corroborate farmed acreage - manufacturing or production records for industrial or commercial users - meter records from sale of water <p>Grandfathering is another variation of the historical use method in which existing wells are simply exempted from the district's regulatory or permitting requirements.</p>
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Method: Production limits based on rate of withdrawal

<p>District establishes a maximum rate at which water may be withdrawn from each permitted well. Rate is typically based on gallons per minute or gallons per day.</p> <p>District may establish different rates of withdrawal for different aquifers or for different geographic areas or geologic strata within an aquifer.</p>	<p>Goal is to maintain a certain water level in the aquifer by limiting each permittee to a specified maximum rate of withdrawal.</p>	<p>Regulations that establish a maximum rate of withdrawal without specifying a maximum quantity are fairly rare. Generally rate of withdrawal regulations are used in conjunction with other regulatory methods such as spacing or density requirements. Also, permittees would still be limited to the amount they can prove will be put to a non-wasteful, beneficial use.</p> <p>The maximum allowable withdrawal rate is generally determined based on the amount of water that can be withdrawn from the aquifer without causing unreasonable drawdowns. In some cases, this method is coupled with an additional production limit requirement that only applies if a certain amount of water-level decline is detected in the area.</p>
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Method: Production limits based on preventing well interference or unreasonable drawdown

<p>This category encompasses a number of regulatory methods designed to address well interference or aquifer drawdown on a more specific, well-by-well approach.</p> <p>For example, a district may require a permit applicant to</p>	<p>The general goal of the various methods in this category is to prevent well interference and unreasonable drawdowns. However, the secondary goal is to accomplish the regulation in the most limited or site-specific manner possible; i.e. using a rifle approach instead of a shotgun. Instead of</p>	<p>This method is similar to those described below under "Regulations tailored to specific geologic strata or geographic areas," but the various methods within this category are typically more site-specific than just dividing the district into different geographic areas. (But see the comments below for more discussion of the benefits of tailoring regulations to specific areas where management is needed.)</p>
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<p>perform a hydrologic pump test on the well to determine the maximum area of influence, and then the district will set the maximum allowable production at a level that minimizes negative impacts to nearby wells.</p> <p>Another variation involves the district establishing unique production limits for wells located in a particular geographic area that is experiencing unacceptable water-level declines.</p>	<p>adopting district-wide production limits that apply equally to all well owners (regardless of the fact that they may live in an area that has plentiful groundwater supplies or very little demand), the district reviews applications on a case-by-case (or area-by-area) basis and only applies production limits when they are needed to prevent well interference or unreasonable drawdown.</p>	<p>One important consideration in implementing any method that is site-specific or area-specific is the need for the district to be consistent in how it applies its regulations. Districts must not be arbitrary or capricious in applying their rules. Tailoring a district's regulations to a specific well or area can be very logical and beneficial, but the district's discretion in permitting must be guided by specific, well-defined factors or criteria. For example, if a district is going to review each application and limit an individual well's production based on impacts on neighboring wells, the district should consider defining the factors that will be reviewed and considered by the board and specifying the amount of impact that is considered acceptable or unacceptable.</p>
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Method: Regulations tailored to specific geologic strata or geographic areas

<p>Districts have the authority to adopt different rules for different aquifers or geologic strata located within the district or for different geographic areas within the district.</p>	<p>Goal is to improve the management of the gw resources by tailoring the district's rules to the areas where problems are occurring, such as geographic areas where water levels are declining or particular aquifers that are being over-pumped.</p>	<p>Tailoring gw regulations to the areas that need to be managed allows the district to meet its management goals in a more efficient manner without burdening pumpers in areas of the district that are not expected to have any problems.</p> <p>Another example would be a district with multiple aquifers stacked one on top of another that are not interconnected. If the only aquifer experiencing water-level declines is the shallow aquifer, it would be logical to apply regulations only to the shallow aquifer. Pumpers in the deeper aquifer would remain unregulated until such time as the district determines that regulation is necessary.</p> <p>If a district is split geographically by more than one aquifer, or if the conditions in, or use of, an aquifer differ substantially from one geographic area to another, the district could apply different rules in each aquifer or geographic area.</p>
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Method: Regulations based on prioritizing types of use

In appropriating surface water, the state gives a preference to applications based on type of use in the following order of priority:

- domestic and municipal
- agricultural and industrial
- mining and recovery of minerals
- hydroelectric power
- navigation
- recreation and pleasure
- other beneficial uses

Districts do not have express statutory authority to limit production based on type of use, but one theoretical method of limiting production would be to restrict or prohibit the lower priority uses when certain amounts of water-level declines are experienced.

Goal is to prevent or mitigate water-level declines in an aquifer by restricting lower priority types of use.

The Edwards Aquifer Authority is the only gw district that currently implements this type of regulation. The EAA implements water use restrictions that increase in severity as the water level in the aquifer declines.

Method: Well construction and closure standards

Some districts establish specific well construction standards and well closure standards in order to address certain water quality concerns.

Goal is to prevent contamination of aquifers, which may be caused by such things as:

- surface contaminants flowing down through the well bore,
- cross-contamination between different aquifers or geologic strata, or
- movement of contaminants caused by pumpage.

Requiring wells to be spaced a certain distance from sources of contamination is a common method of preventing contamination.

The Texas Department of Licensing and Regulation establishes minimum well construction standards that apply statewide, but several districts have rules that require additional or more stringent standards of construction, such as additional cementing requirements. Typically these are adopted in areas that are susceptible to water quality problems due to the hydrogeology of the aquifer (eg. karst aquifers) and to the existence of natural or man-made areas of contamination (eg. oil field wastes or salt water).

Method: Reporting requirements: well registration, drilling logs, and gw production reports

<p>Districts collect a variety of information and data that are important to the district's management programs.</p>	<p>Goal is to compile the information necessary to support the district's programs and decisions from both a technical and legal perspective.</p>	<p>Chapter 36 requires districts to collect certain types of information such as drilling logs.</p> <p>Data collection is one of the district's most important functions. All regulatory and policy decisions must be supported by accurate data and modeling.</p> <p>Implementing data collection and reporting requirements makes permittees more aware of the amount of gw they are using and the importance of gw resources, and it also lends more credibility and support to the district's management efforts because permittees know that the district is actively using scientific information to back up its decisions.</p>
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***Notes:**

1. Jace A. Houston currently serves as general counsel for the Harris-Galveston Coastal Subsidence District. Prior to his work with the subsidence district, Mr. Houston worked for the Texas Natural Resource Conservation Commission in the Office of Policy and Regulatory Development. He has also worked with Representative Robert Saunders as general counsel and committee clerk for the House Land & Resource Management Committee.

Gregory M. Ellis serves as general manager for the Edwards Aquifer Authority. Mr. Ellis formerly served as general counsel for the Harris-Galveston Coastal Subsidence District and also as legislative liaison for the Texas Natural Resource Conservation Commission. Mr. Ellis' previous legislative experience includes one session as general counsel and legislative assistant to Senator Bill Ratliff, and two sessions with Representative Terral Smith as legislative aide and committee clerk.

2. It is very difficult to put all the options for managing groundwater into a single formula or box. This table is simply intended to serve as an overview of some of the more common methods of groundwater regulation currently available to groundwater conservation districts. Most existing districts use some variation or form of the methods listed above, but districts are encouraged to work with an attorney who specializes in groundwater district law to investigate other methods that meet the specific needs of that district while fitting within the statutory authority granted in Chapter 36 or the enabling act of that district.

3. There are numerous possible variations for each method listed. For example, under the method of production limits based on tract size or acreage, a district could establish a certain amount of gw that could be withdrawn per section without specifying the number of wells allowed. This would give the landowner the flexibility to withdraw the specified amount of gw from either one large well or several small wells.

4. The primary citation for groundwater district authority related to spacing and production limits is found in Section 36.116, Water Code.

APPENDIX D.

SELECT COMMITTEE ON WATER POLICY

Summary of Texas Commission on Environmental Quality (TCEQ)
Authority Over GWCDs

TCEQ AUTHORITY OVER GROUNDWATER CONSERVATION DISTRICTS
Invited Testimony, Senate Select Committee on Water Policy, April 21, 2004 Public Hearing

Texas Commission on Environmental Quality (TCEQ) authority regarding Groundwater Conservation Districts (GCDs) is vested from Article XVI, § 59 of the Texas Constitution and the Texas Water Code (TWC), Chapters 12, 35 and 36.

Creation of GCDs

Under TWC, Chapter 36, Subchapter B, TCEQ is responsible for the creation of GCDs in response to landowner petitions. TCEQ rules [30 TAC § 293.18] outline these procedures.

In addition, TCEQ is responsible for the study and designation of priority groundwater management areas (PGMAs) and the creation of GCDs in PGMAs if the landowners in the PGMA do not create a GCD within two years of TCEQ PGMA designation. This authority is provided by TWC, Chapter 35. PGMA study and designation rules are in 30 TAC Chapter 294, and rules regarding GCD creation by TCEQ initiative are in 30 TAC § 293.19.

Under Article 16, §59 of the Texas Constitution, TCEQ must review and provide recommendations on any legislative act that creates a new water district, including GCDs, or significantly changes the authorities, boundaries or board representation for an existing water district.

GCD Management Plan Compliance

Under TWC, Chapter 36, Subchapter I, TCEQ is responsible for noncompliance enforcement if GCDs do not adopt groundwater management plans and obtain Texas Water Development Board (TWDB) certification of the plans; and, if they do not implement their certified plans as determined by State Auditor's Office (SAO) audits. TCEQ rules applicable to agency noncompliance review and enforcement procedures regarding district management plans are contained in 30 TAC §§ 293.22 and 293.23.

Interagency coordination is outlined in a memorandum of agreement (MOA) regarding state agency groundwater management program responsibilities signed in April 2001 by the TCEQ and the TWDB. To identify noncompliant GCDs, the TCEQ relies on: 1) TWDB correspondence as set out in the MOA to identify GCDs that have not complied with statutory plan adoption and certification deadlines, 2) SAO audit reports that annually present the results of GCD audits for each fiscal year and identify GCDs that were determined to be nonoperational, and 3) GCD petition and a peer-review panel to identify cases where joint GCD management planning has revealed a statutory noncompliance issue.

Chapter 36 requires joint GCD planning and provides for a GCD to petition TCEQ for an inquiry if the district believes that the joint planning process provided under TWC, § 36.108 has not resulted in adequate planning or management within a common Groundwater Management Area. TCEQ appoints a review panel to consider the issue and develop appropriate recommendations. If statutory noncompliance issues are determined, then TCEQ could take appropriate enforcement actions.

Under TWC, §36.108 and §§ 36.301 through 36.303, TCEQ management plan noncompliance review and enforcement is required if a GCD fails to:

- adopt a plan within the statutory time frame (within two years of confirmation);
- achieve certification of a plan or amendment of a plan with the Executive Administrator, TWDB;

- be actively engaged and operational in achieving the objectives of the plan based on SAO audit of GCD performance under its plan; or
- comply with the statutory requirements for joint management planning.

In general, the TCEQ noncompliance review and enforcement protocol begins with a cooperative attempt to reach a voluntary resolution with a noncompliant district. The basis for voluntary compliance is a signed compliance agreement that includes a schedule for achieving all compliance milestones. TCEQ staff then monitor the district's adherence to the compliance agreement. The district would be considered to be in compliance and no enforcement action would be necessary if the milestone objectives are met on schedule.

If a district fails to respond, is not capable to respond, or will not cooperate to reach a voluntary compliance agreement, formal enforcement action would be initiated by the Executive Director. Depending on the district's level of cooperation, formal enforcement may be achieved through either an agreed order process or through the following actions:

- issue an order requiring the GCD to take certain actions or refrain from taking certain action,
- dissolve of the GCD's Board of Directors and calling for election of new directors,
- request the Attorney General to bring suit for the appointment of a receiver,
- dissolve the GCD, or
- make recommendations for legislative consideration.

Reporting Requirements for GCDs

GCDs are governed by TWC, Chapter 36. Reporting requirements for GCDs are located in TCEQ rules, 30 TAC §293.20. GCDs are required to file the following with TCEQ:

- certified copies of legislative acts creating district,
- certified copies of board orders canvassing confirmation election results and declaring election results [TWC, §36.017(e)],
- certified copies of board orders that change the boundaries of a district including detailed boundary description and map,
- registration of district contacts and board members with TCEQ (District Registration Form) [TWC, §36.054(e)], and
- copies of certified existing, new, or amended management plans.

Under both TWC, Chapters 36 (Groundwater Conservation Districts) and 49 (Provisions Applicable to All Districts), GCDs are exempt from the requirements for other types of water-district reporting. A GCD is not required to provide annual financial audit reports or other supplemental information to TCEQ unless the GCD is required by special legislation to comply with Chapter 49. TCEQ encourages GCDs to provide courtesy copies of their annual financial audit reports.

General Supervision and Technical Assistance

Additional TCEQ responsibilities regarding water districts and GCDs include the following.

- Under provisions of state law, the TCEQ has general supervisory authority for all water districts that are created under the authority of the Texas Constitution. TWC, § 12.081 provides that the powers and duties of all districts created under Article III, § 52, and Article XVI, § 59, of the Texas Constitution are subject to the continuing right of supervision of the State of Texas by and through the TCEQ.
- Under TWC, Chapter 36, Subchapter F, TCEQ is responsible for bond review along with the Office of the Attorney General. TCEQ authority related to GCD bonds and bond review is the same as it is for other types of water districts.
- TWC, Chapter 36 requires TCEQ to provide technical and educational assistance to GCDs upon request.

APPENDIX E.

SELECT COMMITTEE ON WATER POLICY

TCEQ's Role in S. Central Texas Water Advisory Committee's Appeal
of Edwards Aquifer Authority's Actions

**Texas Commission on Environmental Quality’s
Role in South Central Texas Water Advisory Committee’s
Appeal of Edwards Aquifer Authority’s Actions**

There is no general or specific provision in the Texas Water Code or the Edwards Aquifer Authority Act (the Act) providing for the appeal of the Edwards Aquifer Authority’s Board (Board) action, including rules, to the Commission that would result in the Commission overturning the rule or action.

The Edwards Aquifer Authority Act (the Act) provides an opportunity for the South Central Texas Water Advisory Committee (Advisory Committee) to appeal to the Texas Commission on Environmental Quality’s Commissioners (Commission) any action by the Edwards Aquifer Authority’s (EAA) Board that is considered prejudicial to downstream water interests. Prior to appealing to the Commission, the Advisory Committee is required, by resolution, to request from the EAA reconsideration of action.

Section 1.10(f) of the Act states: *“The Advisory Committee by resolution may request the board to reconsider any board action that is considered prejudicial to downstream water interests. If the board review does not result in a resolution satisfactory to the advisory committee, the advisory committee by resolution may request the commission to review the action. The commission shall review the action and may make a recommendation to the board. If the board determines that the board's action is contrary to an action of the commission affecting downstream interests, the board shall reverse itself.”*

Therefore, the Commission, after review of the action, may make a recommendation to the EAA on an appeal. The Act does not provide the Commission the authority to reverse an action of the Board. It is up to the Board to determine whether the action is contrary to an action of the

Commission that affects downstream interests. If the Board determines the action is contrary, they are required to reverse their decision.

Under Section 1.02 of the Act, the EAA is a conservation and reclamation district created under Article XVI, Section 59 of the Texas Constitution. Therefore, the Commission has a continuing right of supervision over the EAA under Texas Water Code (TWC), Section 12.081. Under its continuing right of supervision, the Commission may: 1) inquire into the competence, fitness, or reputation of any board member; 2) require audits, or other financial information, inspections, evaluations, and engineering reports; 3) issue subpoenas; 4) conduct investigation and hearings; and 5) issue rules necessary to supervise districts.

The Commission has not exercised its continuing right of supervision over districts in the day to day operations of a district. The Board is elected to manage the affairs of the district. In addition, there is no general provision in the Water Code providing for the appeal of district rules to the Commission.

However, there are several areas where the Texas Water Code provides for an appeal of a specific type of district action to the Commission. They are:

TWC, Section 36.108 - Petition by a groundwater conservation district seeking a Commission inquiry when the district has adopted a resolution for joint planning within a groundwater management area and another district has refused to join in the planning process. Part of the review involves a review of whether the other district's rules adequately protect groundwater in the management area. Rules implementing this are at 30 TAC Section 293.23.

TWC, Section 54.239 - Appeal to the Commission of a municipal utility district board decision that involves the cost, purchase, or use of facilities. Appeal must be made within 30 days of decision. Rules implementing this are at 30 TAC Section 293.180. The rules differ from the statute in that they provide for appeal of MUD decision that involves the cost, purchase, or use of improvements constructed by a developer for the district.

TWC, Section 151.163 - Appeal to the Commission of a Harris-Galveston Coastal Subsidence District decision granting permit for groundwater withdrawal for less than the amount requested. The appeal must be filed within 60 days of district order.

APPENDIX F.

SELECT COMMITTEE ON WATER POLICY

Overview of Interbasin Transfer and Junior Rights Issues

Interbasin Transfers of Water Rights

Background - Junior Water Right Provision

Prior to Senate Bill (SB) 1 (75th Legislature, 1997), interbasin transfers (IBTs) of water required a special permit from the Texas Commission on Environmental Quality (TCEQ). The Water Code prohibited those IBTs which prejudiced persons or property in the basin of origin. A Texas court decision had determined this to mean that a balancing test between the detriments to the basin of origin and the benefits to the receiving basin must be performed. Special conditions could be placed in the permit to protect the basin of origin. The Water Code and the Texas Constitution also prohibited the use of state funds for an IBT unless the water was not needed within the basin of origin during the next 50 years.

The Legislature, as part of SB 1, enacted new specific safeguards to further protect the basin of origin. These included requirements for notification of local officials and water right owners, local public hearings, documentation of conservation programs, consideration of alternatives, mitigation and compensation to the basin of origin, comparison of benefits to the harm, and the change in the priority date of the transferred water right to the date the permit was accepted for filing (the junior water right provision).

All new water rights are given a priority date. The priority date determines the priority to water in times of a water shortage. The older rights, ones with an early priority date, are called senior rights. Water rights with a more recent priority date are referred to as junior water rights. In a water shortage, a senior water right that is not receiving all of the water that it is entitled to can exercise a priority “call” on all upstream juniors. When a “call” is exercised, junior water rights can not divert or store water until the senior right gets all of the water to which they are entitled.

This is the essence of the prior appropriation doctrine of Texas water law.

For interbasin transfers, the junior water right provision of SB 1, now codified in the Water Code §11.085, creates an exception to the general rule of priority dates. For new water rights that include an interbasin transfer authorization, those carry a junior priority date like all other new water rights. For existing water rights with a more senior priority date that are seeking an amendment to add interbasin transfer authorization, unless the project falls into one of the exemptions of §11.085, that portion of the water right transferred to another basin will lose its senior priority date.

Permitting Process: Non-exempt Interbasin Transfers

IBTs that are not exempt under the statute are processed similar to applications for new appropriations, including the possibility of a contested case. However, there are additional requirements under the statute and the TCEQ’s rules.

NOTICE. Notice of the application is required to be mailed to all holders of permits, certificated filing, or certificates of adjudication located in whole or in part in the basin of origin; each county judge of a county located in whole or in part in the basin of origin; each mayor of a city with a population of 1,000 or more located in whole or in part in the basin of origin; all groundwater conservation districts located in whole or in part in the basin of origin; and each state legislator in both basins. The commission must conduct a public meeting to receive public comments in both the basin of origin and the receiving basin. The notice for the public meeting is combined in the mailed notice. Notice of the application and the public meeting on the application is required to be published in a newspaper of general circulation in each county located in whole or in part in both the basin of origin and the receiving basin.

ADDITIONAL REQUIRED INFORMATION. The TCEQ's rules require, in addition to the normal required information in a application for a new permit, that the applicant also provide in the application: the contract price of the water transferred; a statement of the category of proposed use; the costs of diverting, conveying, treating and distribution the water; the projected effect on rates and fees for each class of ratepayer; an analysis of the needs of the water in the basin of origin and the receiving basin; an analysis of feasible and practicable alternative supplies; the amount and purposes of use in the receiving basin; proposed methods to avoid waste and implement water conservation and drought contingency measures; the proposed methods and efforts by the receiving basin to put the water proposed for transfer to beneficial use; the projected economic impact that is reasonably expected to occur in each basin; the projected impacts of the proposed transfer to existing water rights, water quality, aquatic and riparian habitat, if an amendment to an existing water right is sought then that impact is based on historic use of the water; proposed compensation to the basin of origin, if any; and the continued need to use the water under the existing water right if an amendment to an existing water right is sought.

RESPONSE TO COMMENTS: The Executive Director prepares a summary of all public comment received in writing and at the public meetings. This summary also includes a response to each of those comments. This response to comments is filed with the Chief Clerk and is part of the record for consideration by the TCEQ.

TECHNICAL ANALYSIS: The Executive Director does a technical analysis of the application and prepares memorandum that are filed in the record for consideration by the TCEQ Commissioners, the applicant bears the burden of proof on all required findings of fact. For IBTs, those findings of fact include: that the detriments to the basin of origin are less than the benefits to the receiving basin; and the applicant has a drought contingency plan and a water conservation plan that will result in the highest practicable levels of water conservation.

PERMIT. If the TCEQ grants the application and issues the permit for an IBT, that portion of a water right that is transferred to another basin is junior in priority to water rights in the basin of origin granted before the time the IBT application was accepted for filing.

Permitting Process: Exempt Interbasin Transfers

Water Code §11.085(v) exempts certain interbasin transfers from notice, public meeting, demonstration of need, economic impact, and other requirements for IBTs under the statute. In general, those exemptions are: 1) IBTs of less than 3,000 acre-feet per year; 2) emergency transfers; 3) transfers from a basin to its adjoining coastal basin (one of the eight small basins on the Texas coast without a major river), or 4) IBTs for municipalities or counties that straddle two basins.

The TCEQ does not require notice for exempt IBTs. Also, no technical analysis is done on the exempt IBT application. If the application calls for a new appropriation or an amendment to an existing appropriation, then that aspect of the application gets the standard notice and review. For example, if the application is for a new appropriation and an IBT to an out of basin portion of the county where the diversion is located, then the new appropriation would require the same notice and analysis as any other new application. The TCEQ would not, however, impose any additional notice, required information, or findings, because the IBT portion of the application is exempt.

APPENDIX G.

SELECT COMMITTEE ON WATER POLICY

Existing Water Rights Interbasin Transfers

Existing Water Rights Interbasin Transfers				
Water Right Number	Owner	River Basin From	River Basin To	Source of Diversion
5366	Brazosport WA	BRAZOS	SAN JACINTO-BRAZOS, BRAZOS-COLORADO	Brazos River
5328	Dow Chemical Company	BRAZOS	SAN JACINTO-BRAZOS	Brazos River
5322	Chocolate Bayou Water Company	BRAZOS	SAN JACINTO-BRAZOS, SAN JACINTO	Brazos River
5291	City of Teague	BRAZOS	SAN JACINTO-BRAZOS	Teague City Lake
5287	Bi-Stone Municipal WSD	BRAZOS	TRINITY	Lake Mexia
5171	Brazos River Authority	BRAZOS	SAN JACINTO-BRAZOS	Brazos River
5170	Fort Bend County WCID 1	BRAZOS	(service area, potentially SAN JACINTO-BRAZOS, SAN JACINTO, BRAZOS-COLORADO)	
5168	Gulf Coast Water Authority	BRAZOS	SAN JACINTO-BRAZOS, SAN JACINTO, BRAZOS-COLORADO	Brazos River
5167	Brazos River Authority	BRAZOS	SAN JACINTO-BRAZOS	Brazos River (releases from reservoirs auth under COAs 5155-5165)
5166	Brazos River Authority	BRAZOS	SAN JACINTO-BRAZOS, SAN JACINTO, BRAZOS-COLORADO	Brazos River
5165	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Limestone
5164	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Sommerville Reservoir
5163	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Granger
5162	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Georgetown
5161	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Stillhouse Hollow Reservoir
5160	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Belton
5159	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Proctor

5158	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Aquilla
5157	Brazos River Authority	BRAZOS	(releases diverted by 5167)	Lake Whitney
5156	Brazos River Authority	BRAZOS	SAN JACINTO-BRAZOS	Lake Granbury
5156	Brazos River Authority	BRAZOS	TRINITY	Lake Granbury
5155	Brazos River Authority	BRAZOS	TRINITY	Possum Kingdom Reservoir
5155	Brazos River Authority	BRAZOS	SAN JACINTO-BRAZOS	Possum Kingdom Reservoir
2925	TWDB, City of Houston, & Brazos River Authority	BRAZOS	SAN JACINTO, SAN JACINTO-BRAZOS	Brazos River & Allens Creek
2971	City of Lampasas	BRAZOS	COLORADO	Sulphur Creek
3782	Canadian MWA	CANADIAN	COLORADO	Lake Meredith & Lubbock WTP
3985	City of Lubbock	CANADIAN	BRAZOS	Lake Meredith
3782	Canadian MWA	CANADIAN	RED	Lake Meredith
3782	Canadian MWA	CANADIAN	BRAZOS	Lake Meredith
5730	Brazos River Authority	COLORADO	BRAZOS	Lake Travis & Buchanan
5715	Lower Colorado River Authority	COLORADO	BRAZOS	Colorado River & Salt Creek
5677	Lower Colorado River Authority	COLORADO	BRAZOS	Lake Travis & Buchanan
5482	Lower Colorado River Authority	COLORADO	BRAZOS	Lake Travis
5478	Lower Colorado River Authority	COLORADO	BRAZOS	Lake Buchanan
5477	Lacy Withers Armour Trust et al dba Pierce Ranch (LCRA)	COLORADO	COLORADO-LAVACA and BRAZOS-COLORADO	Colorado River
5477	LCRA	COLORADO	COLORADO	
5476	Lower Colorado River Authority	COLORADO	COLORADO-LAVACA, POSSIBLY BRAZOS-COLORADO	Colorado River
5475	Lower Colorado River Authority	COLORADO	COLORADO-LAVACA	Colorado River & Eagle Lake
5471	City of Austin	COLORADO	ANY (BRAZOS)	Town Lake
5471	City of Austin	COLORADO	ANY (BRAZOS)	Lake Austin & Town Lake

5437	Houston Lighting & Power	COLORADO	COLORADO-LAVACA	Colorado River
5434	Lower Colorado River Authority	COLORADO	LAVACA, BRAZOS, GUADALUPE, COLORADO-LAVACA, BRAZOS-COLORADO	Colorado River
5434	City of Corpus Christi	COLORADO	LAVACA, GUADALUPE, SAN ANTONIO, NUECES, COLORADO-LAVACA, LAVACA-GUADALUPE, SAN ANTONIO-NUECES, NUECES-RIO GRANDE	Colorado River
4007	City of Cedar Park	COLORADO	BRAZOS	Lake Travis
1660	City of Clyde	COLORADO	BRAZOS	Lake Clyde
3676	Colorado River MWD	COLORADO	BRAZOS	Lake O.H. Ivie
1031	City of Sweetwater	COLORADO	BRAZOS	Oak Creek Reservoir
1031	Upper Colorado River Authority	COLORADO	COLORADO	Oak Creek Reservoir
1002	Colorado River MWD	COLORADO	BRAZOS	Lake J.B. Thomas
4560	Franklin Co. MWD	CYPRESS	SULPHUR	Lake Cypress Springs
4614	City of Marshall	CYPRESS	SABINE	Big Cypress Bayou
4590	Northeast TX MWD	CYPRESS	SABINE	Lake O' the Pines
4560	Franklin Co. MWD	CYPRESS	SABINE	Lake Cypress Springs
5012	Joe D. Hawes	GUADALUPE	SAN ANTONIO	Elm Bayou
5466	City of Victoria	GUADALUPE	LAVACA-GUADALUPE	Guadalupe River
5173	GBRA & Union Carbide	GUADALUPE	LAVACA-GUADALUPE	Guadalupe River
4276	Del Williams, et ux	GUADALUPE	LAVACA-GUADALUPE	Guadalupe River
3606	Kate S. O'Conner Trust	GUADALUPE	LAVACA-GUADALUPE	Guadalupe River
3863	Jess Y. Womack et al (to be purchased by GBRA)	GUADALUPE	SAN ANTONIO, LAVACA, LAVACA-GUADALUPE, SAN ANTONIO-NUECES	Guadalupe River
2074	GBRA	GUADALUPE	LAVACA-GUADALUPE, SAN ANTONIO, COLORADO, LAVACA, COLORADO-LAVACA, SAN ANTONIO-NUECES	Canyon Lake
3861	E.I. du Pont de Nemours	GUADALUPE	LAVACA-GUADALUPE	Guadalupe River

3978	Mrs. J. H. Robinson	LAVACA	LAVACA-GUADALUPE	Lavaca River
2098	Larkin T. Thedford, et al	LAVACA	LAVACA-GUADALUPE	Lavaca River
2095	Lavaca-Navidad River Authority & TWDB	LAVACA	NUECES, COLORADO-LAVACA, LAVACA-GUADALUPE, SAN ANTONIO-NUECES, NUECES-RIO GRANDE, GUADAUPE, SAN ANTONIO	Lake Texana, Lavaca River
5584	County of Jackson	LAVACA & LAVACA-GUAD	LAVACA, LAVACA-GUADALUPE	Lavaca River, Dry Creek, Garcitas Creek, Venado Creek
4415	City of Beaumont	NECHES	TRINITY	Neches River
4853	City of Tyler	NECHES	SABINE	Lake Tyler
4411	Lower Neches Valley Authority	NECHES	NECHES-TRINITY	Neches River & Pine Island Bayou (releases from Sam Rayburn & Steinhagen)
3254	Upper Neches MWA	NECHES	TRINITY	Lake Palestine
4415	City of Beaumont	NECHES	NECHES-TRINITY	Neches River
4404	City of Center	NECHES	SABINE	Lake Pinkston
3256	Athens MWD	NECHES	TRINITY	Lake Athens
3254	Upper Neches MWA	NECHES	TRINITY	Lake Palestine
3254	Upper Neches MWA	NECHES	TRINITY	Lake Palestine
4415	City of Beaumont	NECHES	SABINE	Neches River
4228	Angelina-Neches River Authority	NECHES	SABINE	Reservoir on Mud Creek
3879	Star Enterprise	NECHES	NECHES-TRINITY	Neches River
2466	Nueces Co WCID No 3	NUECES	NUECES-RIO GRANDE	Calallen Reservoir
2464	City of Corpus Christi	NUECES	SAN ANTONIO-NUECES	Lake Corpus Christi
2464	City of Corpus Christi	NUECES	SAN ANTONIO-NUECES	Calallen Reservoir
2464	City of Corpus Christi	NUECES	NUECES-RIO GRANDE	Calallen Reservoir
2464	City of Corpus Christi	NUECES	NUECES-RIO GRANDE	Calallen Reservoir
2464	City of Corpus Christi	NUECES	NUECES-RIO GRANDE	Lake Corpus Christi
5736	City of Corpus Christi	NUECES	SAN ANTONIO-NUECES	Nueces River

4092	City of Taft	NUECES	SAN ANTONIO-NUECES	Lake Corpus Christi
2464	City of Corpus Christi	NUECES	NUECES-RIO GRANDE	Calallen Reservoir
4881	City of Gainsville	RED	TRINITY	Moss Reservoir
5003	North Texas MWD	RED	TRINITY	Lake Texoma
5144	City of Wichita Falls	RED	BRAZOS	Lake Kickapoo
5145	City of Megargle	RED	BRAZOS	Merargel Creek Lake & (small lakes)
4898	Red River Authority	RED	TRINITY	Lake Texoma
4943	City of Paris	RED	SULPHUR	Lake Crook
4961	City of Texarkana	RED	SULPHUR	Bringle Lake
5146	City of Olney	RED	BRAZOS	Lakes Cooper & Olney
5211	Mackenze MWA	RED	BRAZOS	Lake Mackenzie
4940	City of Paris	RED	SULPHUR	Pat Mayse Reservoir
824	City of Weslaco	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
812	Hidalgo & Cameron County WCID No 9	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
831	City of Harlingen Waterworks System	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
841	Central Power & Light Co (MAY NOT BE AN IBT)	RIO GRANDE		Falcon Reservoir
837	Harlingen Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
823	City of Mercedes	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
841	Cameron County Irrigation District No 2	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
816	Hidalgo County Irrigation District No 1	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
834	Cameron County WID 10	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
828	City of Mission	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
843	Brownsville Public Utilities Board	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
829	Cameron County Irrigation District No 6	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
842	Brownsville Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir

845	City of Mission	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
840	Adams Gardens Irrigation District No 19	RIO GRANDE	NUECES-RIO GRANDE	
875	City of Donna	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
874	City of Pharr	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
843	Brownsville Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
850	Laguna Madre Water District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
817	Santa Maria Irrigation District Cameron County No 4	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
1838	Brownsville Public Utilities Board	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
830	Cameron County Irrigation District No 2	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
838	Cameron County WID No 16	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
832	Hidalgo County WCID No 18 Pharr	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
865	Brownsville Public Utilities Board	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
831	Military Highway WSC (MAY NOT BE AN IBT)	RIO GRANDE		Falcon Reservoir
4520	MULTIPLE RECEIVERS	RIO GRANDE	NUECES-RIO GRANDE	Falcon and Amistad Reservoirs
838	East Rio Hondo WSC	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
839	Cameron County WID No 17	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
840	City of Harlingen	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
3	Delta Lake Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
51	Cameron County Irrigation District No 2	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
223	City of Harlingen	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
340	City of Pharr	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
831	Harlingen Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
834	City of Harlingen Waterworks	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir

835	Bayview Irrigation District No 11	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
808	City of Pharr	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
807	Valley Acres Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
390	(unknown which of 3 owners	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
353	McAllen Trade Zone Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
805	Donna Irrigation District Hidalgo County No 1	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
853	City of Los Fresnos	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
5259	Brownsville Public Utilities Board	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
804	Santa Cruz Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
803	La Feria Irrigation District Cameron County No 3	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
353	City of McAllen	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
811	Delta Lake Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
809	Delta Lake Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
809	Hidalgo County	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
679	Griffin & Brand of McAllen Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
411	Edinburg Improvement Assn	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
412	Edinburg Foundation Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
464	Delta Lake Irrigation District	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
512	McAllen Industrial Authority Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
801	City of Edinburg	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
563	McAllen Trade Zone Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
512	McAllen Trade Zone Inc	RIO GRANDE	NUECES-RIO GRANDE	Falcon Reservoir
4669	Sabine River Authority	SABINE	TRINITY	Lake Fork Reservoir
4670	Sabine River Authority	SABINE	SULPHUR	Lake Tawakoni

4670	Sabine River Authority	SABINE	TRINITY	Lake Tawakoni
4670	Sabine River Authority	SABINE	TRINITY	Lake Tawakoni
4724	Hide-A-Way Lake Club Inc	SABINE	NECHES	Reservoir on Hubbard Branch
4669	Sabine River Authority	SABINE	NECHES	Lake Fork Reservoir
4693	City of Van	SABINE	NECHES	Van Lake
4658	Sabine River Authority	SABINE	NECHES	Toledo Bend Reservoir
4662	Sabine River Authority	SABINE	NECHES	Sabine River (Toledo Bend Reservoir)
4670	Sabine River Authority	SABINE	TRINITY	Lake Tawakoni
2130	BMA WCID 1	SAN ANTONIO	NUECES	Lake Medina & Lake Diversion
2131	BMA WCID 1	SAN ANTONIO	NUECES	Lake Medina & Lake Diversion
5489	Jess Y Womack	SAN ANTONIO	GUADALUPE	San Antonio River
3207	BMA WCID 1	SAN ANTONIO	NUECES	Lake Medina & Lake Diverison
4965	City of Houston	SAN JACINTO	SAN JACINTO-BRAZOS, NECHES-TRINITY, TRINITY-SAN JACINTO	Lake Houston (IBT RECEIVER of TRINITY WATER)
5169	Gulf Coast Water Authority	SAN JACINTO-BRAZOS	SAN JACINTO, BRAZOS, BRAZOS-COLORADO	small reservoirs on Jones Creek & Oyster Creek
5334	Dow Chemical Company	SAN JACINTO-BRAZOS	BRAZOS	Freeport Harbor Channel
5338	Texas Department of Criminal Justice	SAN JACINTO-BRAZOS	BRAZOS	impoundment on Oyster Creek
4836	City of Texarkana	SULPHUR	CYPRESS	Lake Wright Patman
4799	City of Irving	SULPHUR	TRINITY	Cooper Lake
4798	North Texas MWD	SULPHUR	TRINITY	Cooper Lake

4797	North Texas MWD (contract with City of Commerce who contracted with SRMWD)	SULPHUR	TRINITY	Cooper Lake
4836	City of Texarkana	SULPHUR	RED	Lake Wright Patman
4811	Sulphur Springs WD	SULPHUR	SABINE	Lake Sulphur Springs
4797	Sulphur River MWD (contract to City of Commerce-contracted to Upper Trinity RWD)	SULPHUR	TRINITY	Cooper Lake
4261	City of Houston	TRINITY	TRINITY-SAN JACINTO	Lakes Livingston & Wallisville & Lake Houston (10-4965)
4261	City of Houston	TRINITY	NECHES-TRINITY	Lakes Livingston & Wallisville
4261	City of Houston	TRINITY	SAN JACINTO	Lakes Livingston & Wallisville & Lake Houston (10-4965)
4261	City of Houston	TRINITY	SAN JACINTO-BRAZOS	Lakes Livingston & Wallisville & Lake Houston (10-4965)
3356	City of Weatherford	TRINITY	BRAZOS	Lake Weatherford
4279	Chambers-Liberty Cos ND	TRINITY	NECHES-TRINITY	Lake Anahuac, Trinity River & Trinity Bay
2410	North Texas MWD	TRINITY	TRINITY	Lake Lavon (IBT RECEIVER)
5271	San Jacinto River Authority	TRINITY	SAN JACINTO, TRINITY-SAN JACINTO, NECHES-TRINITY	Trinity River
2319	City of St. Jo	TRINITY	RED	SCS Reservoir on Elm Fork Trinity River
5271	Devers Canal Rice Pro Assn Inc	TRINITY	NECHES-TRINITY	Trinity River
5701	Upper Trinity Regional Water District	TRINITY		

5097	Houston County WCID 1	TRINITY	NECHES	Houston County Lake (IBT RECEIVER)
4248	Trinity River Authority of Texas	TRINITY	SAN JACINTO, NECHES, AND NECHES-TRINITY	Lakes Livingston & Wallisville
4261	City of Houston	TRINITY	western NECHES-TRINITY	Trinity River & Old River

APPENDIX H.

SELECT COMMITTEE ON WATER POLICY

Pending Water Rights Applications Involving Interbasin Transfers

Pending Water Right Applications Involving Interbasin Transfers

Water Right Number	Applicant	River Basin From	River Basin To
5731	LOWER COLORADO RIVER AUTHORITY (FLOODFLOW APP)	COLORADO	BRAZOS, BRAZOS-COLORADO, LAVACA, LAVACA-COLORADO
4881B	CITY OF GAINESVILLE	RED	TRINITY
5826	CITY OF HOUSTON	SAN JACINTO	SAN JACINTO-BRAZOS, TRINITY-SAN JACINTO
5809	SAN JACINTO RIVER AUTHORITY (B&B,REUSE)	SAN JACINTO	TRINITY, TRINITY-SAN JACINTO, SAN JACINTO-BRAZOS
5807	SJRA & CITY OF HOUSTON (32,500A/F)	SAN JACINTO	TRINITY, TRINITY-SAN JACINTO, SAN JACINTO-BRAZOS
5808	SJRA & CITY OF HOUSTON (80,000a/f)	SAN JACINTO	TRINITY, TRINITY-SAN JACINTO, SAN JACINTO-BRAZOS
5827	CITY OF HOUSTON	SAN JACINTO	SAN JACINTO-BRAZOS, TRINITY-SAN JACINTO
5821	UPPER TRINITY REGIONAL WATER DISTRICT	SULPHUR	TRINITY
4277	AMERICAN RICE GROWERS AND THE CITY OF HOUSTON	TRINITY	SAN JACINTO, NECHES, TRINITY-SAN JACINTO, SAN JACINTO-BRAZOS AND NECHES-TRINITY

APPENDIX I.

SELECT COMMITTEE ON WATER POLICY

Position Paper by Texas Wildlife Association, submitted as
“Testimony on the Interim Charges of the Senate Select
Committee on Water Policy” March 17, 2004, Victoria, Texas

**Testimony on
The Interim Charges**

**Presented to
the Senate Select Committee on Water Policy**

**Presented by
Jimmie V. Thurmond III
President
Texas Wildlife Association
San Antonio, Texas**

**March 17, 2004
Victoria, Texas**

The Texas Wildlife Association is a non-profit organization representing private land stewards, land managers, hunters and anglers from across the state of Texas. Our members care for and control more than 30 million acres of rangeland and wildlife habitat that are key components of Texas' upstream watersheds. The involvement of private land stewards is critical in establishing Texas' long-term water policies.

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Key Points

from the Texas Wildlife Association's Testimony
to the Senate Select Committee on Water Policy

The people, who make their living on and from the land, understand perhaps better than anyone else, the thin line between environment and economics. They better than anyone else understand that if you take, without putting back, the resource is destroyed – and everyone is worse off.

As the State explores the potential solutions to our water needs, it is vital that policy makers keep one concept at the center of all the debates, discussions and decisions: sustainability. As someone once said, "Sustainability is generally defined as meeting the needs of present generations without compromising the ability of future generations to meet their own needs."

As we look to the future, we believe that water – our life source – must be considered a resource not a commodity. Categorizing water as a resource is a constant reminder that we must sustain our limited supplies; therefore, only surpluses should ever be available for trade – and only then as part of a well-thought-out, open, public process that relies on sound science as the basis of its decision making.

Before the State engages in any water leases or long-term water projects, we ask that there be adequate, independent, peer-reviewed data and analysis to ensure that the natural water system will not be irreversibly damaged.

Sustainability is the watchword of land stewards, so it is important to understand that landowners and their management efforts have a vital role in the long-term sustainability of Texas' water supplies. Almost every drop of water that falls in Texas falls on our private, rural lands. The pivotal role of landowners helping Texas increase the amount of freshwater available to all its residents – rural, urban and suburban – is often overlooked. It is imperative that rural, riverside, and coastal land stewards – both public and private – who will be most affected by water policy decisions be included in any policy discussions.

Well-managed open space land is Mother Nature's sponge. Good vegetative cover catches the rainwater as it falls, capturing the drops and allowing them to soak into the soil, meaning the water eventually filters into the underlying aquifers instead of being lost to evaporation or running off and being lost forever in a flood event.

Rural watersheds need to be in optimum condition to capture the maximum amount of water when it rains in order to deliver sustainable flows during drought. (No man-made artifices or practices will yield additional water during a drought of record, which by definition is a "shortage of rain.")

Adequate ground cover also keeps the soil in place, so when the ground becomes saturated and excess water runs into streams and rivers it is clear, not sediment-filled. This clean, clear water will not only increase stream flows through our towns and cities but will increase the amount of freshwater reaching our coastal bays and estuaries. Freshwater is a vital component of the delicate balancing act of saltwater environments in natural episodes and pulses.

We cannot overlook the immense possibilities offered by improving the rural watershed through improved habitat and range management. As a nation, we have been willing to support farmers in their efforts to produce inexpensive commodities, which are considered a public good. Shouldn't we be willing to support landowners in their efforts to produce a water-efficient, water-effective landscape, which is also a public good?

The value of rural land is tied directly to the value of what it can produce, be that cattle, cotton, wildlife or recreational experiences. If you remove or greatly decrease the water available for these pursuits, you greatly decrease the land's productivity and its value, both in the short term and long term. If that land is rendered useless by badly planned, unlimited water pumping, the rural tax base will erode, leaving rural schools in worse financial shape than before.

Regional Planning Groups and Groundwater Management Districts need to be effective, flexible, and adequately funded if they are to successfully fulfill their missions. There needs to be a reasonable arbitration process established to settle any disputes that may arise from decisions made by these organizations.

As the Senate Select Committee on Water considers its three interim charges, effective rural watershed management should be the foundation of any long-term solutions. Because the condition of the rural watershed ultimately will determine the success of any engineering or market-based solutions, it is important that leaders explore all options, including appropriate incentive programs, that help landowners improve the rural watershed and keep it intact.

***The Texas Wildlife Association's Testimony
to the Senate Select Committee on Water Policy***

Mr. Chairman and esteemed Committee Members, my name is Jimmie V. Thurmond III, President of the Texas Wildlife Association. TWA represents a broad-based statewide membership of true conservationists who own, manage or control over 30 million acres of private land in Texas. TWA appreciates the opportunity to add our comments to this vital discussion that will shape Texas' water policy for years to come.

The members of our organization are land managers – the stewards of our natural resources – meaning that they manage and care for Texas. These people, who make their livings on and from the land, understand perhaps better than anyone else, the thin line between environment and economics. For years, they've been involved in the delicate balancing act of maximizing natural resources without exploiting them. They better than anyone else understand that if you take, without putting back, the resource is destroyed – and everyone is worse off.

As the state explores the wide array of water policy issues such as environmental flows, inflows into our bays and estuaries, groundwater regulations and the potential of water leasing, it is vital that policy makers keep one concept at the center of all the debates, discussions and decisions: sustainability. I quote, "Sustainability is generally defined as meeting the needs of present generations without compromising the ability of future generations to meet their own needs." Senators, those 23 words provide a litmus test for all your deliberations. It is imperative that when we discuss water resources that we consider not only the expediency for the present, but the sustainability for the future.

As we look to the future, we believe that water – our life source – must be considered a resource not a commodity. This is a critical philosophical distinction. A commodity is traded because more can be easily produced. A resource is managed because it is not easily produced. Obviously, rarity adds to the value of anything, so this distinction does not undermine water's economic value, but enhances it. Categorizing water as a resource is a constant reminder that we must sustain our limited supplies; therefore, only surpluses should ever be available for trade – and only then as part of a well-thought-out, open, public process that relies on sound science as the basis of its decision making.

In law there is no connection between surface water flows and groundwater, yet they really are not separate. They are tightly linked, and how we manage our groundwater affects surface flows in streams and rivers, and how we manage our surface flows has an effect on recharge of aquifers and groundwater. This is another key philosophical lynch pin that must be tied to any review of water policy and future legislation.

One area of law that directly affects the sustainability of our water resources is the Rule of Capture. The Texas Wildlife Association believes that the Rule of Capture must be modified to some extent. It has served us well over most of the state, but we can no longer afford to allow the person with the biggest straw to control and exploit the water resource to the detriment of his neighbors, near or far. But, with that said, the Rule of

Capture has helped establish the value of water. When something is valued, it is much easier to implement measures that promote prudent management and conservation and lend to the system's overall sustainability.

It has been said many times that water is our most precious natural resource. Nowhere in Texas is that more evident than the Trans-Pecos region. This fragile ecosystem is home to a wide array of wildlife (both game and non-game) and plant species found nowhere else in Texas. A considerable number of these species are classified threatened or endangered by the federal government. The presence of these unique flora and fauna, as well as the presence of humans and commerce from farming, ranching and small businesses in these rural communities, depends on the continued presence of water.

Although water is a renewable natural resource, the region's sparse rainfall and high evaporation rates ensure that aquifer recharge is minimal. When it comes to removing large quantities of water from these ancient underground reservoirs, there is absolutely no room for error. A slight miscalculation can have huge ramifications for the environment and the region's economy. Once the water is gone, it – and the life it sustains -- is gone forever.

Because our members know that “haste can make waste” when it comes to natural resource decisions, the Texas Wildlife Association asks that the state and/or any state agency suspend any water lease negotiations, and asks that the Senate Select Committee on Water Policy and the Lt. Governor request that Governor Perry include the leasing of state water rights on the upcoming Special Session Call. We believe that it would be detrimental for the long-term well-being of Texas' water resources and its water policy for the state to enter into a lease, an option to lease, or a right of first refusal at this time.

Currently, state agencies can negotiate unregulated water leasing agreements on private lands that are not under the jurisdiction of a local groundwater districts. In the case of far West Texas, almost 70 percent of the region lies outside groundwater districts, creating an opportunity to subvert the checks and balances of the democratic process. Because the opportunity exists to deplete our water resources as well as the public trust, we ask that the Special Session Call be expanded to include leasing of water rights on private land as well as state land.

To protect our citizens and our resources, it might be necessary for the Legislature to create and implement Priority Groundwater Management Associations (PGMAs). The fact that the Texas Wildlife Association, a long-time proponent of private property rights and individual stewardship, is calling for additional government oversight should demonstrate how dire we believe the situation has become. It is essential that local people be involved in managing and conserving their water resources, instead of involuntarily abdicating control to water developers who are after profits, consequences be damned.

Our request to involve the Legislature sooner than the 2005 session is supported by the fact that the General Land Office seems to have conflicting constitutional responsibilities when it comes to land and water resources. According to a preliminary analysis, it seems

that the state's constitutional duty (*Art 16, Sec 59, Texas Constitution*) to preserve water is ignored in the lease's current version and that the General Land Office is focusing solely on exploiting Public School Fund lands for the benefit of Texas schoolchildren. It is in the best interest of the land, the water and Texas schoolchildren to clarify the agency's constitutional responsibilities instead of allowing it to ignore and/or abandon one constitutional charge to pursue another.

Because Rio Nuevo's proposal to lease state land and sell the water underneath sets a new precedent and has the potential to change the way of life throughout the Trans Pecos region and for all of Texas, it is imperative that all stakeholders have an opportunity to provide their input and to have their comments taken seriously. Whether they ranch, farm or run a small business, these hardy Texans in west Texas have carved a life out of the unforgiving land and they must be a legitimate part of this process. Water is the lifeline for not only for livestock, but also for wildlife which have expanded with the distribution of water. The long-term stakes are too high to simply seal this deal with a cursory review and a handshake.

With the passage and implementation of SB 1 back in 1997, we have taken policy and planning to the local and regional levels. The Texas Wildlife Association has always maintained that natural resource decisions are best made as close to the resource as possible. We still believe that. But in the ensuing seven years we have seen that local citizens solving local problems can create conflicts, too.

There are instances of local groundwater districts undercutting the open process necessary for truly democratic government at the expense of the people they are purported to represent. There are several failures in the mechanics of groundwater district operations, and funding is often a critical issue. In other cases, landowners have made decisions based on the adopted rules of their groundwater district only to have the groundwater district capriciously change those rules.

We believe that for the local groundwater districts to be effective, there must be a reasonable arbitration process put in place to help resolve conflicts. It is imperative that people have an avenue other than the court system or the Legislature to handle legitimate problems arising from the policies, procedures and/or decisions of their local groundwater districts.

To date, the Regional Planning Groups have enjoyed tremendous success. But, they, too have faced difficulties. In the case of the Far West Texas Water Planning Group, the members have seen at least seven years of hard work upended by the appearance of the Rio Nuevo partnership. Because Rio Nuevo is in negotiation with a state agency, the company's plan, which directly affects everything in the regional water plan, is outside the planning group's jurisdiction.

We believe that state agencies and private entities must be subject to the Regional Planning Groups' rules. If they are not, why do the Regional Planning Groups exist?

The Regional Planning Groups also make a tremendous number of decisions that impact innumerable citizens. We believe that a reasonable appeal process must be established to help settle legitimate disputes in an arena other than the courts or the Legislature.

In addition, we suggest that the scope of the Regional Planning Groups be broadened, allowing them to function as task forces as well as a planning entities. Our experience with natural resources task forces has been overwhelmingly positive because they include representatives of all interested parties working for a common solution. A task force is often democracy at its most basic form. Granted, the task force process involves messy give and take, but often produces workable results that exceed everyone's expectations. Economics, communities, sustainability and our other natural resources are jointly considered. In our opinion, the Regional Planning Group structure provides an excellent opportunity to increase stakeholder participation and ultimately local buy-in.

To successfully function more like task forces, the Regional Planning Groups must also be given more flexibility to respond to the situations in their areas. For instance, regional planners in East Texas who are grappling with the presence of the Ozarka water plant are facing vastly different challenges than regional planners in far West Texas who are trying to come to grips with the potential impacts of Rio Nuevo. Currently, the Regional Planning Groups are unnecessarily "hog-tied" by a one-size-fits- all set of rules and regulations.

While we do not oppose the idea of water leasing, we urge the state to proceed slowly with great care and great caution. The balance of our natural resources, particularly water, is fragile and once that balance is disturbed we may not be able to correct the system. Before the state engages in any water leases that would dramatically increase the draw from any aquifer or groundwater reservoir, we ask that there be adequate, independent, peer-reviewed data, analysis and monitoring to ensure that the water system will not be irreversibly damaged. Decisions should be made on sound science, not on gut feelings, not on best guesses, not on opportunities to turn quick profits.

Currently, the data and analysis to make these decisions does not exist – and neither does the money to capture the data. In the case of the Rio Nuevo partnership, there is a huge disagreement about the cost necessary to collect the data and adequately monitor the situation. Using Rio Nuevo's numbers, Commissioner Patterson has estimated it may take \$2 million to adequately assess the impacts of additional pumping through test well monitoring, while representatives of the Texas Water Development Board have estimated the cost at \$25 million to \$40 million. This a huge difference in opinion. The discrepancy exists because, as a General Land Office employee said under oath at the Dell City hearing, "We have no idea what it might cost to adequately assess and monitor the situation."

We respectfully urge the Legislature to require anyone seeking to capture and market water to fully fund the necessary independent research, data collection and monitoring. To ensure that the data and analysis is unbiased and sound, the state should use the funds to contract with respected, independent, reputable third-party consultants.

Although the exact cost is not known, we can be certain that adequately monitoring test wells in far West Texas, will be a huge, costly undertaking. To gain the necessary data, the test wells will have to be placed over a large area to account for differences in terrain and geologic formations. In addition, these wells will have to be situated, in many cases on private lands, which then creates the issue of access. While the Texas Wildlife Association understands the need for complete information for competent decision-making, we do not believe that the state should grant condemnation powers as part of this information gathering and monitoring process.

Because Texas is a private lands state, where approximately 97 percent of the land is privately owned, it is imperative that landowners be willing to actively provide the necessary data. One way to help in obtaining their cooperation is to guarantee the confidentiality of any information gathered on private land. This can be done by amending the Open Records Act or can be done by passing stand-alone legislation, similar to that passed for wildlife and habitat information under wildlife management plans, that makes it illegal for state employees or state agencies to share information regarding water on private land without the landowner's written consent.

Let me make it clear that I am talking about the confidentiality of an individual's information. Obviously, collective information such as that representing the situation across a watershed or an aquifer should be readily available, while information about an individual holding should be kept private. This distinction is vital, and the wildlife management plan confidentiality model already exists.

As I said earlier, it is imperative that any decisions regarding the feasibility and desirability of water leasing on state lands be made based on sound science because the ramifications of these decisions reach beyond any geographic area. While we understand the necessity to increase funding for education, we do not think this funding should come at the expense of our natural resources or rural Texas.

If we mine the water from rural Texas, we will change the landscape. The value of rural land is tied directly to the value of what it can produce, be that cattle, cotton, wildlife or recreational experiences. If you remove or greatly decrease the water available for these pursuits, you greatly decrease the land's productivity and its value, both in the short term and long term.

While devaluation may seem to be the problem limited to landowners, it stretches much farther than that. Open-space land, even with its ag and/or wildlife valuation, makes up the bulk of the tax base in Texas' 200-plus rural counties. If that land is rendered useless by badly planned, unlimited water pumping, the rural tax base will erode, leaving rural schools and communities in worse financial shape than before. The additional money in the Permanent School Fund will come at a very high cost indeed – and will be temporary.

Sustainability is the watchword of land stewards, so it is important to understand that private landowners and their management efforts have a vital role in the long-term sustainability of Texas' water supplies. Almost every drop of water that falls in Texas

falls on our private, rural lands. While their management efforts focusing on rangeland, habitat and wildlife are obvious, their impact on our state's water supply is equally meaningful, but it is, unfortunately, largely invisible and poorly understood by the public. As a result, the pivotal role that landowners can play in helping Texas increase the amount of freshwater available to all its residents – rural, urban and suburban – is often overlooked. It is imperative that rural, riverside, and coastal land stewards – both public and private – who will be most affected by water policy decisions be included in any policy discussions.

When we talk about this, people often note, “That’s interesting, but how is it relevant to the discussion at hand?” I’d like to take a moment to explain how the quality of upstream watersheds is germane to your charge today. Essentially, the quality of the upstream watershed directly affects the amount of freshwater available locally. If we are able to capture more, clear, clean water in our aquifers, rivers and streams across the state, it should reduce the need for water leasing.

Of course, increasing local water supplies may not completely eliminate the need for water lease agreements or interbasin transfers, but increasing the recharge capacity and increasing the amount of water available will help mitigate the effects of reasonable, increased pumping or removal. More water, if you will, provides a buffer against long-term environmental damage to the resource.

This is how it works. When land – remember that approximately 97 percent is privately owned land - that comprises upstream watersheds is managed well, its vegetative cover acts as Mother Nature’s sponge. Good vegetative cover catches the rainwater as it falls, breaking down the drops, capturing the water and allowing it to soak into the soil, meaning the water eventually filters slowly into the underlying shallow layers for slow, steady release into our creeks and streams, or migrates deeper infiltrating directly into aquifers, instead of running off and being lost forever in a flood event.

Adequate ground cover also keeps the soil in place, so when the ground becomes saturated and excess water runs into streams and rivers it is clear, not sediment-filled. This clean, clear water will not only increase stream flows through our towns and cities but will increase the amount of freshwater reaching our coastal bays and estuaries. Freshwater is a vital component of the delicate balancing act of saltwater environments in natural episodes and pulses. Clean water reduces siltation of our reservoirs, a growing and extremely expensive problem.

Numerous published studies and projects clearly demonstrate that in large parts of Texas management of invading water-sucking vegetation such as ashe juniper and mesquite, or exotic vegetation such as salt cedar, can have reasonable to dramatic influence on the additional amounts of water entering the system after rainfall events. Brush management, in association with good range or grassland management that provides for the development of deeper root systems, allows more water to successfully penetrate deeper into the soil layers, providing more clean, clear water.

This is intuitive in itself, and is a common science project for high school students. As a nation we have been willing to support farmers in their efforts to produce inexpensive commodities. Shouldn't we be willing to support landowners in their efforts to produce a water efficient – water effective landscape? Water is our most valuable asset. The dollars spent as cash incentives or tax breaks to encourage even better stewardship will still be less than money spent on desalination plants or other high tech options.

TWA also believes that providing upstream land managers a free market mechanism for developing additional water from the landscape is necessary. Your deliberations should include free market incentives such as allowing landowners to provide for increasing water flows by guaranteeing water to a downstream user who pays for measured, targeted brush control and range management on a property, possibly through an annual user fee for the “new” water that had been previously prevented from entering the system. This has far-reaching positive consequences for landowners and rural communities, as well as downstream corporations and urban communities.

In conclusion, increasing and conserving our water resources are our members biggest concerns. As landowners and stewards, our fate is inextricably linked to the fate of our natural resources.

We understand that water policy in Texas is an issue that is vital to us all. We recognize this is a complicated subject that will require much thought and careful analysis. And we certainly appreciate this Select Committee's and the Legislature's efforts to balance the needs our natural resources.

Thank you for your consideration. The Texas Wildlife Association stands ready to assist you in any way we can.

APPENDIX J.

SELECT COMMITTEE ON WATER POLICY

"Funding Analysis of the State Role in Financing Texas' Water Needs"

TWDB Report submitted to the Select Committee on Water Policy,

September 8, 2004, Brownsville, Texas

EXECUTIVE SUMMARY

Texas will require significant investment in its water infrastructure over the next 50 years. While local and regional entities can generally finance most of the needed internal systems to treat and distribute water, or to collect and treat wastewater, state financial assistance is crucial to provide:

- • Municipal water supply;
- • Agricultural water supply, primarily through conservation; and
- • Disadvantaged areas water treatment and distribution systems, and wastewater collection and treatment systems.

TWDB estimates that a state investment of \$713.9 million over the next six years (average of \$119 million per year) would provide the \$3.0 billion required through 2011 for these purposes.

- • \$506 million over the next six years (average of \$84.3 million per year) would provide the \$2.4 billion required through 2011 in state assistance for water supply needs;
- • \$67.7 million over the next six years (average of \$11.3 million per year) would provide the \$133 million required through 2011 in state assistance for agricultural water conservation; and
- • \$140.2 million over the next six years (average of \$23.4 million per year) would provide \$462 million in assistance through 2011 for disadvantaged infrastructure needs. While this does not take care of the total *immediate* needs of these disadvantaged areas (estimated at \$4.8 billion), the funds would be expected to leverage other resources, and also represents what TWDB expects can realistically be administered over this time period.

The legislature has given the TWDB a wide range of programs that can provide this assistance. However, the most crucial assistance will require a state subsidy to be effective, as well as legislative change. As requested by Senators Armbrister and Duncan, TWDB has compiled a list of revenue sources and annual revenue estimates to assist the legislature in exploring the use of dedicated sources of funding for crucial water needs. In order to measure the return on investment that may be possible by expanding the state role in water development, TWDB recommends that a cost/benefit analysis be conducted using various revenue sources to fund programs that target state assistance to water supply strategies and to disadvantaged communities, as described in this report.

INTRODUCTION

Texas' population is projected to grow substantially over the next 50 years, increasing from 21 million in 2000 to 40 million in 2050. According to the latest State Water Plan, *Water for Texas – 2002*, total projected demand for water is expected to increase by 18 percent over this same period. Planning and building an infrastructure to supply water to Texas communities, as well as assisting those communities that cannot afford to fund their own local infrastructure, are key to the safe provision of water to Texas residents and to ensuring public health and safety in Texas.

Over the years, the Texas Water Development Board's (TWDB) funding programs have evolved to better provide assistance with water-related projects in the state. With Senate Bill 1 (1997), the Texas Legislature acknowledged the need for state investment in water supply infrastructure by further improving the TWDB's financial assistance programs. As a result, the state currently has programs for funding disadvantaged communities in both the drinking water and clean water state revolving funds. In the years following Senate Bill 1, pursuant to legislative direction, the TWDB has also implemented limited new programs such as the Rural Water Assistance Fund, the Small Community Hardship Program in the Water Assistance Fund, and the Rural Water and Wastewater Fund. Additionally, statutes and rules are in place to implement the Water Infrastructure Fund (WIF) if funding is provided by future legislatures.

In 1997, the TWDB was given the ability to restructure the management of the TWDB's general obligation debt to allow better utilization of those programs and in 2001, the TWDB was given an additional \$2 billion in general obligation bond authority by the voters of the state. Nevertheless, the first-ever State Water Plan generated from the regional water planning process created by Senate Bill 1 shows a need that will require a significant infusion of funds into the state's financing programs.

Projected needs in funding water-related projects through 2050 cannot be met solely through current levels of funding. The most acute gaps in funding that must be filled are those that will assure:

- • Texas' communities have a drought-proof water supply, with a focus on allowing state participation in projects that promote optimum efficiency to achieve the lowest per-unit cost;
- • agricultural water needs are met, with a focus on water conservation; and
- • disadvantaged communities are able to meet their water and wastewater needs.

Prepared pursuant to a request by Senators Armbrister and Duncan (see Appendix 1), this report provides an overview of the need for funding for water and wastewater infrastructure in Texas, and of potential sources for such funding. The report includes a description of projected municipal, industrial, and agricultural water supply needs in the next 50 years, with a focus on funding those needs through 2011, and a similar review of water treatment and distribution, and wastewater project needs. The report includes a description of the potential funding sources for dedication to future water-related projects.

WATER AND WASTEWATER COSTS

The provision of water from its source to Texas' citizens requires an infrastructure system that includes:

- • obtaining a source of water (water supply strategies);
- • treating and distributing water; and
- • collecting and treating wastewater.

Though many Texas cities are able to fund their own water treatment and distribution and wastewater needs, economically disadvantaged communities often require financial assistance. For this reason, economically disadvantaged communities are discussed separately.

Municipal and Agricultural Water Supply Strategy Costs

In January 2002, the TWDB released the first State Water Plan based on a bottom-up planning approach. *Water for Texas – 2002* documented approximately \$18 billionⁱ in capital costs for key water management strategies needed to meet Texas' water supply needs through 2050 (Table 1). Of this amount, approximately \$16.2 billion is required for municipal water supply, and \$575 million will be needed for water supply for irrigated agriculture. The remaining \$1.2 billion consists primarily of capital costs associated with future needs of mining, manufacturing, and electric power generation, and are expected to be borne by individual and private funding sources. The ten-year projected (2000-2010) cost for municipal water supply strategies is \$4.9 billion, with approximately \$257.5 million of this amount estimated to be required for disadvantaged and small communities.

Water Treatment and Distribution Costs

Treatment and distribution costs of water through 2050 are estimated at approximately \$41.7 billion, with approximately \$6.7 billion of that needed in the first decade through 2010 (Table 1). The total costs associated with collecting and treating wastewater through 2050 is estimated to be \$47 billion, with approximately \$7.4 billion of that needed through 2010.

Water and Wastewater Treatment and Distribution in Disadvantaged Areas

Infrastructure costs for water and wastewater needs associated with disadvantaged areas are included within the statewide figures in Table 1. However, two recent studies provide more detailed information specific to disadvantaged areas. By utilizing these studies, a breakout of costs associated with disadvantaged areas can be obtained.

In 1989, the Texas Legislature directed the TWDB to create and implement the Economically Distressed Areas Program (EDAP). As part of its mandate, the TWDB completed a series of studies to identify water and wastewater needs of disadvantaged communities in EDAP-eligible counties.ⁱⁱ The latest study resulted in the *Assessment of Water and Wastewater Facility Needs for EDAP Counties*, published in 2003ⁱⁱⁱ. This study specifically covers the 42 counties that were eligible for EDAP funding in 2002, and identifies approximately \$785 million in water and wastewater needs. Of this, approximately \$389 million is required for water needs and \$396 million is for wastewater needs.

Table 1: Water Supply Strategy Capital Costs, (in billions)*

Statewide	Through 2010	Through 2050
Municipal Water Supply Strategies (1)	\$ 4.90	\$ 16.2
Agricultural Water Supply (2)	\$ 0.13	\$ 0.58
Mining, Manufacturing, Electrical Power Generation (2)	N/A	\$ 1.20
Subtotal		\$ 17.98
Water Treatment and Distribution Systems (3)	\$ 6.69	\$ 41.67
Wastewater Collection & Treatment Systems (3)	\$ 7.38	\$ 46.99
State Total	\$ 19.10	\$ 106.64
Disadvantaged Communities**		
Water Supply Strategies (1)	\$ 0.26	
Water Treatment and Distribution Systems (4)	\$ 2.21	
Wastewater Collection & Treatment Systems (4)	\$ 2.34	
Disadvantaged Communities Total	\$ 4.81	

Notes:

* In 2001 dollars

** Disadvantaged community figures are a subset of the statewide water and wastewater system numbers contained in this table.

Sources:(1) *Infrastructure Financing Report*, TWDB, October 2002.(2) *Water for Texas – 2002*, TWDB, January 2002.

(3) TWDB estimates, January 2002.

(4) *Assessment of Water and Wastewater Facility Needs for EDAP Counties*, FY 2002 TWDB Water Research Study, October 2003; **and** *Water and Wastewater Needs of Non-EDAP Eligible Disadvantaged Areas*, FY 2000-2001 TWDB Water Research Study, March 2001.

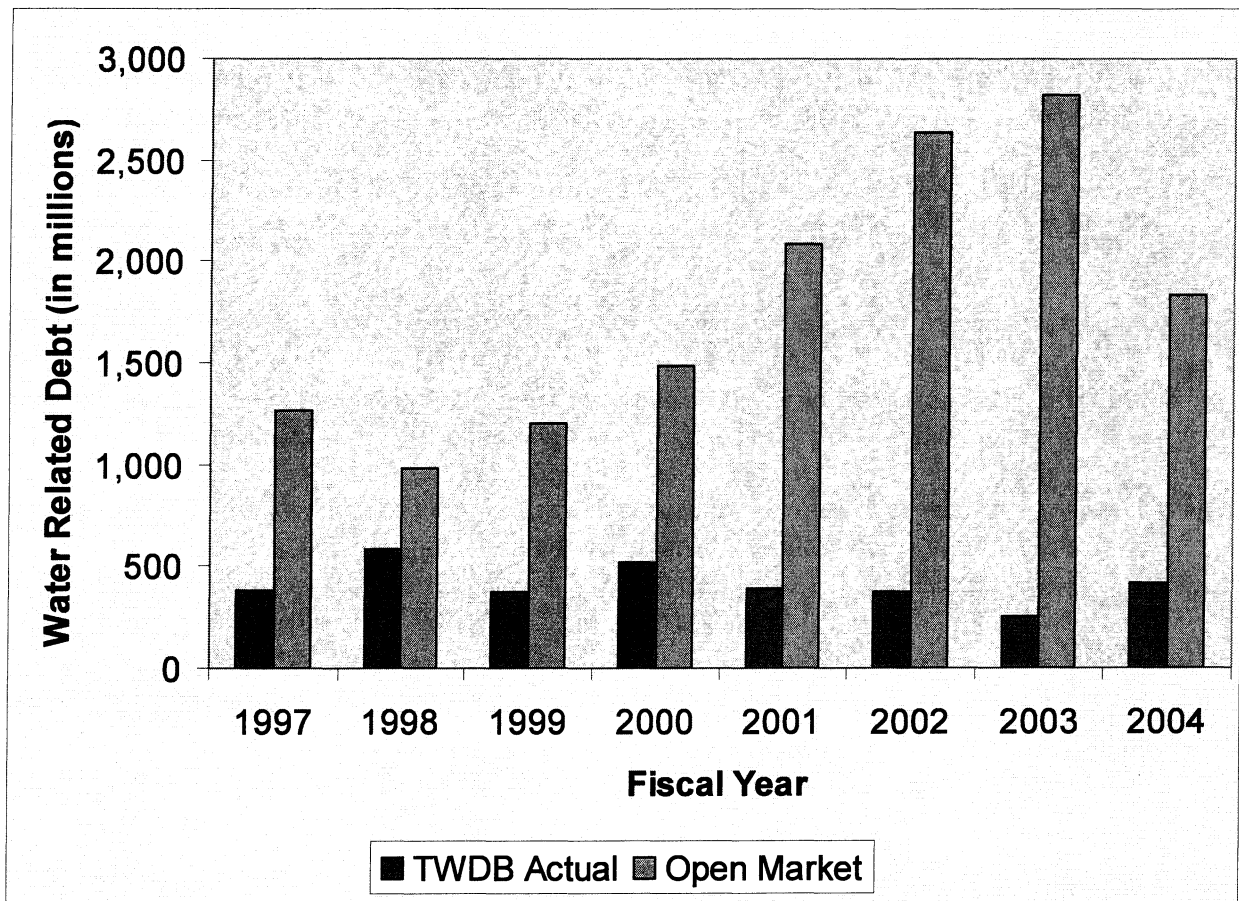
In 2000 the TWDB contracted a study entitled *Water and Wastewater Needs of Non-EDAP Eligible Disadvantaged Areas*.^{iv} Published in March 2001, this "Statewide Needs Assessment" surveyed officials in counties not eligible for EDAP, requesting information pertaining to disadvantaged communities. The majority of the communities identified represent rural areas. The study identified \$3.8 billion in water and wastewater infrastructure needs. Approximately \$1.8 billion is needed for water infrastructure and \$2.0 billion for wastewater.

Cost estimates in both studies represent immediate infrastructure needs ranging from first time facilities to upgrades of inadequate systems. Based on these studies, total statewide estimates of needs in disadvantaged areas equal \$4.55 billion, comprised of \$2.21 billion for water treatment and distribution and \$2.34 billion for wastewater infrastructure (Table 1). These two studies represent the first time there has been an estimate of economically distressed areas water and wastewater infrastructure needs for the entire state based on detailed survey methods.

LOCAL AND REGIONAL ROLE

Investment by local and regional entities in water strategies and in water and wastewater treatment and conveyance projects primarily occurs through expenditures that are financed through the issuance of municipal bonds on the open market. Most financial assistance provided through the TWDB is evidenced by municipal bonds issued by the entity receiving the assistance. The following chart (Figure 1) shows the annual amount of issuance for the TWDB and all other market issues for water-related projects. On a state fiscal year basis, from 1997 to 2004, over \$17.6 billion of bonds, sold in 2,367 different series, contributed to the development of local and regional projects^v (Appendix 2, Table A2.1).

Figure 1: Water and Wastewater Debt Issued in Open Market, FY 1997-2004*



* The open market figure for 2004 may increase once final figures are reported.

STATE'S ROLE

This section analyzes the needs that cannot be funded by local and regional entities. Based on the historical issuance of bonds by local and regional entities to finance internal infrastructure discussed in the previous section, TWDB assumes that most water treatment and distribution needs, and all wastewater collection and treatment needs can be met by the local and regional entities **with the exception of disadvantaged areas**. This section, therefore, breaks needs down only by municipal water supply, agricultural water supply, and disadvantaged area needs for treatment, collection, and distribution.

In October 2002, in response to legislative mandate, the TWDB issued its *Infrastructure Financing Report: A Look Ahead at Water Supply Funding Needs* (IFR). In the IFR, the TWDB provided its evaluation of water supply funding needs for local political subdivisions, using information provided by the 16 Regional Water Planning Groups (Planning Groups). The data that follow are primarily from the IFR.

The data contained in previous sections regarding needs clearly indicate that there is a huge backlog of projects necessary to provide basic water and wastewater services to disadvantaged areas of the state. Additionally, based on project implementation activity observed at the regional water planning level, many entities are not proceeding to implement vital water supply strategies included in the first decade of needs of the 2002 State Water Plan. The analyses that follow are based on the premise that the funding of water supply strategies, including those for disadvantaged communities, should proceed at a rate equal to the annualized amount of need per year for the first decade of the 2002 State Water Plan, even though the beginning of the funding effort may be FY 2006. The funding sources are assumed to be direct appropriations, TWDB-issued general obligation bonds, and appropriations for debt service and on those bonds.^{vi}

Municipal Water Supply Strategies

In the IFR, TWDB identified 129 projects with capital costs of approximately \$4.9 billion that must be initiated by 2010. Of the total, TWDB estimates that local political subdivisions may need \$2.4 billion in financial assistance through 2011 to implement these water supply projects (Table 2). Approximately \$257.5 million (for 47 projects) of this overall \$2.4 billion is attributable to disadvantaged and small communities (Table 1).^{vii} TWDB estimates that \$506 million^{viii} (Table 2) in cash from the state is needed for the \$2.4 billion in bonds and grants used for this financial assistance through 2011,^{ix} with a total of approximately \$1.3 billion in cash appropriations needed over the next 30 years for debt service on bonds issued through the 2011 period.

The estimated bonds and grants needed to provide state assistance, as well as the associated general or dedicated revenues needed through FY 2011 are (Table 2):

- • \$300 million (\$100 million per biennium) of bonds issued to fund State Participation^x for optimum sizing of regional projects.
 - ○ Appropriations required: \$63 million total during the next three biennia for debt service on the bonds issued for this purpose.
- • \$207.1 million in grant assistance, consisting of \$156.7 million in 100 percent grants to disadvantaged communities statewide; \$50.4 million in 50 percent grants for small communities.^{xi}
 - ○ Appropriations required: \$207.1 million total to the Water Infrastructure Fund (WIF)^{xii} evenly spaced over the next three biennia.
- • \$1.7 billion in bonds issued over the three biennia to fund below-market interest rate loans. This would include \$50.4 million in loans for small communities to match the 50 percent grants described previously.
 - ○ Appropriation required: \$191.9 million total during the next three biennia to pay debt service not covered by the below-market-rate loans.
- •
- • \$207.1 million for up-front permitting costs of projects. These projects would access the WIF's below-market-rate loans with 10-year payment deferrals of principal and interest.^{xiii}
 - ○ Appropriation required: \$44.2 million total through the next three biennia for debt service.

Table 2: Water Supply Strategies (in millions)

Grants & Bond Issuance							
Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Grants (10% of Assistance)	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$207.10
Loans w/10 year deferral (10% of Assistance)	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$207.10
Loans (80% of Assistance)	\$276.14	\$276.14	\$276.14	\$276.14	\$276.14	\$276.14	\$1,656.81
State Participation	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$300.00
Totals	\$395.17	\$395.17	\$395.17	\$395.17	\$395.17	\$395.17	\$2,371.00
Projected Appropriations							
Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Grants (direct appropriations)	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$34.52	\$207.10
Loans w/10 year deferral (debt service)	\$1.98	\$4.13	\$6.29	\$8.45	\$10.60	\$12.76	\$44.22
Loans (debt service)	\$20.60	\$25.16	\$29.71	\$34.26	\$38.82	\$43.37	\$191.93
State Participation (debt service)	\$2.98	\$6.23	\$9.48	\$12.17	\$14.87	\$17.28	\$63.00
Totals	\$60.07	\$70.04	\$80.00	\$89.40	\$98.80	\$107.93	\$506.25

Agricultural Water Supply Strategies^{xiv}

Of the \$575 million needed to complete water management strategies to meet the 50-year needs for irrigated agriculture identified in the 2002 State Water Plan, \$133 million is estimated to be needed for the first decade (2000-2010). Conservation-type activities represent 95 percent of this total estimated cost. TWDB assumes that grants are needed to provide this funding, as past TWDB experience shows there is little demand for state loan funds for agricultural water conservation projects. Senate Bill 1053 of the 78th Legislative Session consolidated all previous agricultural water conservation programs of the TWDB into a single fund, combining assets from a prior Trust Fund and loan funds to be made available to invest in the agriculture sector, including incentives and highly visible demonstration initiatives.

Experience in funding of agricultural initiatives shows that having state grant funds available to match local and federal resources leverages the state capital, and provides a more efficient and effective delivery mechanism for funding than low interest loans. Federal Environmental

Quality Incentives Program (EQUIP) funding provided through the Natural Resources Conservation Service, is being made available to fund conservation projects. Border canal systems have been targeted for assistance through the Lower Rio Grande Valley Water Resources Conservation and Improvement Act, and land stewardship activities that include range management are growing across many watersheds and receiving interest from other federal agencies.

Using a portion of the remaining agricultural water conservation bond authority, combined with the loan repayments and investments in the fund, over \$133 million in grants for projects and equipment could be provided in the next three biennia. Approximately \$ 67.8 million in appropriations will be needed for debt service on the bonds issued for these grants over the same period. If federal funds are leveraged, this investment could grow to two to three times the amount of funding provided and based on prior experience, would result in saving approximately 2.8 million acre/ft of water per year by 2050.

Table 3. Agricultural Water Conservation Strategies (in millions)

Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Grants*	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20
Projected Appropriations							
Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Ag Bond (debt service)	\$1.12	\$4.88	\$9.29	\$13.39	\$17.50	\$21.59	\$67.77

* funded with bond proceeds

Water and Wastewater Treatment and Distribution in Disadvantaged Areas

As identified earlier in this report, recent studies indicate an immediate \$4.6 billion need in disadvantaged communities statewide for water and wastewater collection, treatment and distribution infrastructure. The 1989 EDAP program resources are exhausted, and a constitutional referendum would be required to authorize additional bonds for the original program. Other existing TWDB funding programs do not adequately meet the needs of these communities, which historically have required grant funding in order to successfully complete and sustain their projects. For illustration, it is assumed that a new program, similar to the EDAP, would be made available statewide to disadvantaged communities. As modeled, the proposed program would have funds available in the form of grants and loans, at a ratio of 90 percent grant and 10 percent loan. Facility planning grants would also be available.

The magnitude of total assistance needed would be unmanageable if implemented at one time. Therefore, the program is assumed to be phased. A first phase of \$450 million in grants for construction over the next three biennia (2006-2011) represents three times the rate (\$25 million in bonds issued per year) originally authorized for the EDAP. An additional \$2 million per year would be used for planning grants. A program structured in this manner would require appropriations of \$140.2 million through 2011. Annually, this would allow for \$75 million in

design and construction grants/loans and \$2 million in facility planning grants over the six year period. It is anticipated that, similar to the original EDAP, the new program would be leveraged with federal grants to speed up the implementation of these vital infrastructure projects. Table 4 below provides further breakout of the associated costs and available assistance.

Table 4. Statewide Disadvantaged Infrastructure Strategies (in millions)

Grants & Bond Issuance							
Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Facility Planning Grants	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$12.00
Grants	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$75.00	\$450.00
<hr/>							
Totals	\$77.00	\$77.00	\$77.00	\$77.00	\$77.00	\$77.00	\$462.00
Projected Appropriations							
Fiscal Year	2006	2007	2008	2009	2010	2011	Total
Facility Planning Grants (direct appropriations)	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$12.00
Grants (debt service)	\$6.54	\$12.47	\$18.40	\$24.33	\$30.27	\$36.20	\$128.21
<hr/>							
Totals	\$8.54	\$14.47	\$20.40	\$26.33	\$32.27	\$38.20	\$140.21

TWDB FINANCIAL ASSISTANCE PROGRAMS

The Regional Water Plans and IFR recommend that the state should have a broader role in providing funding for water supply projects. The legislature has, over time, significantly expanded the TWDB’s financial programs in an attempt to address gaps in funding. (See Appendix 3). Current TWDB financial assistance programs appear to have most of the legal authority to address proposed water management strategies and to address the projects needed for disadvantaged communities. However, current funding sources do not allow full use of the legal authority provided.^{xv} Two crucial programs, the Rural Water Assistance Fund (RWAFF)^{xvi} and Water Infrastructure Fund (WIF), were authorized in 2001 specifically to fill funding gaps. Money has never been appropriated or dedicated to these funds. The State Participation Program, structured for optimum-sizing of projects that ultimately are most cost effective, requires an initial influx of general revenue for it to succeed. Table 5 provides a summary of the TWDB programs available for projects. A full discussion of TWDB’s programs is found in Appendix 4.

Table 5. TWDB Programs

Program	Grant / Loan	Inception Date	Funded (1) FY 98-04	Approximate Annual Amount Available (2)
Agricultural Water Conservation Bond Program	Loan	1985	\$32,145,000	\$300,000
Clean Water State Revolving Fund	Loan	1987	\$1,992,397,599	\$353,000,000
Colonia Plumbing Loan Program	Loan	1991	\$687,500	\$100,000
Colonia Self-Help Program	Grant	2001	\$389,385	\$250,000
Colonia Wastewater Treatment Assistance Program	Grant	1993	\$208,526,827	(3)
Drinking Water State Revolving Fund	Grant/Loan	1997	\$417,369,941	\$95,800,000
Economically Distressed Areas Program	Grant/Loan	1989	\$59,725,198	(4)
Rural Community Water & Wastewater Fund	Loan	2001	\$1,350,000	(5)
Rural Water Assistance Fund	Loan	2001	\$35,160,000	\$25,000,000
State Participation	State ownership repurchased	1962	\$117,705,000	(6)
Texas Water Development Fund I & II	Loan	1957/1997	\$672,362,450	\$75,000,000
Water Assistance Fund	Grant/Loan	1981	\$8,056,732	(7)
Small Community Hardship Program	Grant	2004	\$3,500,000	(5)
Water Infrastructure Fund	Grant/Loan	2001	\$0	(8)
Total			\$3,549,375,632	\$549,450,000

(1) Only includes commitments approved by the TWDB since FY 1998 and closed as of July 19, 2004.

(2) Based on annual bond issuances, historical demands, or actual annual available amounts as appropriate

(3) \$300 million total authorized through Federal Appropriations. Currently all funds are allocated to ongoing projects.

(4) \$37 million in authorized but unused bonds are allocated to ongoing projects.

(5) Funding dependent upon direct appropriations; currently no appropriation.

(6) Funding dependent upon legislative authority to issue bonds, with associated appropriation for debt service; currently no appropriation.

(7) Funds from Texas Water Resource Finance Authority allocated for FY 05. Reduced projections for future years.

(8) Program created, however, no funding appropriated.

POTENTIAL REVENUE SOURCES

Pursuant to a request from Senators Armbrister and Duncan, this section discusses potential revenue sources that could fund the needed state role in water-related projects.

Recommendations in the Regional Water Plans and in the IFR indicate that the state should have a broader role in providing funding for water projects. This includes additional funding sources such as general revenue appropriations, dedicated revenue sources, and additional bond authorization. Without these additional resources, implementation of the strategies and projects recommended in the State Water Plan will be difficult to achieve.

Dedicated Funding Sources Considered in Prior Legislative Sessions

In prior legislative sessions, Senate and House committees gave consideration to creating dedicated funding for water programs. Table 6 provides a summary of dedicated sources and amounts of funds for water-related projects considered during the development of past legislation and for which estimates are available. Appendix 5 provides a detailed description of these fees, and how they were calculated.

Planning Group Input

While the Planning Groups recommend a wide range of options for addressing funding shortages, a review of the 16 surveys conducted by the Planning Groups for the 2002 IFR indicates the broadest support for the following four recommendations:

- • A tax on the sale of bottled water;
- • Appropriation of general revenue;
- • Increased authorization and use of state general obligation bonds; and
- • Appropriation of state matching funds to take full advantage of federal grant assistance.

Eight of the 16 Planning Groups support some form of tax on the sale of bottled water as a dedicated source of revenue to help political subdivisions pay for water supply projects.

Table 6. Potential Dedicated Revenue Sources for Water Infrastructure for which Estimates are Available*

Estimated Revenue Generated (in millions)	
Authorized water rights fee ^a	Estimates may range from \$3.6 to \$213.07 depending on the exemptions and rate structures imposed
Reported use fee ^b	\$17.7 in 2010 \$18.1 in 2020
Public water supply connection fee ^c	\$75.4
County assessed water fee ^d	\$ 20.9 in 2000 \$ 24.5 in 2010 \$ 28.8 in 2020
Sales tax on water and wastewater ^e	\$ 234.2 in 2002 \$ 253.8 in 2006
Bottled water fees	
Fee on receipts ^f	\$0.87
5 cent surcharge per bottle ^g	\$ 52.1 in 2002 \$ 65.2 in 2006
Sales tax per bottle ^h	
taxed at 6.25 percent	\$ 55.4 in FY 2005 rising to \$ 67.4 in FY 2009
taxed at 6.75 percent	\$ 59.3 in FY 2005 rising to \$ 72.1 in FY 2009
taxed at 7.5 percent	\$ 64.9 in FY 2004 rising to \$ 78.9 in FY 2009
Tiered residential use fee ^c	\$ 8.5 million (exempting use of ≤ 7000 gallons) \$ 9.1 million (exempting use of ≤ 5000 gallons)

* See Appendix 5 for detailed estimates

^a Based on Total Authorized Water Rights (7/30/2004) TCEQ.

^b Based on projected demand under drought conditions. *Water for Texas - 2002*

^c Based on TWDB Water Use Survey, 2000. Number of connections may include some sales to industry.

^d Based on projected population. *Water for Texas - 2002*

^e LBB, 2001. Fiscal Note for introduced version of SB 2.

^f HB 1802 staff working papers. 1997.

^g LBB, 2001 Fiscal Note for engrossed version of SB 2

^h Texas Comptroller. May 2004.

Other fees

Below is a list of further dedicated sources of revenue that might be considered, but for which no revenue estimates are available.

- • Surcharge on fishing licenses
- • Surcharge on hydroelectric production
- • Surcharge at water parks
- • Annual permit fees at TCEQ for all public water systems
- • Charge on all groundwater permits
- • Hotel-Motel tax

Additional Studies Needed

Finally, these fees require additional research. Revenue estimates for these additional fees, and a thorough economic impact analysis related to the establishment and implementation of dedicated funding sources for water infrastructure projects, is also clearly necessary.

RECOMMENDATIONS

In order to provide for Texas' water supply and water and wastewater infrastructure needs that cannot be met by local, regional or federal entities, TWDB makes the following recommendations:

- • State assistance should focus on financing gaps associated with implementation and funding for:
 - ○ regional water supply projects; +
 - ○ disadvantaged communities; and
 - ○ agricultural and municipal water conservation.
- • State general revenues or dedicated revenues should be made available to allow existing state assistance programs to offer:
 - ○ grants for research into water conservation techniques and innovative technologies (such as desalination);
 - ○ grants for agricultural water conservation equipment, which will leverage matching federal funds
 - ○ payment deferrals for planning, design, and environmental and other permitting activities;
 - ○ grants, zero-interest loans and below-market loans to disadvantaged communities; and
 - ○ state participation projects.
- • Conduct a cost/benefit analysis of using various revenue sources to fund programs that target state assistance to water supply strategies and to disadvantaged communities, as described in this report.

- • Provide additional general obligation bond authority for TWDB.
- • Statutory authority should be provided to allow TWDB the flexibility to offer grants for water and wastewater projects using state general obligation bond proceeds.

- • Remove the statutory prohibitions (Water Code Section 15.974) that limit the WIF to no more than 10 percent in each of the following areas:
 - ○ grants and low or zero-interest loans; and
 - ○ loans at or below-market interest rates for planning, design and permitting costs, including a 10-year deferral on principal and interest.

- • Funding should be provided for adequate staffing for expanded financial assistance programs, including outreach assistance and development of training programs in financial and technical management.

APPENDIX 1: Placeholder for letter from Senators Armbrister and Duncan

PLACEHOLDER

PLACEHOLDER

APPENDIX 2

Table A2.1 Water and Wastewater Related Debt Issued in the Open Market FY 1997-2004

COMPOSITE AVERAGE*			TWDB ACTUAL		TOTAL UNIVERSE IN TEXAS		TDWB's \$ Volume Market Share
Fiscal Year	Water Related Debt	# of Issues	Water Related Debt	# of Issues	Water Related Debt	# of Issues	
1997	\$1,261,014,599.00	185	\$380,528,560.00	82	\$1,641,543,159.00	267	23.18%
1998	979,376,962.50	162	584,018,000.00	102	1,563,394,962.50	264	37.36%
1999	1,199,342,500.00	209	376,617,556.00	92	1,575,960,056.00	301	23.90%
2000	1,485,921,450.00	240	518,344,659.65	84	2,004,266,109.65	324	25.86%
2001	2,081,473,070.05	218	387,197,000.00	72	2,468,670,070.05	290	15.68%
2002	2,636,274,355.88	219	375,995,000.00	74	3,012,269,355.88	293	12.48%
2003	2,822,927,957.25	245	250,295,000.00	72	3,073,222,957.25	317	8.14%
2004	<u>1,834,558,931.00</u>	<u>260</u>	<u>409,941,000.00</u>	<u>52</u>	<u>2,244,499,931.00</u>	<u>312</u>	<u>18.26%</u>
Total	\$14,300,889,825.68	1,737	\$3,282,936,775.65	630	\$17,583,826,601.33	2,367	18.67%

* Data represent average amounts obtained from the Texas Bond Review Board and the Texas Municipal Advisory Council

APPENDIX 3

Although the TWDB's authorization and role in funding water and wastewater projects has evolved over time, the greatest changes were made in:

- • 1981: Water Assistance Fund (WAF) and sub-accounts (Water Loan Assistance Fund and Research and Planning Fund, State Participation Account)
- • 1985: Purposes of State Participation Program expanded; flood control and agricultural water conservation purposes added to state bond programs; general obligation bond authority increased, Agricultural Trust Fund created with money from WAF
- • 1987: State Water Pollution Control Revolving Fund (CWSRF)
- • 1989: Economically Distressed Areas Program
- • 1991: Colonia Plumbing Improvement Loan Program
- • 1997
 - ○ Increased general obligation bonding authority
 - ○ Development Fund II to implement changes to structure of bonding program to provide more efficiency in use of funds, segregation of State Participation Account flow of funds
 - ○ Increased projects eligible for grants from WLAF
 - ○ Drinking Water SRF and its disadvantaged program
- • 2001
 - ○ Rural Water Assistance Fund (RWAFF)
 - ○ Colonia Self-Help Program
 - ○ Water Infrastructure Fund (WIF)
 - ○ Rural Community Water and Wastewater Loan Fund
 - ○ Increased general obligation bond issuance authority (\$2 billion); allowed 100 percent state ownership in projects.
- • 2003
 - ○ Consolidated agricultural water conservation programs, created linked deposit program
 - ○ Linked deposit for nonpoint source pollution control projects in CWSRF

APPENDIX 4: TWDB PROGRAMS

STATE PROGRAMS

TEXAS WATER DEVELOPMENT FUND I and II (other than EDAP and State Participation)

- **Source of Funds:** TWDB issued General Obligation (G.O.) Bonds.
- **Bond Repayment:** Revenue from loan repayments from political subdivisions.
- **Eligible uses:** Since 1957, the Texas Water Development Fund I has been authorized to provide loans for water supply, water quality enhancement (sewer), flood control and state participation. In November 1997, the Texas Constitution was amended to create Texas Water Development Fund II, the main purpose of which was to modernize the flow of funds and maximize the use of the remaining bond authorizations. Approximately \$25 million per year used to provide state matching funds for the CWSRF and DWSRF programs.
- **Borrower's Advantage:** Political subdivisions and water supply corporations that borrow from the fund receive a lower interest rate than they might otherwise receive due to the TWDB's superior credit rating.
- **Constraints:** Projects funded are those that cannot go to the market and are either too urgent to meet deadlines or are ineligible for the CWSRF and DWSRF (see, Federal Programs discussed later in this report). Statutory or constitutional restrictions prevent the proceeds from being used to provide grants to political subdivisions, or any financial assistance to individuals or private entities.
- **Amount available:** To date, the TWDB has sold over \$2 billion of these bonds. The TWDB is authorized to provide up to \$4.68 billion in Texas Water Development Bonds (\$2.3 billion in bond authorization remaining).
- **Total Funds Provided Since September 1, 1997 (FY1998):**

Outstanding Commitments	Loans Closed	Total
\$ 95,830,000	\$ 576,532,450	\$ 672,362,450

ECONOMICALLY DISTRESSED AREAS PROGRAM (Development Funds)

- **Source of Funds:** TWDB issued state G.O. bonds.
- **Bonds Repayment:** Approximately 90 percent general revenue appropriation; approximately 10 percent revenue from loan payments from political subdivisions.
- **Eligible uses:** Grants and loans for the construction, acquisition or improvements to water supply and wastewater collection and treatment works, including all necessary engineering work.
- **Borrower's Advantage:** Assistance provided primarily as grants, with a loan amount determined by the capital contribution available from the rates to be paid by the customer base.
- **Constraints:** The program applies only to areas of the state meeting the definition of an "economically distressed area," primarily in counties along the Texas/Mexico border.
- **Amount available:** G.O. Bond authorization of \$250 million; only \$213 million has been issued due to appropriation limitations.

Total Funds Provided Since September 1, 1997 (FY1998):

Outstanding	Loans & Grants	
Commitments	Closed	Total
\$ 1,880,739	\$57,844,459	\$ 59,725,198

STATE PARTICIPATION (Development Funds)

- **Source of Funds:** Board issued G.O. Bonds issued under the authority provided for Dfund I and II.
- **Bond Repayment:** General Revenue appropriations pay the related debt service until a sufficient rate base develops in the project area to allow local participants to purchase the State's interest. Ultimately, the state recovers the total amount of bonds and appropriations from the local government.
- **Eligible uses:** Water, wastewater, and flood protection projects to be "built for the future" using both local and state funding. Local interests pay for the portion of the project that meets current and near term-projected needs. The state purchases the portion of an eligible facility that results in excess capacity above current and near term-projected needs that is beyond the ability of the current rate-paying base to ensure the optimal development of the project. The state may purchase an ownership interest in such excess capacity of the eligible regional facility of up to 100 percent.
- **Borrower's Advantage:** Local governments obtain economies of scale for projects that are beyond their current financial capability. In addition to interest savings, the program reduces the necessity and added capital expense of building new structures or replacing undersized structures in the future. The Board's experience has been to fund projects producing over 30 percent in capital savings.
- **Constraints:** Legislature has limited the funding level each biennium in the appropriations bill.
- **Amount provided^{xvii}:** \$50 million for FY1998-1999; \$50 million for FY2000-2001; \$35 million^{xviii} for FY 2002-2003; \$0 for FY 2004-2005

Total Funds Provided Since September 1, 1997 (FY 1998):

Outstanding	Assistance	Total
Commitments	Closed	
\$ 25,260,000	\$ 92,445,000	\$ 117,705,000

AGRICULTURAL WATER CONSERVATION LOAN AND GRANT PROGRAM

- **Source of Funds:** Agricultural Water Conservation Fund, which was consolidated with the Agricultural Water Trust Fund and the Agricultural Soil and Water Conservation Fund, resulting in total existing assets of approximately \$20 million, together with TWDB authority to issue state G.O. bonds.
- **Bond Repayment:** Revenue from loan repayments from political subdivisions; legislative appropriation for debt service for special projects.
- **Eligible uses:**
 - ◊ Grants to state agencies, political subdivisions (such as soil and water conservation districts, irrigation districts and groundwater conservation districts) for conservation programs (such as technical assistance, research, demonstration, technology transfer, or educational programs) or conservation projects (such as irrigation systems efficiency improvements, converting irrigated land to dryland and improving dryland use of natural precipitation, installing water meters, and brush control activities);
 - ◊ Loans to political subdivisions for conservation programs or conservation projects or to make loans to individual farmers and ranchers; or
 - ◊ Linked deposits to local lending institutions (such as banks or farm credit associations) to make loans to individuals for conservation projects.
- **Borrower's Advantage:** Grants and subsidized loans.
- **Constraints:** Limited to cash on hand and bond authority.
- **Amount available:** G.O. Bond authorization not to exceed \$200 million; \$ 35.16 million has been issued to date.
- **Total Funds Provided Since September 1, 1997 (FY1998):**

Outstanding Commitments	Loans & Grants Closed	Total
\$ 0	\$ 32,145,000	\$ 32,145,000

WATER LOAN ASSISTANCE FUND OF THE WATER ASSISTANCE FUND

- **Source of Funds:** An initial appropriation and periodic appropriations from the Legislature, transfers of funds available from the Texas Water Resources Finance Authority (TWRFA). A recent donation from a water-related organization is designed specifically to fund a water conservation education research effort.
- **Eligible uses:** The Water Assistance Fund consists of various sub-funds. The most relevant for financing of water and wastewater projects is the Water Loan Assistance Fund that provides assistance in the form of loans and limited grants for water conservation, water development, water quality enhancement, flood control, drainage, recharge, brush control, weather modification, regionalization, and desalination.
- **Borrower's Advantage:** Grants and lower interest loans may be available. Provides pre-construction funding.
- **Constraints:** Limited by legislative appropriations or availability of TWRFA funding
- **Amount provided:**
- **Total Funds Provided Since September 1, 1997 (FY1998):**

Outstanding	Loans	
Commitments	Closed	Total
\$986,400	\$ 7,070,332	\$ 8,056,732

WATER INFRASTRUCTURE FUND

- **Source of Funds:** No funding to date. May be funded with appropriations and fees or revenues from legislature, gifts, grants and donations, other available sources.
- **Bond Repayment:**
- **Eligible uses:**
 - ○ Loans for projects to political subdivisions, at or below market rates
 - ○ Grants, or low-or-zero-interest loans for projects outside metropolitan areas to ensure implementation of projects, or for economically distressed areas (but not to exceed 10 percent of financial assistance each year)
 - ○ Loans for planning and design, permitting, and state and federal regulatory activities, at or below market rates, with deferral of principal and interest payments for up to 10 years, or until construction begins
 - ○ Economic Development Programs
- **Borrower's Advantage:** Up-front funding for preliminary project costs with payment deferral; low interest loans or grants
- **Constraints:** Program has not been funded
- **Amount provided:** None
- **Total Funds Provided Since September 1, 2001 (program inception):**

Outstanding	Loans	
Commitments	Closed	Total
\$ 0	\$ 0	\$ 0

RURAL WATER ASSISTANCE FUND

- **Source of Funds:** Currently funded with TWDB-issued G.O. bonds using the state's Private Activity Bond Cap to access tax-exempt rates. Appropriations are a possible future source of funds.
- **Bond Repayment:** Revenue from loan repayments from political subdivisions.
- **Eligible uses:** Water and wastewater projects for political subdivisions and water supply corporations.
- **Borrower's Advantage:** Below market loans for terms of up to 40 years. Additionally, water supply corporations are exempt from paying sales taxes for any project financed through the RWAF.
- **Constraints:** Unless appropriated funds become available to supplement the program, it will remain economically unavailable for a great majority of the communities it is designed to help, since most of these communities need some sort of increased subsidy for their infrastructure. The program is restricted to rural communities with service area \leq 10,000 population or that otherwise qualifies for financing from a federal agency, or to counties in which no urban area exceeds 50,000 population.
- **Amount provided:** \$50 million for FY 2002-2003; \$25 million for FY 2004.
- **Total Funds Provided Since September 1, 2001 (program inception)**

Outstanding	Loans	
Commitments	Closed	Total
\$ 25,538,000	\$ 9,622,000	\$ 35,160,000

COLONIA SELF-HELP PROGRAM (Water Assistance Fund)

- **Source of Funds:** Currently funded from future payments of TWRFA. Potential funding sources include legislative transfers, and gifts, grants and donations.
- **Bond Repayment:** Not applicable.
- **Eligible uses:** Water and wastewater projects sponsored by non-profit organizations that rely on community residents' labor to help construct the project.
- **Borrower's Advantage:** 100 percent grant funds.
- **Constraints:** Limited funding; limited to non-profit organizations.
- **Amount provided:** No funds appropriated; TWDB using TWRFA proceeds as may be available
- **Total Funds Provided Since September 1, 2001 (program inception):**

Outstanding	Grants	
Commitments	Closed	Total
\$310,208	\$79,177	\$389,385

SMALL COMMUNITY HARDSHIP PROGRAM (Water Assistance Fund)

- **Source of Funds:** TWDB initiated this program based on legislatively expanded ability to make grants from the Water Loan Assistance Fund by using funds available from TWRFA. Appropriations are a potential future source.
- **Bond Repayment:** Not applicable.
- **Eligible uses:** Water and wastewater projects in communities with populations of 5,000 or less.
- **Borrower's Advantage:** Up to 90 percent of project costs not to exceed \$1 million in grant funds
- **Constraints:** Limited funding. Program will need to access funds that allow reduced rate loans and grants to be useful.
- **Amount provided:** \$3.47 million
- **Total Funds Provided Since July 1, 2004 (program inception):**

Outstanding Commitments	Loans Closed	Total
New program without any commitments or loans to date		

RURAL COMMUNITY WATER & WASTEWATER LOAN FUND

- **Source of Funds:** General Revenue. Appropriations also legally available: Water Assistance Fund transfers
- **Bond Repayment:** n/a
- **Eligible uses:** Loans to rural communities for water and wastewater projects
- **Borrower's Advantage:** Loan agreement, may use sales tax as revenue pledge
- **Constraints:** Limited to cities and counties with population less than 5,000, or districts or authorities of similar population located outside cities ETJ
- **Amount provided:** \$520,000 for FY 2002-2003; \$830,000 for FY 2004-2005
- **Total Funds Provided Since September 1, 2001 (program inception):**

Outstanding Commitments	Loans Closed	Total
\$ 0	\$ 0	\$ 0

FEDERAL PROGRAMS

CLEAN WATER STATE REVOLVING FUND

- **Source of Funds:** Annual federal capitalization grants matched with TWDB issued revenue bonds and loan repayments deposited back into the fund.
- **Bond Repayment:** No repayment of the federal grant required; Revenue from loan repayments from political subdivisions for the G.O. bonds.
- **Eligible uses:**
 - ◊ Reduced interest loans of wastewater projects addressing compliance issues consistent with Clean Water Act goals;
 - ◊ 1 percent and 0 percent interest loans of wastewater projects addressing compliance issues in Disadvantaged Communities;
 - ◊ Linked deposits to local lending institutions (such as banks or farm credit associations) to make loans to individuals for nonpoint source projects;
 - ◊ Loans for Estuary Management projects.
- **Borrower's Advantage:** Subsidized interest rates.
- **Constraints:** Federal goal based priority distribution of funds requiring that projects be listed on annual Intended Use Plan to receive funding.
- **Amount provided:** Determined during federal appropriations process.
- **Total Funds Provided Since September 1, 1997 (FY 1998):**

Outstanding Commitments	Loans Closed	Total
\$500,925,000	\$ 1,491,472,599	\$ 1,992,397,599

COLONIA PLUMBING LOAN PROGRAM

- **Source of Funds:** Allocation of \$15 million from 1990 Clean Water Federal Capitalization Grants.
- **Bond Repayment:** No repayment of the federal grant required; Revenue from loan repayments from political subdivisions for the G.O. bonds.
- **Eligible uses:** Low-interest loan program available to assist colonia residents in financing the cost of plumbing connections to water and wastewater systems and with the installation of necessary plumbing improvements within their homes
- **Borrower's Advantage:** Subsidized interest rates for which loan repayment is requested but not required.
- **Constraints:** State law requires this assistance be in the form of a loan though the funds could be disbursed as grants under federal oversight.
- **Amount provided:** \$15 million.
- **Total Funds Provided Since September 1, 1997 (FY 1998):**

Outstanding Commitments	Loans Closed	Total
\$599,500	\$ 88,000	\$687,500

COLONIA WASTEWATER TREATMENT ASSISTANCE PROGRAM

- **Source of Funds:** Federal appropriations for federal FY1992 - 1997 with state match requirement in varying amounts for each grants.
- **Bond Repayment:** No repayment of the federal grant required; state match from GO bonds is paid with state general revenues.
- **Eligible uses:** Grants for wastewater projects and water projects for unincorporated areas of the state that meet the definition of an "economically distressed area" and located in counties within 100 kilometers (62.14 miles) of the Texas/Mexico border.
- **Borrower's Advantage:** Grants with loan component
- **Constraints:** Initially only for wastewater projects; limited to areas within 100 kilometers of the international border. Limited funds available.
- **Amount provided:** \$300 million with \$75 million in State EDAP funds.
- **Total Funds Provided Since September 1, 1997 (FY1998):**

Outstanding Commitments	Loans Closed	Total
\$27,152,859	\$ 181,373,968	\$208,526,827

DRINKING WATER STATE REVOLVING FUND

- **Source of Funds:** Annual federal capitalization grants matched with TWDB issued general obligation bonds and loan repayments deposited back into the fund. Revenue bonds also available for providing money to the fund, but have not yet been utilized.
- **Bond Repayment:** No repayment of the federal grant required; revenue from loan repayments from political subdivisions for the G.O. bonds.
- **Eligible uses:** Water projects addressing compliance issues consistent with Drinking Water Act goals.
- **Borrower's Advantage:** Subsidized interest rates, loan forgiveness or zero percent loans for disadvantaged communities
- **Constraints:** Projects must be on annual Intended Use Plan to receive funding; Federal goal-based priority distribution of funds; 30 percent of capitalization grant set aside for disadvantaged communities. Upgrades or replacements of existing systems only. Funds cannot be used for growth or to purchase water rights.
- **Amount provided:** Determined during federal appropriations process
- **Total Funds Provided Since September 1, 1997 (FY1998):**

Outstanding Commitments	Loans Closed	Total
\$104,617,706	\$ 312,752,235	\$ 417,369,941

APPENDIX 5

POTENTIAL REVENUE SOURCES

Authorized water rights fee.

An authorized water rights fee is assessed to water rights holders according to the number of acre-feet authorized. Fees may be flat or vary according to the type of use (e.g., municipal, industrial, agricultural).

Estimated revenue generated:

Estimates, based on 2004 figures, indicate that \$213 million dollars could be generated by assessing a flat \$5 fee per acre-foot of water rights for all water rights types. A flat fee of \$1 for all rights would generate \$42.6 million. Exempting municipal and saline rights, and assessing a 50-cent fee on industrial and a 10-cent fee on irrigation and other uses would generate \$3.5 million.

Table A5.1. Estimated revenue generated with water rights fees under various rate structures (in millions)

	Acre feet (2004)	Rate (1)	Revenue	Rate (2)	Revenue	Rate (3)	Revenue	Rate (4)	Revenue	Rate (5)	Revenue	Rate (6)	Revenue
Municipal	11,106,862	\$5.00	\$55.53	\$5.00	\$55.53	\$1.00	\$11.11	\$0.50	\$5.55	\$0.50	\$5.55	**	**
Industrial	6,099,562	\$5.00	\$30.50	\$5.00	\$30.50	\$1.00	\$6.10	\$0.50	\$3.05	\$0.50	\$3.05	\$0.50	\$3.05
Irrigation	5,261,417	\$5.00	\$26.31	\$1.00	\$5.26	\$1.00	\$5.26	\$0.50	\$2.63	\$0.10	\$0.53	\$0.10	\$0.53
Other	380,833	\$5.00	\$1.90	\$1.00	\$0.38	\$1.00	\$0.38	\$0.50	\$0.19	\$0.10	\$0.04	\$0.10	\$0.04
Saline	8,532,970	\$5.00	\$42.67	\$0.25	\$2.13	\$1.00	\$8.53	**	**	**	**	**	**
Hydro- power	11,231,731	\$5.00	\$56.15	\$0.25	\$2.81	\$1.00	\$11.23	**	**	**	**	**	**
TOTAL			\$213.07		\$96.62		\$42.61		\$11.42		\$9.17		\$3.61

(1) Fee of \$5.00 on all types of water rights (all water rights holders)

(2) Fee of \$5.00 for municipal and industrial with declining rates for irrigation, other (\$1.00), saline and hydropower (\$.25) (all water rights holders)

(3) Fee of \$1.00 on all types of water rights (all water rights holders)

(4) Fee excludes hydro and saline. Flat fee of \$.50 for all other rights.

(5) Fee excludes hydro and saline. Declining rates for irrigation and other.

(6) Fee exempts municipal, saline and hydro with declining rate for irrigation and other (all water rights holders)

Source: TCEQ. Total Authorized Water Rights in Texas (as of 7/30/2004)

County-assessed water fee.

Fees assessed to counties in the state according to the population in each county (based on the number of residents as reflected in U.S. Census figures on population).

Estimated revenue generated:

Revenue generated would be \$20.9 million according to 2000 figures, and would bring in \$24.5 million by 2010, \$28.8 million by 2020 and \$36.8 million by 2040.

Table A5.4 Revenue generated with county-assessed water fee

Year	Total Population	Revenue generated by \$1.00 fee (in millions)
2000	20,864,933	20.86
2010	24,537,141	24.54
2020	28,792,303	28.80
2030	32,774,870	32.77
2040	36,413,817	36.41
2050	39,617,389	39.62

Source: *Water for Texas – 2002, Projected population.*

Sales tax on water and wastewater

Sales tax assessed to domestic potable water and sewer services.

Estimated revenue generated:

Revenue estimates associated with extending the sales and use tax to include domestic potable water and sewer service is estimated to be \$234.2 in fiscal year 2002, rising to \$253.8 by 2006. The potable water estimate was derived using an exemption estimate in the Comptroller's "Tax Exemptions and Tax Incidence" report (January 2000), while revenue from the tax being extended to domestic sewage was estimated by the Comptroller based on the potable water estimate adjusted using a "return share" figure provided by the TWDB.^{xx}

Bottled-water fees.

Two different versions of bottled water fees were considered in the past during HB 1802 and SB 2.

The fee considered during HB 1802 is an annual fee on receipts of the bottled water supplier based on a graduated scale from \$250 to \$15,000 with the largest fee based on receipts of more than \$10 million. The fee on bottled water considered during SB 2 was a bottled water surcharge of five cents per individual container of water bottled for retail sale.

Estimated revenue generated by a bottled water fee to bottled water suppliers:

In 1997, the estimated revenue generated by this fee was \$.87 million dollars^{xxi}.

Estimated revenue generated by a bottled water 5-cent surcharge fee:

It is estimated that revenues would total \$52.1 million in fiscal year 2002, rising to \$65.2 million by 2006. This estimate is based on 2001 data for volumetric sales of water that were converted to a number of containers and used as the basis for an estimate of the revenues expected from the bottled water surcharge^{xxii}.

Estimated revenue generated by imposing a bottled water sales tax:

More recent estimates for a tax on bottled water purchases are listed in the table below. A 6.25 percent tax on the sale of all bottled water would generate \$ 55.4 million in 2005, rising to \$67.4 in 2009. A tax of 6.75 percent on the sale of all bottled water would generate \$ 59.3 million in 2005, rising to \$72.1 in 2009, while a tax of 7.5 percent on the sale of all bottled water would generate \$ 64.9 million in 2005, rising to \$78.9 in 2009. These estimates assume a tax on all bottled water, exclusion of bottled water of three gallons or more would reduce the revenue gained by approximately 18 percent.

Table A5.5 Revenue estimates for bottled water taxes*

	Revenue (in millions)				
	FY2005	FY2006	FY2007	FY2008	FY2009
Taxing sales of bottled water					
@ 6.25 percent	\$ 55.4	\$ 58.2	\$ 61.1	\$ 64.2	\$ 67.4
@ 6.75 percent	\$ 59.3	\$ 62.3	\$ 65.4	\$ 68.6	\$ 72.1
@ 7.5 percent	\$ 64.9	\$ 68.1	\$ 71.5	\$ 75.1	\$ 78.9

Sources: Strayhorn, Carole Keeton, Texas Comptroller. Letter to The Honorable James R. Pitts. 4 May. 2005. Strayhorn, Carole Keeton, Texas Comptroller. Letter to The Honorable Talmadge Heflin. 28 May. 2005.

*Assumes taxation on all bottled water. An exclusion for sizes of greater than three gallons would reduce revenue gains by approximately 18 percent.

50 percent of groundwater export fees

Considered during SB 2, dedicates 50 percent of groundwater export fees to funding water infrastructure.

Estimated revenue generated:

Revenue from the groundwater export fee provision of the bill is not expected to be significant

Fees to groundwater conservation districts

This fee would be assessed to groundwater conservation districts (GCDs) to make them eligible to use funds from the Water Infrastructure Fund. A fee of 7 to 10 cents per acre feet withdrawals based on previous 3-yr average) would be optional fee GCDs.

Estimated revenue generated:

No estimate provided.

Tiered residential use fee

A fee that is based on a tiered structure of volume of use per connection with rates increasing as volume of use increases. Usually exempts low volume users depending on as predetermined threshold of gallons used (such as 3,000 or fewer gallons, 5,000 or fewer gallons, 7,000 or fewer gallons).

Estimated revenue generated:

Below are two examples of tiered residential rate structure estimates. The first generates \$ 8.54 million annually. The second rate structure would generate \$9.1 million annually.

Table A5.6 Tiered Residential Rate Structure Estimates (7,000 gal. or fewer exempt)

Level of Water Use	Percent of Total Connections Statewide	Total Connections	Fee Charged	Total Annual Revenue Generated (in millions)
7,000 or below gallons	4.6%	289,619	\$0.00	\$0.00
7,001 - 15,000 gallons	28.3%	1,781,889	\$1.00	\$1.78
15,001 - 30,000 gallons	54.3%	3,410,609	\$1.50	\$5.12
30,001 - 50,000 gallons	12.0%	753,005	\$2.00	\$1.51
50,001 - 70,000 gallons	0.6%	39,951	\$2.50	\$0.10
70,001 - 90,000 gallons	0.0%	1,440	\$3.00	\$0.00
90,001 gallons or greater	0.1%	8,938	\$4.00	\$0.04
Total	100.0%	6,285,451		\$8.54

Source: TWDB Water Use Survey, 2000

Note: May include some sales to industry.

Table A5.7 Tiered Residential Rate Structure Estimates (5,000 gal. or fewer exempt)

Level of Water Use	Percent of Total Connections Statewide	Total Connections	Fee Charged	Total Annual Revenue Generated (in millions)
5,000 or bellow gallons	1.6%	98,893	\$0.00	\$0.00
5,001 - 15,000 gallons	31.4%	1,972,615	\$1.00	\$1.97
15,001 - 30,000 gallons	54.3%	3,410,609	\$1.50	\$5.12
30,001 - 40,000 gallons	6.0%	377,713	\$2.00	\$0.76
40,001 gallons or greater	6.8%	425,621	\$3.00	\$1.28
Total	100.0%	6,285,451		\$9.12

Source: TWDB Water Use Survey, 2000

Note: May include some sales to industry.

Interbasin Transfer fee

The interbasin transfer fee considered during the development of HB 1802, was intended to dedicated funds for (recharging) the basin of origin. This fee would be not less that \$1.00 per acre-foot of water right paid annually through the duration of an interbasin transfer. This revenue generated would be used solely for projects benefiting the basin of origin.

Estimated revenue generated:

No estimate as to amount of revenue generated was estimated.

ENDNOTES

ⁱ In 2001 dollars.

ⁱⁱ An EDAP-eligible county is a county: (A) that has a per capita income that averaged 25 percent below the state average for the most recent three consecutive years for which statistics are available and an unemployment rate that averaged 25 percent above the state average for the most recent three consecutive years for which statistics are available; or (B) that is adjacent to an international border.

ⁱⁱⁱ Turner, Collie, and Braden, Inc. *Fiscal Year 2002 Water Research Priority Topic: Assessment of Water and Wastewater Facility Needs for EDAP Counties*. October 31, 2003. TCB Project No. 052.321413.0001.

^{iv} Tuner, Collie, and Braden, Inc. *Summary of the Statewide Needs Assessment: Water and Wastewater of Non-EDAP Eligible Disadvantaged Areas*. March 2001. TCB Job No. 37-83851-002 for TWDB Project No. 200-483-348.

^v Data represent average amounts obtained from the Texas Bond Review Board and the Texas Municipal Advisory Council.

^{vi} Approximately \$2 billion of authorized but unissued balance for 06-07 biennium. The analyses use the TWDB's Water Infrastructure Fund (WIF) and State Participation Program to fund the strategies, as these currently are sufficient vehicles to implement the water supply strategies identified in Water for Texas – 2002.

^{vii} While \$257.5 million is a relatively small portion (11.5 percent) of the total need, rural and disadvantaged communities typically require significant amounts of grant assistance. The sparse populations typically associated with these communities usually imply higher construction and operational costs per utility connection. Low per capita incomes in these communities make it difficult for them to pay for the full cost of providing water and wastewater service, thus necessitating assistance in the form of grants.

^{viii} This includes cash for grant assistance and debt service payments on bonds. These figures are based on revised funding scenarios developed by TWDB since the IFR was released to reflect a State Participation analysis that requires interest payments by participants in the first ten years.

^{ix} While the IFR used a 2010 timeframe, to align with the decadal needs assessments of the state and regional water plans, this report is using a 2011 timeframe for illustrating the impact of funding, to align more closely with the state biennia. In order to more closely align with the state's budget structure, it is assumed that the needs of 2010 can be met in 2011.

^x The State Participation Program (Water Code Chapter 16, Subchapters E and F) allows large-scale and regional projects to be undertaken to their optimum development, size and scale. It is more cost effective to build many of these projects to take care of future growth at the time of original construction than to only build for the immediate or near-term needs of the entities involved. However, it is often difficult for local and regional entities to undertake this long-term financial obligation. The State Participation Program allows TWDB to own portions of these facilities, or the entirety of facilities, until they are needed by the local entities, thus allowing state funds to optimize the size of the project. However, because the state does not immediately realize repayment of its investment, general revenue draws are required to make initial TWDB bond payments.

^{xi} It is assumed that disadvantaged communities do not have resources at all for these projects. Small communities have high costs per connection due to their often rural nature and are estimated to require 50 percent of their funding in grants.

^{xii} Texas Water Code, Chapter 15, Subchapter R. The WIF is uniquely structured to implement water supply strategies. A combination of principal and interest deferrals on planning and permitting costs and below market interest rate loans provide incentives to move forward sooner with implementation of all water management strategies. Additionally, grants and zero and low interest loans are available for projects outside metropolitan statistical areas (rural) and economically distressed areas for water supply strategy implementation. In order to provide comprehensive implementation of strategies, the statutory language for rural and economically distressed areas allows for project sponsors. For example, a major pipeline could be built by a large entity with capacity paid for with grants for the water allocable to all the rural and distressed areas along the route. Finally, the WIF includes the economic development language necessary to fund water conservation incentive programs that may provide benefit to private individuals (such as low flow toilet retrofit programs.) The percentage distribution of funds for the WIF is prescribed as 80 percent/10 percent/10 percent for below market interest rate loans, principal and interest rate deferrals, and grants, zero and low interest loans, respectively. The funding sources used in the analysis include a combination of appropriations and Water Financial Assistance Bonds (general obligation bonds.) All of the provisions that make the WIF an attractive and viable program for funding water supply projects require a cash source to implement. However, the WIF was not funded during the two legislative sessions since its creation.

Currently, TWDB has \$50 million in general obligation bond authorization "earmarked" for the WIF as required by Texas Constitution, Article 3, Section 49-d-9. However, implementation of the WIF using bond proceeds does not achieve the intended purpose of the program to provide subsidized loans and grants. A dedicated revenue source, sufficient appropriations, or appropriations to pay the debt service on bonds would allow grants or low interest loans to be made from the WIF

^{xiii} The WIF may defer payments of principal and interest for up to 10 years for preliminary project elements (such as planning, design, and permitting, including actions to obtain environmental approvals), using up to 10 percent of the WIF's funding. *Texas Water Code Section 15.974(a)(3), (b), (c)*.

^{xiv} IFR, pages 4 and 12-13

^{xv} Of the new programs added in 2001, only the Rural Community Water and Wastewater Fund was funded by appropriations, and this in a very limited amount (\$520,000) compared with the statewide need. The 2003 Appropriations Act also directed TWDB to use \$830,000 from the Texas Water Resource Finance Authority for the Rural Community Water and Wastewater Loan Fund. TWDB has used limited funds available from the purchase of its bond portfolio in 1999 by TWRFA to help fund the Water Assistance Funds and some of its accounts, (including the Small Community Hardship Program and the Colonia Self-Help Program). While these funds provide some assistance, it is not in sufficient quantities to meet all anticipated needs. TWRFA funds are limited, and will diminish over time.

^{xvi} Texas Water Code, Chapter 15, Subchapter Q. The RWAFF was created to provide financial assistance to smaller, rural water suppliers at lower cost than was then available to such entities, and to ensure the public outreach and technical assistance necessary for these smaller systems to succeed. The RWAFF can also assist small systems in participating in regional water projects, which benefit from economies of scale. Although the RWAFF was established to consist of appropriations, which would allow for the reduced interest rates and public outreach components, funds have not been appropriated. The TWDB has been able to partially implement the RWAFF by transferring funds derived from Water Development Fund general obligation bonds issued under a portion of the State's Private Activity Bond Cap. This funding for RWAFF has provided some benefit, however the rural communities which this program is designed to assist need deeper financial subsidies than general obligation bonds alone can provide, and also need the outreach and technical assistance to enable access to the program. The RWAFF can play an important role in implementing water supply projects for rural areas if provided with a cash-funding source.

^{xvii} TWDB may use unissued Development Fund bond authority, however, since the program requires a general revenue draw in the first years of a project, the Legislature limits the amount of funds for the program.

^{xviii} Though the FY2002-2003 appropriation bill authorized TWDB to issue \$35 million in bonds for State Participation program, due to the budget constraints in FY2003 the TWDB only issued \$20 million for the program.

^{xix} Revenue estimate based on total number of connections from TWDB Water Use Survey, 2000.

^{xx} Legislative Budget Board. 2001. 77th Regular Session. Fiscal Note. Introduced version. *SB 2, Relating to the development and management of the water resources of the state, including the ratification of the creation of certain groundwater conservation districts; providing penalties*.

ONLINE. Available: [http://www.capitol.state.tx.us/cgi-](http://www.capitol.state.tx.us/cgi-bin/tlo/textframe.cmd?LEG=77&SESS=R&CHAMBER=S&BILLTYPE=B&BILLSUFFIX=00002&VERSION=1)

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^{xxi} Ibid.

^{xxii} Legislative Budget Board. 2001. 77th Regular Session. Fiscal Note: Engrossed version. *SB 2, Relating to the development and management of the water resources of the state, including the ratification of the creation of certain groundwater conservation districts; providing penalties*. ONLINE. Available: [http://www.capitol.state.tx.us/cgi-](http://www.capitol.state.tx.us/cgi-bin/tlo/textframe.cmd?LEG=77&SESS=R&CHAMBER=S&BILLTYPE=B&BILLSUFFIX=00002&VERSION=3)
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