

Sunset Advisory Commission



Texas Water Development Board



Staff Report

2000

SUNSET ADVISORY COMMISSION

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In 1977, the Texas Legislature created the Sunset Advisory Commission to identify and eliminate waste, duplication, and inefficiency in government agencies. The 10-member Commission is a legislative body that reviews the policies and programs of more than 150 government agencies every 12 years. The Commission questions the need for each agency, looks for potential duplication of other public services or programs, and considers new and innovative changes to improve each agency's operations and activities. The Commission seeks public input through hearings on every agency under Sunset review and recommends actions on each agency to the full Legislature. In most cases, agencies under Sunset review are automatically abolished unless legislation is enacted to continue them. This report is the Commission staff's recommendations, which serves as the starting point for the Commission's deliberations.

TEXAS WATER DEVELOPMENT BOARD

SUNSET STAFF REPORT

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SUMMARY

Summary

Overview

While many of TWDB's functions have stayed the same since it was created in 1957, other functions have changed dramatically in recent years. The agency continues to provide millions of dollars annually in financial assistance to communities for water-related infrastructure. However, its other main function, water planning, changed significantly with the passage of Senate Bill 1 in 1997. Once a centralized, top-down process driven by the State, water planning now occurs through 16 regional water planning groups. The first regional plans are due by January 5, 2001, and TWDB will incorporate them into one comprehensive state water plan by January 5, 2002. Since the first full planning cycle is not yet complete, Sunset staff monitored the process but did not evaluate its success or make recommendations in this area.

Several additional factors may affect the agency's ability to provide financial assistance in the future. For example, the state's rapid population growth and persistent drought conditions bring greater demand for new water supplies and infrastructure, and a need to deal with emerging water quality issues such as nonpoint source pollution. To meet this demand, TWDB needs to have a spending plan for its state-supported funding programs; and needs to explore new ways of providing financial assistance to small communities, and for emerging water issues.

Providing water and wastewater services to economically distressed areas is a continuing issue for the State. To get needed services to persons in these areas more quickly, TWDB should improve coordination with the Texas Department of Housing and Community Affairs, the state's other main source of funding for colonia infrastructure projects, and provide more public input on colonias issues. It also needs to conduct a new comprehensive assessment of water and wastewater needs in economically distressed areas to help the Legislature decide the future of TWDB's infrastructure financing program.

The agency's information collection and dissemination activities have rapidly evolved due to the development of more sophisticated geographic information systems (GIS) and Internet technology. The agency, through the Texas Natural Resources Information System, provides GIS data to state agencies and other state entities to help them make more informed decisions. To ensure that the needs of these agencies and entities are met, and that the State is avoiding costly duplication in delivery of GIS data and services, a high-level plan is needed to list the accomplishments and needs of State GIS programs. In addition, TWDB should be able to enter into private partnerships to support its information dissemination efforts.

A summary of the recommendations identified in this report is outlined below. This report does not address continuation of the agency because TWDB is subject to review, not abolishment, under the Texas Sunset Act.

Issues / Recommendations

Issue 1 Existing Resources for Water-Related Projects May Not Consistently Support or Address State Water Priorities.

Key Recommendations

- Require TWDB to create a capital spending plan for the use of state-supported funding programs.
 - Authorize TWDB to develop a pilot program directed toward assisting rural communities.
 - Authorize TWDB to use the Clean Water State Revolving Fund to finance nonpoint source pollution abatement projects.
 - Require the Board and the State Soil and Water Conservation Board to jointly report to the Legislature on improving water conservation efforts.
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Issue 2 Despite Significant Efforts to Provide Water and Wastewater Services to Economically Distressed Areas, Many Colonia Residents are Still Not Served.

Key Recommendations

- Require an annual joint meeting of the governing boards of TWDB and the Texas Department of Housing and Community Affairs (TDHCA).
 - Expand the membership and focus of the proposed Colonia Advisory Committee to advise the governing boards of TWDB and TDHCA.
 - Require TWDB to perform an assessment of water and wastewater needs in economically distressed areas.
 - TWDB should place at least one full-time project management employee in its Harlingen field office.
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Issue 3 Full Coordination of the State's Geographic Information Systems Is Hampered by a Lack of High-Level Planning and Access to a Common Network.

Key Recommendations

- Require the Texas Geographic Information Council (TGIC) to collect information on the past investments, current expenditures, and future plans for geographic information systems (GIS) of state agencies.
 - Require TGIC to biennially prepare a State GIS plan based upon information collected from state agencies and to submit the plan to TWDB, Department of Information Resources, the Legislature and Governor.
-

- Authorize TWDB to establish private partnerships on behalf of the Texas Natural Resources Information Systems (TNRIS).

Fiscal Implication Summary

This report contains recommendations that will have a fiscal impact to the State. While revenue gains and costs could not be estimated for this report, the fiscal impact of each recommendation is summarized below.

- Issue 1 - The creation of a pilot program to direct funding to rural communities would rely on existing resources of the Texas Water Resources Finance Authority, estimated at \$1.37 million. This recommendation simply directs TWDB to use the Authority's existing funds for the specific purpose of the pilot program.
- Issue 2 - The cost of conducting an updated needs assessment survey of economically distressed areas could vary depending on the scope of the assessment. If TWDB takes advantage of existing information-gathering efforts and other mitigating factors to reduce costs, it can conduct an updated assessment for approximately \$500,000.
- Issue 3 - Authorizing TWDB to partner with private companies would enable the agency to raise additional funds to pay for increased Internet access to TNRIS information. This better access would help state agencies avoid the cost of duplicating and maintaining information that is already housed at TNRIS. These additional revenues and cost savings could not be estimated for this report.

ISSUES / RECOMMENDATIONS

Issue 1

Existing Resources for Water-Related Projects May Not Consistently Support or Address State Water Priorities.

Summary

Key Recommendations

- Require TWDB to create a capital spending plan for the use of state-supported funding programs.
- Authorize TWDB to develop a pilot program directed toward assisting rural communities.
- Authorize TWDB to use the Clean Water State Revolving Fund to finance nonpoint source pollution abatement projects.
- Require the Board and the State Soil and Water Conservation Board to jointly report to the Legislature on improving water conservation efforts.

Key Findings

- The Board has not established a structure to provide full assurance that financial resources are used to support state water priorities.
- State funding programs for water-related projects do not adequately support the needs of rural or disadvantaged communities.
- The current structure of funding programs prevents the Board from adequately addressing nonpoint source pollution or water conservation needs.

Conclusion

The Texas Water Development Board is the State's water planning agency responsible for the collection and dissemination of information and the financing of water-related infrastructure. As part of accomplishing this role, the agency publishes a state water plan that describes current and future water uses, facility needs and costs, and program and policy recommendations to better manage the state's water resources. However, the state water plan does not indicate how the Board intends to use state funds to meet water priorities. In light of the increasing demand and focus on the state's water resources, preparing and submitting a spending plan on the use of state financial resources for water-related projects will allow greater oversight of the Board's activities, and assure that limited resources are being used in a manner consistent with priorities.

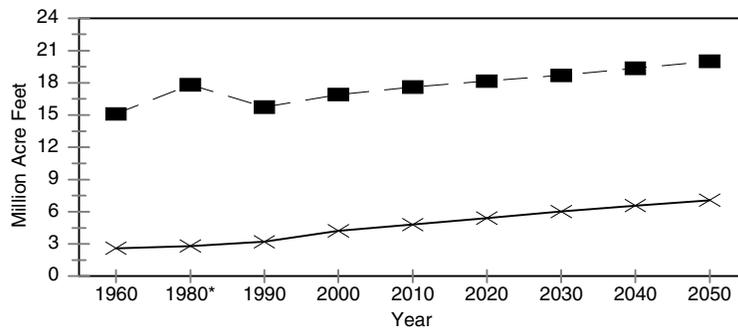
In addition to improved planning for the allocation of limited state resources, the agency should continue to explore ways to better address small community water needs and emerging water issues, such as nonpoint source pollution. Implementing a pilot program to find new ways to distribute available funding to areas of need or state priority will provide the Board and Legislature with more information on how to best address small community needs and emerging water issues. Lastly, the Board should work jointly with the State Soil and Water Conservation Board to assess current water conservation efforts to better position the state to meet its future water supply needs.

Support

Current Situation: Significant demands are currently placed on the state's water resources.

- Growth in the state's economy and population will continue to place increasing demands on existing water-related infrastructure, both water supply and wastewater treatment. For example, since 1960, total water usage in the state increased approximately 12 percent. Moreover, estimates project use to increase to more than 20 million acre feet by 2050, or up more than 18 percent from current use.¹ The chart, *Water Usage in Texas*, summarizes this trend.

**Water Usage in Texas
1960 - 2050**



*Data for 1970 was not available from the agency.

—■— Total -x- Municipal

The estimated total cost for water-related infrastructure over the next 50 years is \$65 billion.

This continued growth and associated demand is occurring during a period of severe and prolonged drought. In many areas of the state, the drought of 2000 may qualify as the drought of record. In some instances, drastic efforts have been taken to ensure current demand can be met. This combination of factors has accentuated legislative and public attention directed toward water planning to address future needs.

- The 1997 State Water Plan, *Water For Texas*, estimated the total cost for water-related infrastructure – for both supply and wastewater – at \$65 billion over a 50-year period.² In addition, the \$65 billion in remaining need exists despite having already built over half of the state's water supply infrastructure. Specifically, the Plan projects that existing water supply infrastructure could meet approximately 55 percent of the projected need in the year 2050.³ This total cost estimate does not consider emerging issues such as nonpoint source pollution. Adequate planning and financing will be critical to ensure

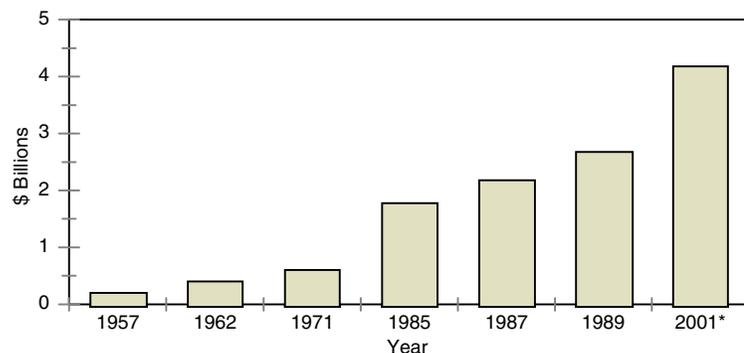
basic water needs of Texas citizens are met and the state's economy can continue to grow.

Current Situation: The State continues to improve its water planning for identifying priorities, and allocating state and federal funds, as competition for water project assistance intensifies.

- The 75th Texas Legislature began addressing the increasing demand on the state's water resources by enacting Senate Bill 1, an omnibus water planning bill. The bill designated TWDB as the lead state agency for coordinating a regional water planning process to identify water supply needs and to incorporate the regional plans into a revised State Water Plan. As of October 2000, all 16 Regional Water Planning Groups have submitted a draft plan to the Board.
- The agency has typically sought and obtained additional authority to issue state debt, through State Water Development General Obligation Bonds, in response to greater water-related needs. For instance, the Board anticipates seeking an additional \$500 million in legislative authorization to use existing voter approved bonding authority for the State Participation Program.⁴ These bonds represent a general obligation of the State, backed and supported by taxpayers and repaid by the borrower. Additionally, the Board anticipates seeking legislative and voter approval of an additional \$1.5 billion in bonding authority in 2001.

Since its creation, TWDB has awarded approximately \$5 billion in state and federal assistance for water-related projects. Of this amount, the State has authorized the use of approximately \$2.7 billion in state general obligation bonds, committing all but approximately \$500 million of this authority. The chart, *Cumulative TWDB Bond Authority*, summarizes the agency's authority and issuance of state bonds.

**Cumulative TWDB Bond Authority
1957 thru 2001***



* 2001 amount is projected based on TWDB's current plans to seek additional authority

- Despite the significant investment of public funds provided through TWDB for water-related infrastructure, these programs are relatively small when compared to market financing efforts. The market generally provides \$1.2 billion on an annual basis compared to the agency, which commits approximately \$500 million to water-related projects. The fact that the agency is not in a position to fund all remaining needed water projects further emphasizes the need to

ensure that the allocation of resources is consistent with state water priorities.

Problem: The Board has not established a structure to provide full assurance that state financial resources are used to support state water priorities.

The agency has not developed a strategic spending plan for water-related infrastructure projects supported by state funds.

- The current allocation for state-supported assistance – funding programs such as the State Participation Program – is best described as first come, first served. Less consideration is given to the type of project and more to whether resources are available to fund the project. Because existing statutory language does not direct TWDB to use its resources in any specific manner, and because the Board has always had sufficient financial resources, TWDB has not had to develop a strategic spending plan for capital water improvements. However, this situation may need to change as the Board must continually position itself to meet the water demands of the future, which will exceed available resources.
- The agency is required to develop a spending plan for federally-supported programs, such as the Clean Water and Drinking Water State Revolving Funds, referred to as an Intended Use Plan. These plans rank eligible projects based on Board-specified criteria, approved by the Environmental Protection Agency, to determine which projects will receive assistance. Until 1998, the Intended Use Plan's for these funds never came into effect. While the agency always prepared the plans, sufficient funding was available to accept all applications for funding regardless of an application's ranking. However, since 1998, demands have outgrown resources and the plans now do distinguish those applications that will receive assistance from those that will not.

In addition, federal guidance, under the Clean Water Act, requires the agency to conduct a facility needs assessment to determine future water-related project needs. The federally-required facility needs assessments are used to determine the allocation of federal funds for the Clean Water State Revolving Fund. The agency, however, does not use the information collected through the assessment to better plan for state water needs. Specifically, the needs assessment attempts to forecast water and wastewater needs in the state, yet TWDB does not incorporate this information into how it will allocate its state-supported assistance.

Dramatic changes in water needs reinforces the need for the agency to justify how limited resources are used to meet state priorities.

- The water needs in Texas are immense and constantly changing. For example, the estimated major water supply and conveyance needs for the next fifty years grew from approximately \$4 billion in the 1997 State Water Plan to more than \$17 billion in 2000 in preliminary plans by the regional water planning groups. This dramatic increase

in assessed need reinforces the need for the agency to justify how limited state resources are being allocated to meet changing priorities and needs. Additionally, this estimate, as well as the regional planning process, does not consider wastewater needs and associated costs. The lack of a spending plan makes such an accounting difficult.

The absence of a spending plan also inhibits the ability to assess the need for additional bonding authority. For instance, the agency's current plans to issue \$500 million of the remaining bonding authority for the State Participation Program, as well as seeking approval for an additional \$1.5 billion in bonding authority, is based on two factors – that it will soon run out of existing authority and that the regional plans will begin driving new investment in water-related infrastructure. However, TWDB does not have a basis for the actual dollar amount it has requested other than to allow the funding of additional projects. While this has been common practice in the past, the current plans are to use the remaining authority for the State Participation Program, which will require General Revenue to be appropriated to cover debt service payments until the loans are repaid. A brief description of the program is contained in the textbox, *State Participation Program*. The agency estimates that the draw on General Revenue will be approximately \$172.6 million through 2016.⁵ A more strategic approach to seeking additional authority would provide greater assurance that the State does not over or under use approved bonding authority.

- The existence of sufficient funds does not support the merit of the application or the project being funded. As the state's water needs continue to increase, and the costs associated with those needs grows, TWDB will be faced with determining which water priorities get funding. However, without statutory or rule guidance for the allocation of state water-related resources, limited state funds could be used to support projects that fail to meet basic water needs or result in the issuance of more state debt than is required.

Problem: State funding programs for water-related projects do not adequately support the needs of rural or disadvantaged communities.

- The historical focus of TWDB's financial assistance programs has been on high impact water projects, such as reservoirs and large wastewater treatment infrastructure. The funding programs that support high impact water-related projects are not structured in a manner that allows for small or rural communities to address basic needs, such as smaller cost items like water towers or lift stations.

As is the case for all political subdivisions of the state, TWDB assistance, as well as the market, is predicated on the issuance of tax-

State Participation Program

Allows political subdivisions to construct regional projects designed to meet future growth through partial State ownership. General Revenue is required to meet debt service obligations until the applicant can generate sufficient revenues to purchase the State's share in the project.

The agency's funding programs are not structured in a manner that allows small communities to address basic needs.

exempt municipal debt by the applicant – requiring significant administrative expense and overhead for costs associated with issuing municipal debt. Often this overhead is prohibitive to smaller communities, leaving them with the choice of seeking financial assistance through the market, at less favorable terms, or continuing to provide inadequate services, some of which fail to meet regulatory requirements. The structure of assistance currently available through the agency and market point to the need for other funding options, especially through the agency.

- The table, *TWDB Funding - Rural vs. Urban*, summarizes TWDB's funding programs and how funding commitments break down by rural and urban communities. However, despite the Board's ability to direct funding to rural and small communities in roughly the same proportion of their population in the state, these communities continue to have needs that are not addressed by the current array of funding programs.

TWDB Funding - Rural vs. Urban⁶						
9/1/95 thru 8/31/00						
	Rural Communities		Urban Communities		Total	
Program	Loans	Funding	Loans	Funding	Loans	Funding
Clean Water State Revolving Fund	61	\$144,642,599	187	\$1,676,985,531	248	\$1,821,628,130
Drinking Water State Revolving Fund	20	98,118,000	9	42,405,000	29	140,523,000
Water Development Fund	36	68,818,000	111	311,614,450	147	380,432,450
Economically Distressed Areas Program	27	37,574,384	40	72,025,926	67	109,600,310
Colonias Wastewater Treatment Assistance Program	6	26,300,124	17	78,202,279	23	104,502,403
Agricultural Water Conservation Loan Program	32	14,235,000	2	3,000,000	34	17,235,000
Water Assistance Fund	8	791,105	11	7,255,053	19	8,046,158
Texas Water Resources Finance Authority	2	2,595,000	1	10,000	3	2,605,000
Colonias Plumbing Loan Program	0	0	5	1,745,2000	5	1,745,2000
TOTAL	192	\$393,074,212	383	\$2,193,243,439	575	\$2,586,317,651

Problem: The current structure of funding programs prevents the Board from adequately addressing nonpoint source pollution or water conservation needs.

- Nonpoint source pollution is emerging as the state's largest water quality issue as major point sources of pollution come under control.

Because nonpoint source pollution results from runoff with no easily identifiable source, it has not been subject to regulatory oversight. As a result, little incentive exists for individuals to incur debt to address a problem that will not have a positive impact on their livelihood. Despite the increasing impact of nonpoint source pollution, the agency and its array of funding programs have not been focused on supporting abatement efforts.

The State Constitution and statute limit the agency's lending flexibility. Specifically, TWDB is prohibited from lending funds to any entity other than a political subdivision of the state if those funds are supported by state debt.⁷ Private individuals, or those most likely to need assistance for nonpoint control efforts, are not eligible to directly receive assistance from the agency which is supported through the lending of the State's credit. While entities such as Soil and Water Conservation Districts are eligible to receive funding from TWDB to assist individuals with abatement projects, these entities are typically reluctant to assume the credit risk. The agency also has no specific statutory authority to use funds for nonpoint projects. Specifically, funds under the Clean Water State Revolving Fund could be used to support private nonpoint source abatement efforts, but the agency lacks specific statutory authorization to use funds in this manner.

- In addition to nonpoint source pollution, water conservation is another emerging state policy concern. In the Board's 1997 State Water Plan, the agency identified that water conservation would be the source of 80 percent of the state's additional water needs by 2050. In addition, several regional water planning groups identified water conservation as a strategy for ensuring adequate supplies to support future growth. While the agency does administer the Agricultural Water Conservation Loan program, it has problems similar in nature to funding nonpoint source abatement projects. Specifically, assistance can only be given to political subdivisions of the state who are often reluctant to assume the credit risk of lending funds to individuals. For example, only \$19 million in Agriculture Bonds have been issued since 1989 through the program despite having authorization for up to \$200 million.
- Developing effective funding structures to address nonpoint source pollution and water conservation could prove to be cost effective. While modifying the treatment ability of a public water supply facility to handle increased levels of pollution may currently be cheaper, in the long term, preventing nonpoint pollution from impairing public drinking water supplies may be more cost effective. Additionally, finding ways to encourage and fund more water conservation activity could help offset more costly ways of providing additional water supply, such as building new reservoirs. In addition, the agency has

Constitutional and statutory limits restrict the agency's ability to address nonpoint source pollution.

Developing effective funding structures to address nonpoint source pollution and water conservation could prove to be cost effective.

little interaction with the Soil and Water Conservation Board in promoting water conservation in the state.

Comparison: The need to plan for the use of water-related assistance funds has been recognized by the Legislature.

- The 75th Texas Legislature raised concerns over residential areas within the state that lack adequate water or wastewater facilities, and the estimated cost of providing those infrastructure needs. In response, TWDB is conducting a statewide water and wastewater needs survey to better capture this information. Preliminary data shows that approximately 870 disadvantaged communities in Texas still have inadequate water-related infrastructure, more than the total number of communities that have received assistance from TWDB to date.⁸
- The Legislature has given some direction to the agency on the allocation of resources. Specifically, the Legislature required TWDB to set aside funds within the Drinking Water State Revolving Fund to allocate to disadvantaged communities. In doing so, the Legislature recognized the need to make funding available to all types of communities, and not always make funding decisions on a first come, first served basis. Additionally, in 1997 the Legislature expanded the agency's authority to use the Drinking Water State Revolving Fund to provide funding to individuals other than political subdivisions of the state.⁹
- The Legislature has endorsed the use of pilot programs to determine the need for new funding programs at TWDB to address water-related issues. Specifically, the first loans for agricultural water conservation equipment were made in 1986 under a pilot loan program. The agency was appropriated \$5 million for the program and made loans to 192 individuals through six entities.¹⁰ Due to the popularity and efficiency gains made through the program, it was expanded by the Legislature to allow TWDB to reloan the loan payments.¹¹ In 1989, voters in the state approved a constitutional amendment authorizing the agency to issue up to \$200 million in Agricultural Water Conservation Bonds.¹²

The Legislature has responded to changes in state water needs by expanding TWDB's authority.

Recommendation

Change in Statute

1.1 Require TWDB to create a capital spending plan for the use of state-supported funding programs.

This recommendation would require the agency to specify, through a spending plan, water project priorities to be supported by state-funded programs. The establishment of a plan would provide greater structure and oversight for the use of state-issued debt. The plan would also provide additional justification for TWDB seeking authority to issue more state debt. The agency should collect and use a variety of indicators when developing a spending plan, including any pending TNRCC compliance issues, information derived from facility needs assessments, regional planning group plans, results from the current statewide water and wastewater needs survey, and other data and information considered appropriate by TWDB. The agency would create the plan for the use of funds through the Water Development Fund, Agricultural Water Conservation, and Water Assistance Fund programs. The Economically Distressed Area Program would not be subject to this recommendation because of existing statutory guidance for the use of program funds.

The agency should submit the plan to the Legislature, as well as the Legislative Budget Board by January 1 of each odd year. The plan would be strategic in focus and address how TWDB intends to allocate resources to its financial assistance programs in a manner that best addresses state water priorities. The plan could be submitted as part of, or as an addendum to, the agency's Legislative Appropriations Request. This recommendation does not require the agency to develop an annual funding cycle or project intended use plan. Applicants would not be required to submit plans for water projects before applying for assistance from the agency. Additionally, this planning process would not restrict TWDB from funding specific projects as is currently the case with the State Revolving Fund Intended Use Plans. However, the agency would be required in a subsequent report to detail why funded projects, not supported by the goals identified in the plan, received state assistance, or how the spending plan has been adjusted in response to changing water priorities.

1.2 Authorize TWDB to develop a pilot program directed toward assisting rural communities.

The agency should pilot a direct loan agreement program to help address rural community needs. The direct loan agreement pilot program would be targeted to small communities with a population of less than 5,000. Any loan agreement should use a state-approved note agreement subject to Attorney General approval and Comptroller certification. Statutory changes to the Local Government Code would be required to implement the pilot. Specifically, changes to the definition of notes and agreements, and authority to use sales tax as loan security, would be needed.

Funding for the pilot program would come from the Texas Water Resources Finance Authority (TWREFA). An explanation of TWREFA can be found on page 54 of the staff report. Currently, a balance of \$1.37 million exists in the TWREFA account. Projects funded by the pilot should be capped at \$150,000 and must serve a public purpose to satisfy federal tax law requirements. The outcome of a pilot will allow the Legislature to better determine how best to address and fund water-related priorities that existing funding programs do not adequately address.

The Board would be required to have rules establishing the requirements for the pilot program in place by March 1, 2002 and to award funds by September 1, 2002. The agency would be required to report to the Legislature by January 1, 2005 on the results of the pilot program. The report should at a minimum include the number of applications received, applicants funded, the types of projects funded, total funds allocated, and available performance measures.

1.3 Authorize TWDB to use the Clean Water State Revolving Fund to finance nonpoint source pollution abatement projects.

This recommendation would expand TWDB's authority to use existing funding sources to meet the costs associated with nonpoint source pollution abatement projects. The Board would be authorized to use available funds from the Clean Water State Revolving Fund for both public and private entities. However, assistance provided to a private entity must come from funds that are not supported by state general obligation debt. The Board, through rules, would establish necessary criteria for eligible projects and the terms for assistance. Expanding the Board's authority regarding the use of Clean Water State Revolving Fund funds is consistent with the authority the Board has for the Drinking Water State Revolving Fund.

1.4 Require the Board and the State Soil and Water Conservation Board to jointly report to the Legislature on improving water conservation efforts.

This recommendation would require the agency to study and report, in conjunction with the State Soil and Water Conservation Board, to the Legislature on ways to improve or expand water conservation efforts. The report should include an assessment of both agricultural and municipal water conservation issues. The report should summarize existing conservation efforts by TWDB and the Conservation Board, specify future conservation needs, and identify funding or programmatic approaches for supporting additional conservation efforts. The report should include information on existing conservation efforts by municipalities receiving funds from the agency as specified in water conservation plans submitted as part of their application for assistance. The report should include an assessment of existing statutory authority and whether changes are needed to more effectively promote and fund conservation projects. Specifically, the report should include an assessment of the Agricultural Water Conservation Program. The report could be issued as a part of, or as a supplement to, the State Water Plan.

Impact

The intent of these recommendations is to better ensure limited state resources are allocated in a manner that supports state water priorities. Additionally, the recommendations will allow the agency to better direct resources to water priorities that existing funding programs do not support. The development and use of a capital spending plan for state-funded programs will allow greater oversight of TWDB's funding decision making. This oversight currently exists for federally-supported programs. The plan would also assist the agency in documenting water priorities that can be addressed through general obligation bonds and to justify the bonding authority necessary to meet identified priorities.

The recommendation to pilot a funding program to help better address rural and small community water needs will provide a foundation for future legislative and Board action. While the agency has had some success in providing assistance to small or disadvantaged communities, needs still exist in these communities beyond what the current funding program array can support. By authorizing

TWDB to directly loan funds without the need to go through an intermediary or issue debt, the Legislature will have a better idea of how successful this approach is and whether to further support the approach by appropriating additional resources to the effort.

The recommendations to expand the use of the Clean Water State Revolving Fund and to report on water conservation efforts in the state will better position TWDB and the Legislature to address the emerging water issues of nonpoint source pollution and conservation. Efforts to address nonpoint source pollution have not been directed to the full range of entities necessary to effectively address the issue. Specifically, until financial assistance is made available to the entities that are the source of the pollution – private individuals and interests – progress in reducing or preventing nonpoint source pollution impacts on water quality will be limited. Additionally, requiring TWDB and the Conservation Board to jointly study and report on water conservation efforts would provide the Legislature with additional information to use in deciding which actions may need to take place to ensure state water needs are met.

The impact of these recommendations will be to provide greater assurance that state resources are being allocated to meet priority water needs, not to meet a greater share of the need or to reduce pollution or water use. However, the recommendations would provide a foundation for future action that could result in cleaner water through nonpoint source pollution abatement or more water through water conservation efforts.

Fiscal Implication

These recommendations would have no significant fiscal impact to the State. The creation of a capital spending plan for the allocation of state funding for water-related projects can be done with existing resources of the agency. The creation of a pilot program to direct funding to rural communities would rely on existing resources of the Texas Water Resources Finance Authority, estimated at \$1.37 million. Expanding TWDB's authority to use the Clean Water State Revolving Fund for nonpoint source abatement projects would not require additional funding support. Lastly, the creation and submission of a water conservation report can be done with existing resources of TWDB and the State Soil and Water Conservation Board.

¹ Texas Water Development Board (TWDB), *Water for Texas*, Document No. GP-6-2 (Austin, Texas, August 1997), p. 3-4.

² *Ibid.*, p. 3-35.

³ *Ibid.*, p. 3-28.

⁴ TWDB, *Legislative Appropriations Request for Fiscal Years 2002-2003* (Austin, Texas, August 18, 2000), p. 159.

⁵ *Ibid.*

⁶ Data provided by TWDB staff, October 11, 2000.

⁷ Texas Constitution, art. III, sec. 49-c.

⁸ Staff Item Summary presentation to the TWDB Finance Committee (Austin, Texas, September 8, 2000).

⁹ Texas Water Code Ann., ch. 15, sec. 15.6041.

¹⁰ TWDB Internal Staff Report, "Report on the Agriculture Water Conservation Loan Program," (Austin, Texas, April 19, 2000), p. 2.

¹¹ *Ibid.*, p. 2-3.

¹² *Ibid.*, p. 2.

Issue 2

Despite Significant Efforts to Provide Water and Wastewater Services to Economically Distressed Areas, Many Colonia Residents are Still Not Served.

Summary

Key Recommendations

- Require an annual joint meeting of the governing boards of TWDB and the Texas Department of Housing and Community Affairs (TDHCA).
- Expand the membership and focus of the proposed Colonia Advisory Committee to advise the governing boards of TWDB and TDHCA.
- Require TWDB to perform an assessment of water and wastewater needs in economically distressed areas.
- TWDB should place at least one full-time project management employee in its Harlingen field office.

Key Findings

- Despite significant expenditures on water and wastewater infrastructure, many colonia residents are still not served due to project delays.
- Information regarding colonias is developed in a piecemeal fashion, keeping these areas from receiving the sustained, focused attention they need.
- The State has begun to explore new approaches to addressing colonia issues.

Conclusion

TWDB and TDHCA provide financial assistance to eligible applicants for water and wastewater infrastructure serving colonias. Some projects funded by TWDB's Economically Distressed Areas Program have experienced long delays, preventing residents from receiving needed water and wastewater services. While much has been done to improve the quality and flow of information regarding colonias, policymakers may still not be receiving the information they need.

By requiring joint meetings of the governing boards of TWDB and TDHCA, and directing an advisory committee to report to them during these meetings, the agencies would receive feedback on the effectiveness of their policies and benefit from expertise on colonia issues from outside the agencies. Undertaking a new water and wastewater needs assessment survey of colonias would allow TWDB to get a sense of the current need of colonia residents and to account for residents served by other agencies.

Support

Current Situation: TWDB and the Texas Department of Housing and Community Affairs provide financial assistance for wastewater and water infrastructure in colonias.

TWDB has received \$579 million for the Economically Distressed Areas Program since it was created in 1989.

- In Texas, more than 390,000 people, mostly Hispanic, live in colonias, a majority of them along the Mexico border. Most colonias are in unincorporated, rural or suburban areas with substandard housing, inadequate roads and drainage, and substandard or nonexistent water and wastewater facilities. These conditions can contribute to health risks for residents such as hepatitis A and infectious gastrointestinal diseases. State statute refers to colonias as Economically Distressed Areas, as defined in the textbox, *Economically Distressed Area*. A map of these areas can be found in Appendix E.

Economically Distressed Area

An area in which:

- the water supply or sewer systems are inadequate to meet minimal needs of residential users as defined by TWDB rules;
- the financial resources are inadequate to provide water supply or sewer services that will satisfy those needs; and
- an established residential subdivision existed on June 1, 1989.¹

- TWDB administers three funding programs that address inadequate water and wastewater services in colonias, as described in the textbox, *TWDB's Colonia Programs*. In 1989, the Legislature created the Economically Distressed Areas Program (EDAP). Since that time, TWDB has received approximately \$579 million to fund EDAP – \$250 million in state general obligation bond authority; \$300 million in federal Colonias Wastewater Treatment Assistance Program funds that require a state match; and \$29 million in other state funds.² Of this total, \$375.82 million had been

TWDB's Colonia Programs

Economically Distressed Areas Program - Provides grants and loans for construction, acquisition, or improvements to water supply and wastewater collection and treatment works in Economically Distressed Areas. Funds are available to political subdivisions located within counties adjacent to the Texas-Mexico border and within counties with qualifying income and unemployment levels.

Colonias Wastewater Treatment Assistance Program - Provides grants for the planning and design of wastewater treatment and water supply improvements in colonias. Eligible counties must be within 100 kilometers of the Texas-Mexico border.

Colonias Plumbing Loan Program - Provides funds to local entities which in turn provide low or zero-interest loans to individual borrowers for plumbing improvements or connection costs.

committed to projects by the end of fiscal year 2000.³ In addition, \$15 million is available from the U.S. Environmental Protection Agency to fund the Colonias Plumbing Loan Program.⁴ Through the two federal colonias programs, TWDB can fund water and wastewater connections to individual households.

- The Texas Department of Housing and Community Affairs (TDHCA) administers the Colonia Construction Fund and the Colonia EDAP Fund. Both programs receive funding from the State's allocation of the federal Community Development Block Grant and provide financial assistance to projects, mainly serving low to moderate income persons, in eligible communities as described in the textbox, *Eligibility for TDHCA Colonia Funding*. Individual projects can receive a grant of up to \$500,000 from either program. Among the activities funded by the Colonia Construction Fund are small water and wastewater systems, yard lines, and service connections. The Colonia EDAP Fund provides grant assistance to colonia residents that cannot afford the cost of yard lines, service connections, and plumbing improvements associated with being connected to a TWDB-funded water or wastewater project.
- Coordination between TWDB and TDHCA is formalized in a Memorandum of Understanding, required by the Appropriations Act. The purpose of the memorandum is to ensure that the two agencies coordinate their colonia programs and maximize delivery of funds to those in need. The memorandum requires TDHCA to provide a quarterly report on the colonia projects it funds to TWDB. It also requires TWDB to provide TDHCA with a list each year of areas whose colonia residents cannot afford the cost of connecting to an EDAP-funded system.

Problem: Despite significant expenditures on water and wastewater infrastructure, many colonia residents are still not served due to project delays.

- The major phases of project development under TWDB's colonia programs are facility planning, design, and construction. Facility planning determines the need for the project, and evaluates the scope and cost of a project to determine if it meets EDAP eligibility criteria for financial assistance. Once facility planning is complete and funding is approved for a project, TWDB staff reviews and approves the engineering plans and specifications for a project's design. During construction, staff monitors and inspects the project to ensure the facility is built according to plans, and funds are spent appropriately.

Eligibility for TDHCA Colonia Funding

Colonia Construction Fund

Counties with a population of less than 200,000 and with colonia areas within 150 miles of the Texas-Mexico border. Although its population is greater than 200,000, Hidalgo County is also eligible.

Colonia EDAP Fund

Counties with a population of less than 200,000 and cities with a population of less than 50,000. Hidalgo County is also eligible. Counties and cities must also have colonias with colonia areas located within 150 miles of the border, and have received assistance from TWDB's Economically Distressed Areas Program.

A Memorandum of Understanding between TWDB and TDHCA is meant to ensure coordination and maximize delivery of funds to those in need.

EDAP Project Status - End of FY 2000			
Years	Number of Projects in Each Phase		
	Facility Planning	Design	Construction
0-1	-	2	2
1-2	-	4	3
2-3	6	7	3
3-4	2	1	0
4-5	9	3	1
5-6	2	1**	2
6-7	4	-	-
7-8	6	-	-
8-9	3*	-	-
Total	32	18	11

*For two of the plans, TWDB terminated the contracts and hired an engineering firm to produce the plans.

**The project will not be constructed as committed, but will be included as part of another project.

TWDB has no field staff in the border region to deal directly with EDAP recipients in the early phases of projects.

- Many projects have remained in facility planning, design, and construction for a number of years. As illustrated in the table, *EDAP Project Status - End of FY 2000*, of the 32 projects in the planning phase, 15, nearly half, have been in this phase for more than five years.⁵ Reasons for this slow progress include consultants submitting inadequate work and disregarding timelines. Additional delays occur in the design and construction phases, requiring greater oversight by TWDB staff. Reasons for delays include inattention to requirements, changes to location, changes to the design of a project after construction begins, and financial instability. While timelines are set for each phase, they are often not met either due to a lack of resources or a lack of a feeling of ownership by the EDAP recipient.
- Project delays are also due to the capabilities of EDAP recipients and changes in local administration. TWDB's experience has shown that some of the smaller cities and water supply corporations receiving EDAP funds lack financial, managerial, and technical capacities to effectively oversee major infrastructure construction projects, causing project delays. Changes in government in some of the smaller communities can also cause delays and use up TWDB staff time. New administrations may misunderstand agreements and previous council actions, and overturn previous decisions.

- To contend with these delays, TWDB spends a substantial amount of staff time providing assistance to EDAP recipients. While TWDB has field offices on the border, it has no field staff to deal directly with EDAP recipients in the early phases of projects. These field offices only employ inspectors who monitor the progress of projects under construction. As a result, TWDB staff spends an enormous amount of time traveling to the border region from Austin. Staff traveled to the border region to assist EDAP recipients 106 times, for a total of 196 days, in fiscal year 1999; and 114 times, for a total of 214 days, in fiscal year 2000.⁶
- TWDB does not have a clear policy for dealing with continually-delayed EDAP projects. Many projects, which have not met timelines, have received numerous extensions from TWDB staff. Even though some projects have had delays for years, the possibility of withdrawing funds does not always motivate project owners to move projects forward. In addition, withdrawing funds from a project would not

help get the needed project built. Nonetheless, TWDB does not have formal procedures detailing the steps it will take to get projects moving, short of withdrawing funds.

- Despite the MOU between TWDB and TDHCA, the agencies have had trouble fully coordinating their efforts to ensure the flow of service connection funds for their intended purpose. In both fiscal years 1999 and 2000, TDHCA set aside \$2 million in its Colonia EDAP Fund to provide funding for residents to connect to TWDB-financed infrastructure projects. By its rules, TDHCA only uses these funds once a TWDB project is under construction. Funds that are not used within 15 months are diverted to the Colonia Construction Fund until eligible projects are under construction. While such a requirement is reasonable, it prevents TWDB from knowing whether funding will be available when it considers requests for financial assistance. The textbox, *Colonia EDAP Funds Summary*, shows the amount of these funds awarded to TWDB projects and the unused funds remaining at the end of the fiscal year.⁷

Fiscal Year	Colonia EDAP Funds Awarded	Unused Colonia EDAP funds
1999	\$1,301,120	\$698,880
2000	<u>\$1,842,495</u>	<u>\$157,505</u>
Total	\$3,143,615	\$856,385

Funding connections during the construction phase has become particularly important since several completed TWDB projects still have moderate to low wastewater connection rates as shown in the table, *Wastewater Connection Rates*.

Project	Completed by	Percent of Residents Receiving Services
City of Gatesville	October 1999	75%
Madera/Granjeno - City of Mission	May 1996	77%
Westway II - City of El Paso	May 2000	77%
City of Rio Hondo	December 1999	20%
City of Pineland	November 1999	57%
Las Lomas - City of Rio Grande City	April 1998	59%

- The State is making a large investment in colonia infrastructure and its long-term sustainability needs to be assured. Prolonging the time for colonia residents to receive and pay for services, delays an EDAP recipient's ability to repay the State, and to maintain and operate the infrastructure. Without proper operation and maintenance, water and wastewater systems will deteriorate and become less effective years before their planned design life is complete.

Problem: Information regarding colonias is developed in a piecemeal fashion, keeping these areas from receiving the sustained, focused attention they need.

The last needs assessment for colonias, performed in 1996, was limited in scope.

- While TWDB has conducted two assessments of water and wastewater needs in economically distressed areas, it has not updated this assessment since 1996. In addition, these surveys met the statutory definitions of the time, but did not include other needed information. For example, the 1996 survey did not include residents in subdivisions developed after June 1, 1989, which is the cut off for the definition of economically distressed areas. The survey also did not include all residents in subdivisions that were not platted or residents served by TDHCA, the North American Development Bank, and U.S. Department of Agriculture funding programs for water and wastewater projects.
- TWDB's Board only receives public input on colonia issues through rulemaking, and when it is considering approval of funding for individual projects. According to TWDB's statute, the public has an opportunity to speak before the Board on any issue under its jurisdiction. However, TWDB rules provide for public comment only on agenda items. TWDB also has no advisory committee on colonia issues, relying primarily on its staff's perspective regarding colonia issues.
- TWDB and TDHCA, the lead agencies on colonia issues, provide funds for colonia infrastructure projects, yet the governing boards of the agencies have not met jointly on the issue in the last five fiscal years. Coordination between the agencies occurs primarily through the MOU that governs the reporting of information, and through the agencies' staffs as it pertains to individual projects. The Texas Border Infrastructure Group, made up of state and federal agencies that provide services to colonias, provides additional opportunities for staff interaction, but does not ensure high-level policy coordination.
- TWDB and TDHCA use different methods for determining the number of people served and connections made. As a result, the differences in tracking numbers affects the State's ability to accurately illustrate the number of residents served by colonia projects, which is important for any future water and wastewater needs assessment of the border region. The differences also affect the Secretary of State's responsibility for tracking and reporting, each year to the Governor and the Legislature, on the progress of the number of colonia residents connected to water and wastewater infrastructure.

The governing boards of TWDB and TDHCA have not met jointly on colonia issues in the last five fiscal years.

Opportunity: The State has begun to explore new approaches to addressing colonia issues.

- TWDB has several statutory tools to require needed action before EDAP projects may receive funding. For example, TWDB can withhold funding if an EDAP applicant has not adopted model subdivision rules, as enforced by the Attorney General; or has failed a financial, managerial, and technical capacity assessment, and is unable to correct the problems. TWDB can also terminate an EDAP recipient's contract with TWDB in the planning phase and hire an engineer of the agency's choosing.
- The State has initiated other efforts to assist public utility providers, like EDAP participants, in addressing their capability issues. The Frank M. Tejada Center for Excellence in Environmental Operations, under the direction of the Texas Engineering Extension Service, helps utility providers and their personnel develop strong financial, managerial, and technical capacity to better oversee the development, construction, and operations of their water or wastewater utilities. The Center was established in 2000 with a \$1 million grant from the U.S. Environmental Protection Agency and has already approached TWDB for opportunities to work with EDAP recipients.
- Advisory committees provide opportunities for focused attention to persistent problems, like colonia issues, in a formal setting. For example, the Sunset Commission recently approved a recommendation to create a Colonia Advisory Committee to advise the TDHCA Board on the needs of colonia residents and the effectiveness of Department policies.

The Sunset Commission approved a recommendation to create a Colonia Advisory Committee to advise the TDHCA Board.

Recommendation

Change in Statute

- 2.1 Require an annual joint meeting of the governing boards of TWDB and TDHCA.**
- 2.2 Expand the membership and focus of the proposed Colonia Advisory Committee to advise the governing boards of both TDHCA and TWDB on the needs of colonia residents and the effectiveness of agency policies.**

These recommendations would require the governing boards of TWDB and TDHCA to meet once a year specifically to address their progress in meeting the needs of colonia residents. As part of this meeting, the governing boards would hear from the Colonia Advisory Committee, created by a recent recommendation of the Sunset Commission. This committee is discussed in the Sunset Staff Report on TDHCA. As described in the TDHCA report, the Committee consists of one colonia resident, one

representative of a nonprofit organization that serves colonia residents, one local government representative, one person to represent private interests in banking or land development, and one public member. In addition to these members, the Committee should also include one representative of a nonprofit utility, and one representative of an engineering consulting firm involved in EDAP projects. All members should be appointed by the Governor and, with the exception of the public member, must reside within 100 miles of the Texas-Mexico border.

This recommendation would require the Committee to review the progress of water and wastewater infrastructure projects affecting colonia communities. The Committee should make recommendations to the two governing boards concerning:

- the success of efforts to ensure colonia residents are connected to the infrastructure funded by state agencies;
- the financial, managerial, and technical capabilities of project owners and operators;
- the agencies' management of its colonias programs and policies regarding underperforming projects; and
- any other issues related to the impact of state-managed infrastructure programs on colonia residents.

2.3 Require TWDB to perform an assessment of water and wastewater needs in economically distressed areas.

The needs assessment should be similar to the Water and Wastewater Survey of Economically Distressed Areas, last updated in December 1996. The extent of the needs assessments would be determined by the agency's available resources. The agency should consider the most cost-effective method to conduct the survey. The assessment should include:

- estimates of the population and water and wastewater needs of all colonia subdivisions in EDAP-eligible counties, regardless of the eligibility of individual subdivisions for EDAP assistance;
- an inventory of all available state and federal resources for water and wastewater service provision in EDAP counties, including programs administered by the State of Texas, the North American Development Bank, and the U.S. Department of Agriculture; and
- an assessment of the progress of all state and federal water and wastewater programs targeted toward colonias, including those of TWDB, TDHCA, the North American Development Bank, and the U.S. Department of Agriculture.

TWDB should use resources currently being developed by the Office of the Attorney General and coordinate with the Attorney General to ensure that all eligible colonia subdivisions are included in the assessment. TWDB should report the results of the assessment to the Legislature in 2003.

Management Action

2.4 TWDB should establish procedures to identify and manage EDAP projects that are not meeting performance goals, including recommending training for EDAP participants.

TWDB should follow documented procedures to identify and manage underperforming projects before withholding or threatening to withhold funds. The procedures should include criteria to identify when TWDB should recommend state-sanctioned training, such as training available through the Tejada Center, on EDAP project management for the owners and operators of underperforming projects. In determining when to recommend training, TWDB should consider, but not be limited to, including water and wastewater systems under enforcement or receiving a deficient capacity assessment from the Texas Natural Resource Conservation Commission, and changes in the elected or appointed leadership of a system.

2.5 TWDB and TDHCA should improve the coordination of reporting information on the status of colonia water and wastewater projects.

In addition to TWDB's current monthly EDAP status reports, TWDB should, on a quarterly basis, identify priority projects that are ready for TDHCA funding for connections to individual households. TDHCA should report the number of persons who have been connected to EDAP-funded systems through its projects, as part of its quarterly report currently submitted to TWDB. In addition, TWDB and TDHCA should develop a common standard to measure the number of connections made and persons that are served by their projects.

2.6 TWDB should place at least one full-time project management employee in its Harlingen field office.

The agency should place at least one employee who is knowledgeable of the colonia financial assistance programs in its existing Harlingen field office.

2.7 TWDB's Board should allow for an open agenda item during its regularly scheduled public meetings.

While TWDB's Board already allows the public to comment on agenda items at its monthly meetings, it should also allow the public an opportunity to comment on any issue under its jurisdiction. This recommendation is not specific to colonia issues, but applies to all aspects of the agency's authority. To implement this recommendation, TWDB would need to change its rules, which currently only allow the public to address the Board concerning items on the posted agenda.

Impact

The intent of these recommendations is to improve coordination between TWDB and TDHCA. Since TWDB and TDHCA are performing similar functions of providing funding for water and wastewater infrastructure in colonias along the border, they should work more closely together in a formal manner. Bringing adequate water and sewer service to colonias has proven to be a very challenging task. Both governing boards need to work together to ensure their respective programs are addressing the needs of colonia residents, and are well coordinated.

The recommendation to expand the focus and membership of the Colonia Advisory Committee would help TWDB, as well as TDHCA, by providing them with the perspective of people who live in the affected region and deal directly with the agencies' colonias programs. Expanding the focus of the Committee avoids duplication by having one committee address both governing boards compared to creating a new, similar committee to address TWDB's Board separately. Allowing the public to comment

on any issue under TWDB's jurisdiction at open meetings would also provide it with a broader perspective on its colonia programs.

The intent of an updated water and wastewater assessment survey is to determine the remaining needs of colonia residents in areas not accounted for in the last needs assessment survey, and also factor in those areas that have received assistance from other state and federal agencies. Information collected through the survey would allow the Legislature to better decide how to address the future of the Economically Distressed Areas Program. The Legislature can use the updated survey to decide if it wants to continue funding the program and at what level. Also, an accurate assessment of colonia needs would allow the State to demonstrate its need for federal funding from the U.S. Environmental Protection Agency.

The recommendation to improve the coordination of reporting information between TWDB and TDHCA would allow the State to better understand the number of completed connections and residents served by the agencies' programs, and provide the data needed to conduct an updated water and wastewater needs assessment.

The recommendation on training for EDAP participants is one way to help ensure the progress of projects so that colonia residents receive the benefits of water and wastewater services. Training is also a way for the State to ensure the adequate operation and maintenance of the EDAP project long after it is complete.

The recommendation to place at least one full-time project management employee in the Harlingen field office would allow EDAP applicants and participants to get the assistance they need more directly, without agency staff spending as much time traveling to the area.

Fiscal Implication

The recommendation to conduct a new needs assessment survey would have a fiscal impact to the State. The cost of conducting an updated needs assessment survey could vary depending on the scope of the assessment. In 1996, TWDB used internal resources to do the needs assessment survey. However, this recommendation expands the scope of the assessment beyond what the agency did in 1996. TWDB recently estimated it would cost \$920,000 over two years to conduct a comprehensive updated survey of economically distressed areas. This cost includes two FTEs for the Attorney General's Office, one FTE for TWDB, and a contractor to assess the location and needs of the areas and to develop cost estimates for providing water and wastewater services.

For comparison, TWDB is currently performing an assessment of residential areas within the state, excluding EDAP areas, that lack adequate water and wastewater facilities, and is estimating the cost of providing those infrastructure needs. The agency sent surveys to county judges, county health department officials, and others requesting the names, locations, and population of communities that lack services and a brief description of identified needs. TWDB retained a contractor to analyze several randomly selected counties in more detail by performing on-site evaluations after the initial surveys. The cost for this survey was \$156,000.

The costs of the needs assessment recommendation could be mitigated by conducting a statistical analysis rather than a census, and by using existing resources such as data already collected by the Attorney General's Office. The agency could employ one FTE and procure a contractor to assess the location and needs of the areas and to develop cost estimates for providing water and wastewater

services. TWDB could also seek out public interest groups to assist with any field work. Sunset staff estimates an updated needs assessment survey would cost approximately \$500,000.

The recommendation on the joint meetings of the TWDB and TDHCA would have no additional costs, since the boards can meet in Austin around their regularly scheduled meetings. The recommendation on the advisory committee would require minimal travel costs. The agency can implement the management recommendations with existing resources.

¹ Texas Water Code Ann., ch. 16, sec. 16.341.

² Interview with the Texas Water Development Board (TWDB), Office of Project Finance and Construction Assistance staff (Austin, Texas, June 30, 2000).

³ Letter from TWDB to the Sunset Advisory Commission, October 13, 2000 (fax).

⁴ TWDB, *Self-Evaluation Report*, submitted to the Sunset Advisory Commission (August 1999). p. 91.

⁵ TWDB, "Economically Distressed Areas Program, As of September 30, 2000" (Austin, Texas, September 1, 2000); Letter, "Aging of Facility Plans", from TWDB to the Sunset Advisory Commission, October 13, 2000 (fax).

⁶ Letter from TWDB to the Sunset Advisory Commission, October 12, 2000.

⁷ Joint Report from the Texas Department of Housing and Community Affairs (Texas Community Development Program) and TWDB (Economically Distressed Areas Program), submitted to the Legislative Budget Board (September 2000), p. 4.

Issue 3

Full Coordination of the State's Geographic Information Systems Is Hampered by a Lack of High-Level Planning and Access to a Common Network.

Summary

Key Recommendations

- Require the Texas Geographic Information Council (TGIC) to collect information on the past investments, current expenditures, and future plans for geographic information systems (GIS) of state agencies.
- Require TGIC to biennially prepare a State GIS plan based upon information collected from state agencies and to submit the plan to TWDB, Department of Information Resources, the Legislature and Governor.
- Authorize TWDB to establish private partnerships on behalf of the Texas Natural Resources Information Systems (TNRIS).

Key Findings

- State policymakers do not have adequate access to information on the State's investment in geographic information and plans for the future.
- The full benefit of TNRIS to the State cannot be achieved without access to a common network.
- Other state coordinating efforts have greater status than TGIC.
- With additional authority, TNRIS could access private funds to pay the costs of improved Internet access.

Conclusion

The State has benefitted greatly from investments in GIS technology. While a number of state agencies have created these systems, TNRIS serves as the central clearinghouse of GIS information for the state and is administered by TWDB. To assist TNRIS in its coordination efforts, the Legislature created TGIC, an interagency advisory council. Although TGIC has been successful in coordinating the State's GIS efforts, it is limited by a lack of adequate information regarding state agency investments in GIS, and access to a common network.

The Sunset review of TNRIS examined how it serves other state agencies and how the function could be improved. The review concluded that elevating the status of TGIC, and authorizing the Board to establish private partnerships with TNRIS to better fund Internet access, could help the State maximize its investment in GIS.

Support

What is GIS?

Geographic information systems (GIS) link the visual map features such as the points, lines and shapes with database records, such as census information, water flow information, and water quality information about the same features. By virtue of this linkage, GIS combines the analytical power of a database and the visual message of traditional maps.

Current Situation: TWDB houses the Texas Natural Resources Information System as a clearinghouse of geographic information for state agencies and the public.

- The primary purpose of the Texas Natural Resources Information System (TNRIS) is to provide state agency access to digitized geographic information. The textbox, *What is GIS?*, explains how geographic information systems differ from traditional maps. TNRIS programs include the Strategic Mapping Initiative (StratMap) – a cost-sharing project designed to produce a multi-layered, computerized map of Texas – and the Borderlands Information Center to promote data-sharing across the Texas-Mexico border. The table, *StratMap Layers*, describes the information contained in the seven layers of the StratMap program. When these first seven layers are completed in 2001, StratMap will provide a series of base maps for use by state agencies and other entities for their own specific mapping needs. TNRIS also provides public access to a wide array of natural resource, census, and socioeconomic information.

StratMap Layers	
Layer Name	Description
Digital Orthophotos	A mapping product that combines the geometric qualities of a map with the detail of an aerial photograph. This layer serves as the base for all other layers.
Digital Elevation Models	Elevation points from paper United States Geological Survey topographic maps.
Contour Map	Elevation contours showing topographic relief. Used in creating three dimensional terrain surfaces.
Hydrography	Flowing water, water bodies, and marshlands.
Soils	Soil surveys created by the Natural Resources Conservation Service.
Transportation	Streets, roads, railroads, and pipelines.
Boundaries	Counties, city limits, federal lands, state parks and others.

- In 1957, the Legislature created a database of water resource information collected by state agencies, which became TNRIS in 1972. In 1987, the Legislature expanded TNRIS' mission to include collection and distribution of socioeconomic data related to natural resources. In 1997, through Senate Bill 1, the Legislature added the

Strategic Mapping Program which includes census and socioeconomic data that is not directly related to natural resources.

- The Texas Water Development Board expended almost \$3 million on TNRIS functions in fiscal year 1999. The majority of the funds, 93 percent, came from the General Revenue Fund. Other sources of funds include appropriated receipts, 4 percent, and federal funds, 3 percent. The appropriated receipts generally come from the sale of maps and CD-ROMs of computerized geographic information. Most of the funds, \$2.2 million, were used to purchase digital base map layers and related items. TNRIS operates with 15 staff members.
- By long-standing policy, information held within TNRIS has been accessible to the public as well as state agencies. Because this information was compiled at public expense, GIS officials have argued that the public should continue to enjoy free access to the information. TNRIS does charge for the cost of hard-copy reproduction, in accordance with the Public Information Act.

By long-standing policy, information held within TNRIS has been freely accessible to the public as well as state agencies.

Current Situation: The Texas Geographic Information Council, a multi-agency task force, effectively coordinates state agency geographic information programs.

- Because a number of state agencies have created GIS programs, the Legislature created the Texas Geographic Information Council (TGIC) in 1997 to coordinate the efforts. A major cost of GIS programs is in acquiring data – typically 80 percent of the total cost.¹ TGIC seeks to avoid future costs by avoiding duplication in acquisition of geographic information, and in ensuring that the various systems work together. TGIC's membership consists of 44 entities including state agencies, state universities, statewide associations, and a federal agency. Appendix F provides a listing of TGIC's membership.
- TGIC's statutory functions include advising the Executive Administrator of TWDB on the operation of TNRIS, and advising the Department of Information Resources (DIR) on establishing rules and standards. State agencies follow these rules when acquiring geographic information systems to ensure that information can be shared across agencies. DIR's involvement is designed to ensure compatibility of state agency computer systems.
- TGIC has been successful in coordinating the planning and use of geographic information and fostering communication among members. TGIC's main planning document, the *Geographic Information Framework for Texas* outlines five initiatives unanimously supported by the member agencies: ongoing development of intergovernmental partnerships, cooperative base mapping, electronic data sharing, field data sharing, and educational outreach.

A major cost of GIS programs is in acquiring data – typically 80 percent of the total cost.

TGIC's Geographic Information Framework does not include an inventory of the State's current investment in GIS information and technology.

Problem: State policymakers do not have adequate access to information on the State's investment in geographic information and plans for the future.

- The full cost of the State's investment in geographic information is unknown. Most state agency information management programs are reported to the Legislative Budget Board, based on DIR rules, as a part of the Biennial Operating Plan process. However, in most cases, information about geographic information activities is not listed separately, and as a result, is hidden within agencies' baseline computer operating budgets. Because of the lack of common reporting, policymakers cannot determine the true cost of these programs across state agencies. TGIC is considering recommending that DIR adopt a rule requiring the itemization of the cost and extent of state agency geographic information system programs, but the current draft rule revision would exempt programs with less than \$100,000 in expenditures.²
- TGIC does not annually report information on the State's geographic information resources to policymakers. Although the group did prepare its *Geographic Information Framework* as a vision for GIS in the state, this document does not include an inventory of the State's current investment in GIS information and technology, is not submitted to the Legislature or TWDB, and is not updated regularly. Because the *Framework* does not include a baseline inventory of the current system, it cannot be used as a strategic plan to effectively set goals for the future.

Problem: The full benefit of TNRIS to the State cannot be achieved without access to a common network.

- Full sharing of the State's geographic information is limited in that a common distribution network does not exist. Currently, TNRIS shares base layer StratMap data with other agencies by copying the information on to CD-ROMs. However, the full file set of geographic data is so dense it requires 4,376 CD-ROMs to manually transfer the base layer data, at a potential cost of \$114,000 per agency if the agency purchased the entire base map layer.³ Once transferred from TNRIS, the receiving agency would incur additional expenses to maintain the data in a usable form. These costs could be minimized if users could access the TNRIS computers and manipulate the data across a network.
- State agencies could access TNRIS' information by using the Internet as a common network. However, funding limitations for the costs of additional staff, hardware, software, and training have prevented TWDB from achieving this goal. The agency estimates these costs to be \$260,000 more than its proposed 2002 budget for access.

Comparison: Other State coordinating efforts have greater status than TGIC.

- The Legislature has frequently established formal interagency coordinating councils to jointly develop state policies that affect more than one agency. These councils usually have more status than TGIC because their enabling statutes include provisions for reporting recommendations to agency boards and the Legislature. Some of the councils also have the ability to create rules, and accept and make grants. At least 10 interagency coordinating councils have been created with these characteristics.
- An example of an interagency council, the Records Management Interagency Coordinating Council reviews agency activities in records management and reports its findings and recommendations to the Legislature. By statute, the Council is composed of seven state agency directors with involvement in records management. The Council also has rulemaking authority for itself and its member agencies.
- Other major interagency coordinating councils created by the Legislature include the Statewide Health Coordinating Council, Interagency Council on the Homeless, Alternative Fuels Council, and the HIV/AIDS Interagency Coordinating Council.

Opportunity: With additional authority, TNRIS could access private funds to pay the costs of improved Internet access.

- While TNRIS provides free public access to the information within its databases, members of the public often ask for the data to be provided in special formats or in other ways that increase the costs. For example, landowners may request information about their land that may cross map boundaries. While TNRIS may charge for staff time to provide this information on a single map, it does not have staff resources to meet expected demand for value-added services.
- Private companies are willing to provide these value-added services for a fee. While TWDB's enabling statute does not prohibit it, current agency policy prohibits agency employees from recommending value-added service providers to users, although this information would be of benefit to the public.

These value-added companies have expressed an interest in having their services linked to the TNRIS Web site, and are willing to pay a licensing fee to the State for this privilege. A general listing would allow TNRIS to give the names of all service providers at one place, and avoid preferential treatment to any one company listed by TNRIS. These licensing fees could pay the costs of enhancing TNRIS' Internet capacity and allow TNRIS staff to focus more time on the needs of state agencies.

Formal interagency coordinating councils usually report their recommendations to agency boards and the Legislature.

A general listing of value-added service providers would avoid preferential treatment to any one company listed and would allow TNRIS staff to focus more time on the needs of state agencies.

Recommendation

Change in Statute

- 3.1 Require TGIC to collect information on the past investments, current expenditures, and future plans for geographic information systems of state agencies.**
- 3.2 Require TGIC to prepare a biennial State GIS plan based upon information collected from state agencies; and to submit the plan to the Texas Water Development Board, Department of Information Resources, the Legislature, and the Governor.**

These recommendations would give TGIC the authority to collect information about the State's investments in geographic information and plans for its use from TGIC members representing state agencies. TGIC should also request voluntary reporting of information from non-state agency members. TGIC would then be able to write a high-level plan for use by the State's policymakers. This plan would allow TGIC to highlight its achievements and discuss its visions for GIS over the next biennium, including what initiatives should be taken to improve the State's GIS programs. TGIC should set the requirements for the high-level, summary information on GIS projects to be collected for the plan. TGIC members can use existing information, such as the listing required in the Biennial Operating Plan prepared for the Legislative Budget Board or any other resources, to collect the list of GIS projects. The first new State GIS plan should be submitted by September 1, 2002.

3.3 Authorize TWDB to establish private partnerships on behalf of TNRIS.

This recommendation would give TWDB the authority to partner with private firms to provide additional funding for improved access to TNRIS information. One form of partnership could be to allow private, value-added firms to establish a link on the TNRIS Web site, and for TWDB to charge a fee for the providing the link. Because the types of partnerships could change over time, the statute should not limit the types of agreements that could be made except to ensure compliance with other related laws, such as ethics, purchasing, and contract laws. The Board should adopt rules to describe the process for which the agency could partner with private companies. These rules should also define the types of partnerships that would be allowed, establish an appropriate fee collection process, and define the nondiscriminatory methods to be used to determine which companies could contract with TWDB.

Impact

These recommendations would raise the status of State GIS activities and the Texas Geographic Information Council by requiring the Council to submit a high-level GIS plan to TWDB, DIR, the Legislature, and the Governor. The quality of TGIC's strategic plan would benefit from a description of the State's current investment in and future needs for GIS resources. This planning would help to eliminate unnecessary duplication of efforts, and maximize the value of GIS information in future applications. The strategic information in the plan will also help the Legislature make decisions regarding the future of the program.

Granting TWDB the clear authority to partner with outside vendors would enable the agency to raise funds to pay for enhanced access to TNRIS information. This enhanced access would permit state agencies to maximize their investment in expensive geographic information systems.

Fiscal Implication

These recommendations would have a positive fiscal impact to the State. Permitting TWDB to partner with private companies would enable the agency to raise additional funds to pay for increased Internet access to TNRIS information. This better access would help state agencies to avoid the cost of duplicating and maintaining information that is already housed at TNRIS. These additional revenues and cost savings could not be estimated for this report.

The recommendations to require TGIC to collect information on the State's investment in GIS and to prepare a biennial plan for policymakers should be done with existing resources. Currently, TWDB and DIR provide administrative support for TGIC, and the Council can draw upon additional support from its member agencies, and existing data from sources such as the Biennial Operating Plans.

¹ Texas Geographic Information Council, *Geographic Information Framework for Texas: Resolutions for Action*, (Austin, Texas, January 1999), p. 27.

² Texas Geographic Information Council Steering meeting (Austin, Texas, October 12, 2000).

³ The individual cost of each CD-ROM for a state agency is \$26. The cost to the general public is \$54.

ACROSS-THE-BOARD RECOMMENDATIONS

Texas Water Development Board	
Recommendations	Across-the-Board Provisions
	GENERAL
Already in Statute	1. Require at least one-third public membership on state agency policymaking bodies.
Update	2. Require specific provisions relating to conflicts of interest.
Update	3. Require that appointment to the policymaking body be made without regard to the appointee's race, color, disability, sex, religion, age, or national origin.
Already in Statute	4. Provide for the Governor to designate the presiding officer of a state agency's policymaking body.
Update	5. Specify grounds for removal of a member of the policymaking body.
Update	6. Require that information on standards of conduct be provided to members of policymaking bodies and agency employees.
Apply	7. Require training for members of policymaking bodies.
Apply	8. Require the agency's policymaking body to develop and implement policies that clearly separate the functions of the policymaking body and the agency staff.
Already in Statute	9. Provide for public testimony at meetings of the policymaking body.
Update	10. Require information to be maintained on complaints.
Update	11. Require development of an equal employment opportunity policy.
Apply	12. Require information and training on the State Employee Incentive Program.

AGENCY INFORMATION

Agency Information

AGENCY AT A GLANCE

The Texas Water Development Board (TWDB), created in 1957, is the state's water planning and financing agency. The agency's two goals – to plan and guide the conservation, development, and management of the state's water resources, and provide financing for the development of water supply and water quality protection – are supported by the following major agency activities:

- planning for the development of the state's water resources;
- administering low-cost financing programs; and
- collecting and disseminating water-related data.

Key Facts

- **Appropriated Funding.** TWDB spent approximately \$38.9 million in fiscal year 1999 for the administration of agency programs. General Revenue comprised over \$21.7 million, or 56 percent, of the agency's budget. Other revenue sources include federal funds of \$4.7 million, or 12 percent; appropriated receipts of \$5.5 million, or 14 percent; and other sources, that provide the remaining \$7 million, or 18 percent.
- **Program Revenue.** The agency also receives program revenues that are not appropriated by the Legislature. Program revenues totaled \$231.1 million for fiscal year 1999, with principal and interest on loan repayments comprising \$125.1 million, or 54 percent; federal funds of \$57.4 million, or 25 percent; interest on deposits and investments of \$35.1 million, or 15 percent; and other sources of \$13.5 million, or 6 percent. Program revenues are loaned or granted to political subdivisions to finance water-related infrastructure.
- **Senate Bill 1.** Enacted by the Legislature in 1997, the bill designated TWDB as the lead state agency for coordinating a new regional water planning process, requiring the agency to approve regional plans and incorporate them into the state water plan. The bill also required the agency to expand basic water data collection and dissemination while providing greater financial assistance for disadvantaged communities, privately-owned public water systems, and agricultural programs.

TWDB's mission is to provide leadership, technical services, and financial assistance to support planning, conservation, and the responsible development of water for Texas.

- **Staffing.** In fiscal year 1999, TWDB had 295 employees. Most are located at the agency's headquarters in Austin; with 22 staff located in five regional offices, and a materials lab in Austin.
- **Oversight.** TWDB is governed by a six-member, part-time Board. The Board is composed of members of the general public that represent different areas of the state.
- **Water Planning Activities.** Activities include data collection, state water plan development, water conservation assistance, and research and local assistance.
- **Financial Assistance Activities.** Activities include the management of the Clean Water and Drinking Water State Revolving Funds, general obligation bond programs, and loan and grant programs for economically distressed communities and agricultural water conservation.
- **Resource Information Activities.** Activities include the Texas Natural Resources Information System, which serves as a clearinghouse and referral service for natural resource and socioeconomic data.

On the Internet

Information about TWDB, including the agency's publications, data collected through various activities, and extensive information about colonias, drought monitoring, water conservation, financial assistance, and other topics, is available on the Internet at www.twdb.state.tx.us.

AGENCY HISTORY

Texas has taken an active role in managing its water resources since the beginning of the 20th century.

The history of the Texas Water Development Board can be traced to the state's continual struggle to provide sufficient water resources to sustain its economic and population growth. As early as the turn of the century, Texas had taken an active role in managing its water resources, adopting a constitutional amendment authorizing the first public development of water. The agency, created in 1957 by legislative act and constitutional amendment, followed the state's most severe drought to date. The constitutional amendment authorized the agency to issue up to \$200 million in State of Texas General Obligation Water Development Bonds for the conservation and development of Texas' water resources through loans to political subdivisions. Since that time, the Legislature and voters, through constitutional amendments, have authorized TWDB to issue nearly \$2.7 billion for water supply and infrastructure projects. Over the years, the Legislature has also given the agency responsibilities for planning the state's development of water resources and collecting and disseminating natural resources information. Appendix A summarizes the key dates in Texas water policy and in the development of the agency.

ORGANIZATION

Policy Body

The Texas Water Development Board is governed by a six-member, part-time Board. The Governor appoints members to serve staggered, six-year terms. The Governor also appoints the Chair of the Board, while the members elect the Vice Chair. The Governor makes appointments to the Board in a manner so that each member is from a different area of the state, is a member of the general public, and has no conflict of interest prohibited by state or federal law. The table, *TWDB Policy Body*, lists the current Board members, their hometowns, and their terms of appointment. While authorized to create and consult with any advisory committees considered appropriate to carry out its powers and duties, the Board currently has no advisory committees.

TWDB Policy Body		
Member Name (Hometown)	Appointment Dates	
William B. Madden, Chair (Dallas)	Appointed	3/96
	Term Expires	12/01
Noe Fernandez, Vice Chair (McAllen)	Appointed	3/96
	Term Expires	12/01
Jack Hunt (Houston)	Appointed	1/98
	Term Expires	12/03
Wales H. Madden, Jr. (Amarillo)	Appointed	1/98
	Term Expires	12/03
Kathleen Hartnett-White (Valentine)	Appointed	3/00
	Term Expires	12/05
William W. Meadows (Fort Worth)	Appointed	3/00
	Term Expires	12/05

The Texas Water Code sets out the authority of the Board. The Board is responsible for the development of a statewide water plan, the administration of the State's various water assistance and financing programs, and other areas specifically assigned by law.

Staff

In fiscal year 1999, TWDB had a staff of 295 employees with 273 located at the agency's headquarters in Austin. The agency's FTE cap is set at 313.5 positions. The agency maintains five field offices along with a materials lab in Austin. The table, *Full-Time Employees by Location*, lists the number of employees in each office at the end of fiscal year 1999. A comparison of the agency's workforce composition to the minority Civilian Labor Force is shown in Appendix B, *Equal Employment Opportunity Statistics*.

TWDB's Executive Administrator manages the daily operations of the agency, provides guidance to staff on policies, and ensures compliance with statutory obligations of the agency. The Executive Administrator's staff also provides external customer relations and legal support.

Full-Time Employees by Location		
	Location	Number of Employees FY 1999
Headquarters	Austin	273
Region 1 Field Office	Mesquite	5
Region 2 Field Office	Houston	7
Region 3 Field Office	Harlingen	4
Region 4 Field Office	El Paso	1
Region 5 Field Office	San Antonio	1
Materials Lab	Austin	4
TOTAL		295

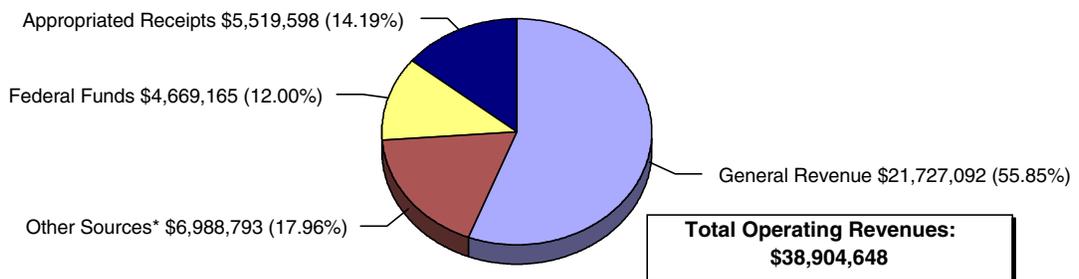
TWDB is organized according to the major program responsibilities of the agency. Four offices perform these functions with each headed by a Deputy Executive Administrator, who reports directly to the Executive Administrator. The four offices are Project Finance and Construction Assistance, Resource Information, Planning, and Administration and Support Services. The chart, *Texas Water Development Board Organizational Chart*, illustrates the organizational structure of the agency.

FUNDING

Revenues

The agency received \$38.9 million in appropriated funds in fiscal year 1999 for program administration. The chart, *Sources of Operating Revenue – FY 1999*, identifies each source of funds for the fiscal year. Approximately 56 percent, or \$21.7 million, of the agency’s revenues came in the form of General Revenue. Other sources of funding are federal funds, appropriated receipts, dedicated general revenue funds, and interagency contracts.

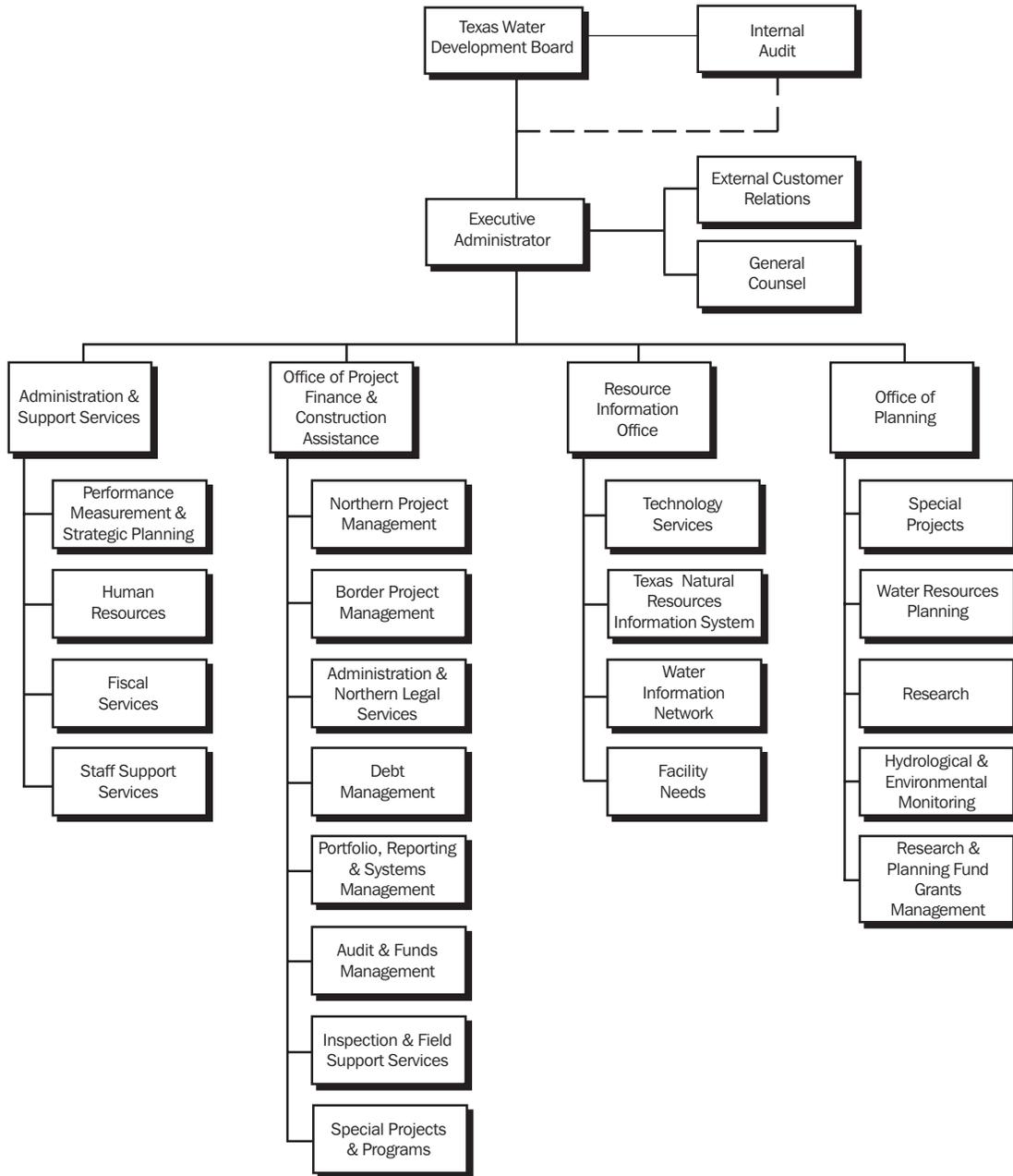
**Sources of Operating Revenue
FY 1999**



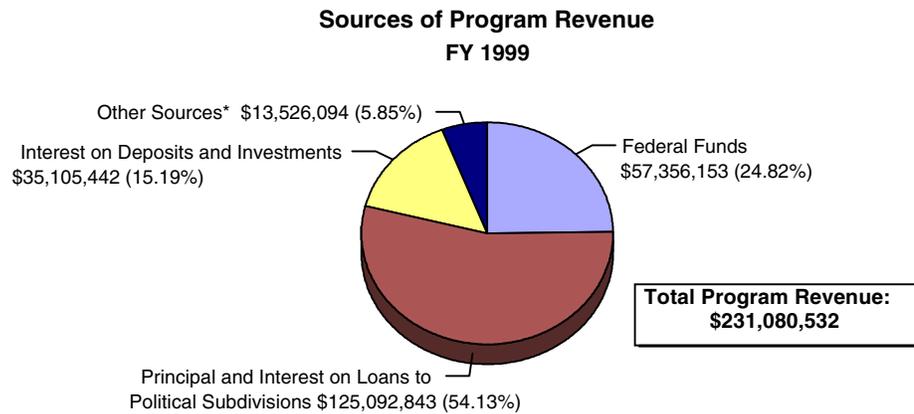
*Other Sources include earned federal funds, revenue from interagency contracts, and dedicated General Revenue from the Agricultural Soil and Water Conservation Account, Water Assistance Fund, and Agricultural Trust Fund.

The agency also receives program revenue that is not appropriated by the Legislature. The agency finances water infrastructure projects primarily through the issuance of bonds. Since 1957, Texas citizens have approved seven constitutional amendments authorizing the agency to issue approximately \$2.7 billion in Water Development Bonds. The Legislature added revenue bonding authority in 1987. The agency has subsequently issued more than \$1.7 billion in general obligation bonds and \$2.2 million in revenue bonds. Bond proceeds, loan repayments, and interest earnings generate revenue that is used to fund the agency’s

Texas Water Development Board Organizational Chart



financial assistance programs, and capitalize its federally-subsidized revolving loan funds. TWDB uses most loan repayments to pay its debt obligations. In addition to bond proceeds and the principal and interest repaid by borrowers, the State receives federal grants for the revolving funds. In fiscal year 1999, the agency received \$231.1 million through these other sources of revenue. The pie chart, *Sources of Program Revenue – FY 1999*, identifies each source.



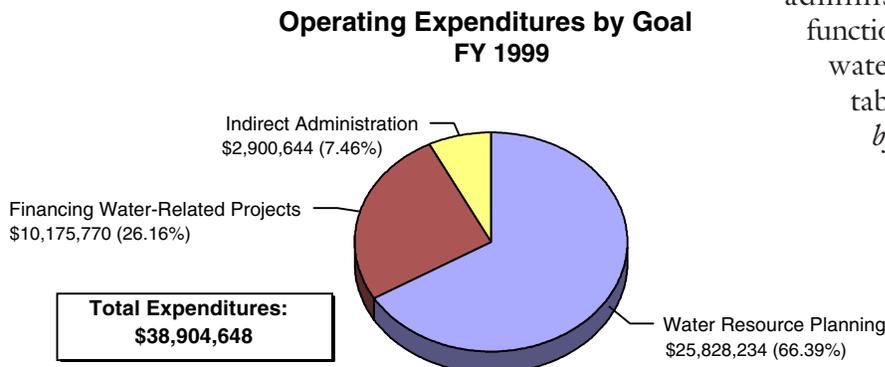
*Other Sources include other interest revenue, sale of goods and services, and miscellaneous revenue.

In fiscal year 1999, the Legislature appropriated \$13 million to cover debt service on TWDB’s non-self supporting bonds.

In addition to the two revenue sources described above, the Legislature appropriates some General Revenue to the agency to repay the principal and interest on general obligation bonds not fully repaid by participants. This appropriation is necessary because program participants receive financial assistance from the Board through grants or subsidized loans. In fiscal year 1999, the Legislature appropriated \$13 million for this debt service obligation.

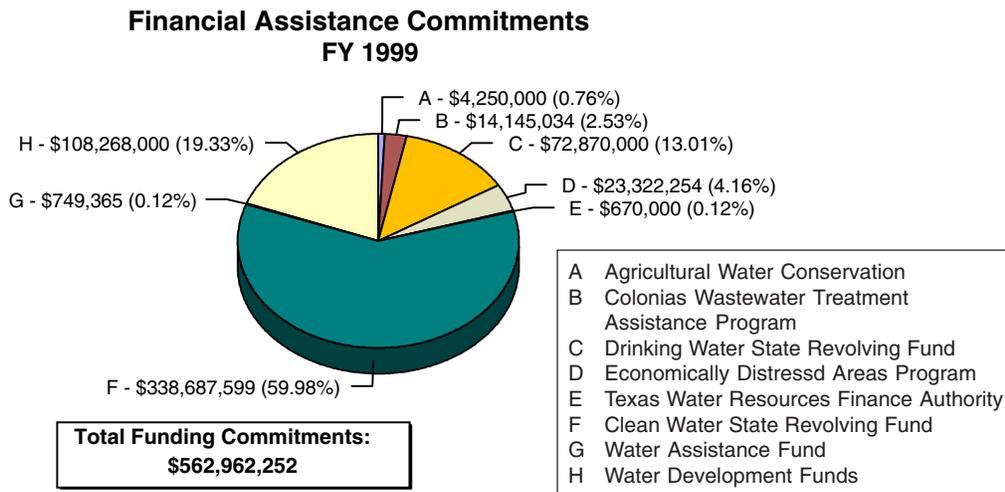
Expenditures

The agency spent \$38.9 million in fiscal year 1999. The pie chart, *Operating Expenditures by Goal – FY 1999*, provides a snapshot of expenditures. The expenditures represent appropriated funds used to administer the agency’s core functions of water planning and water project financing. The table, *Operating Expenditures by Strategy – FY 1999*, shows how TWDB spent its funds to meet specific goals.



Not all funds flowing through the agency come from appropriated funds. In fiscal year 1999, TWDB committed \$563 million to political subdivisions through its bond-supported and federally-subsidized loan and grant programs. These financial assistance programs provide water and wastewater infrastructure and other projects. The pie chart, *Financial Assistance Commitments – FY 1999*, shows the loan and grant commitments made by the agency during the fiscal year in each of its financial assistance programs. A commitment is made when the Board approves a political subdivision’s application for financial assistance. These programs are discussed in greater detail in the Agency Operations section.

Operating Expenditures by Strategy FY 1999	
Goal A: Water Resource Planning	\$25,828,234
Data Collection	3,938,328
Long-Range Planning	9,812,850
Texas Natural Resources Information System	2,994,121
Water Resource Information	911,249
Regional Planning	7,632,453
Conservation Assistance	539,233
Goal B: Financing Water-Related Projects	\$10,175,770
Financial Assistance	8,504,249
Economically Distressed Areas	1,671,521
Goal C: Indirect Administration	\$2,900,644
Central Administration	1,937,972
Information Resources	532,737
Other Support Services	429,935
Grand Total	\$38,904,648



TWDB’s use of Historically Underutilized Businesses (HUBs) in purchasing goods and services can be seen in Appendix C. The agency exceeded state goals in the commodities, special trade, and building construction categories during the years it made purchases in these categories. However, it fell short of state goals in the professional services and other services categories from 1996 to 1999.

AGENCY OPERATIONS

The mission of the Texas Water Development Board is to provide leadership, technical services, and financial assistance to support planning, conservation, and the responsible development of water for Texas. The agency accomplishes this mission through three core functions – water resources planning, water project financing, and information collection and dissemination.

TWDB facilitates the development of regional water plans and assembles them into a state water plan.

PLANNING

The Board is the designated planner for the development and management of the state's water resources. In this role, TWDB facilitates the development of regional water plans and assembles them into a state water plan. This water planning function is important to a wide variety of customers, including state and federal agencies, Regional Water Planning Groups, groundwater conservation districts, and water providers and users. As part of its planning responsibility, TWDB also conducts statewide data collection and water resources evaluations, assists in water conservation activities, provides local assistance, and conducts research.

Water Plan Development

TWDB is responsible for preparing a comprehensive state water plan, a long-term plan for the development, conservation, and protection of the state's water resources. The plan forecasts water needs and identifies appropriate solutions to meet those needs for the next 50 years. The last revision of the plan was completed in August 1997. The 1997 plan promotes non-traditional water management strategies, such as conservation and reuse, as well as developing new supplies to meet increasing demands.

Regional Water Planning Group Membership

Each regional water planning group includes representatives from the following interest groups:

- counties,
- municipalities,
- industries,
- agriculture,
- the environment,
- small businesses,
- electric generating utilities,
- river authorities,
- water districts,
- water utilities, and
- the general public.

The Legislature's passage of Senate Bill 1, in 1997, introduced the concept and practice of regional water planning. The intent was to foster statewide collaboration among regions in creating the next revision of the state water plan. In accordance with the provisions of Senate Bill 1, TWDB established 16 water planning regions, as illustrated in the map, *Regional Water Planning Groups*. TWDB also wrote guidance documents to govern how regional water plans will be developed and designated planning group representatives. Each regional water planning group is responsible for preparing and adopting a water plan for its area that includes projected population and water demand, an inventory of existing water supplies, and strategies for meeting future demands.¹ The textbox, *Regional Water Planning Group Membership*, lists the parties represented on each group as prescribed by statute.

TWDB provides technical assistance and funding, totaling \$20.4 million in fiscal year 1999, to the 16 regional water planning groups.

TWDB has specific responsibilities for providing water planning data and technical assistance to the regional water planning groups. The Board assists the 16 groups in developing their plans by providing population projections, annual water use and demand projections, groundwater and surface water availability data, and analyses of socioeconomic impacts of unmet water needs. TWDB also provides technical assistance and funding, totaling \$20.4 million in fiscal year 1999, to the groups to cover planning costs. Regional water plans are required to be submitted to the Board for approval by January 5, 2001. The agency will resolve any conflicts between plans and incorporate the approved regional water plans into a state water plan by January 5, 2002. Once the plan is adopted, TWDB financial assistance may only be provided to water supply projects that are consistent with the approved regional water plans.

Water Data Collection and Evaluation

The 1996 drought reinforced the need for accurate, timely water data.

A key component of the Board's planning efforts is accurately assessing the state's available water resources. The drought of 1996 reinforced the need for accurate, timely data, while highlighting limitations to accessing current statewide water resource information. As a result, the Legislature, through Senate Bill 1, provided funding authority for TWDB to expand or initiate statewide data collection and drought monitoring services.

A continual challenge the State faces is accurately assessing available groundwater and surface water supplies. In many areas, water supply problems exist or are expected to occur because of declining groundwater levels. Unknown reservoir sedimentation rates and poor original capacity information are two factors affecting the validity of available surface water supply projections. TWDB conducts local and regional groundwater studies, prepares reports on these studies, and maintains a cooperative program with the United States Geological Survey to collect surface water data. TWDB's statewide data collection efforts are shown in the textbox, *Water Data Collection Activities*.

Water Data Collection Activities

- Measuring groundwater quality and quantity.
- Determining water supply capacity in lakes and reservoirs.
- Collecting data on stream flows, tide levels, lake levels, water well levels, lake evaporation, and coastal hydrology.
- Determining bay and estuary conditions and instream flows necessary to support a sound ecological environment.
- Monitoring drought conditions.

TWDB coordinates with the Texas Natural Resource Conservation Commission (TNRCC) and the Texas Parks and Wildlife Department

(TPWD) regarding water resources information. The provisions of Senate Bill 1 required the three agencies to establish a Memorandum of Agreement to coordinate their differing roles. The Board also collaborates with TNRCC and TPWD to determine freshwater inflow needs of the state's bays, estuaries, and coastal waters.

Water Conservation Assistance

According to the 1997 State Water Plan, over 80 percent of new water sources needed to meet demand in the year 2050 will come from water conservation and reuse. TWDB offers water conservation assistance in the form of workshops and training programs on efficiency measures, and the establishment of water conservation education programs for political subdivisions, schools, and the general public. The agency also creates and disseminates water conservation literature for use in public information campaigns, such as the Water Smart Campaign.

Over 80 percent of
new water in the year
2050 will come from
water conservation
and reuse.

TWDB offers technical assistance to agricultural water users on efficient irrigation practices and other agricultural water uses. TWDB staff also educate water providers and users about water use efficiency and alternative water resources such as desalinization, reuse, rainwater harvesting, and other emerging technologies.

Research and Local Assistance

TWDB provides financial assistance for water and wastewater project planning, water research, flood protection planning, and research and planning for regional water supply and wastewater infrastructure solutions. Political subdivisions, nonprofit water supply corporations, and individuals are eligible to receive this assistance, which is supported by General Revenue. In fiscal year 1999, the agency provided \$2.7 million in research and planning grants. TWDB also provided \$62,000 in grants to water conservation and irrigation districts for agricultural water conservation projects. Funding guidelines for these grant programs are summarized in the textbox, *Research and Planning Assistance Guidelines*.

TWDB provides local assistance through its role as the point-of-contact for the Federal Emergency Management Administration's Flood Mitigation Assistance Grant Program. This program allows TWDB to provide technical assistance and award grants to political subdivisions to reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program.

Research and Planning Assistance Guidelines

- Grants for regional facility plans and flood protection planning should be limited to 50 percent of the total cost of the project.
- TWDB may provide up to 75 percent of the total cost of project planning to disadvantaged communities.
- TWDB may award grants for up to 100 percent of the cost of a research project.
- TWDB may provide grant funding for up to 75 percent of the cost of an agricultural water conservation project.

FINANCIAL ASSISTANCE

The agency's financial assistance programs offer potential TWDB customers, mainly political subdivisions, a range of cost-saving options for water development and management projects and for water and wastewater infrastructure needs. While most political subdivisions of the state could choose to finance their water projects by issuing debt in the public market, TWDB offers many incentives through its publicly-supported financing programs. For example, TWDB can use the excellent credit rating of the State to offer lower interest rates than the public market. Further, some political subdivisions for a variety of reasons cannot qualify for financing in the public market. As a result, TWDB becomes their only source of financial assistance for water and wastewater projects.

In fiscal year 1999, TWDB's financial assistance programs saved its customers \$87.2 million.

Since TWDB was created in 1957, it has provided approximately \$5 billion in loan and grant assistance to support water development, management, and infrastructure projects. In this time, the agency has never had a borrower default on a loan repayment. Also, for fiscal year 1999, the agency's financial assistance programs resulted in \$87.2 million in cost savings to customers compared to the funding they would have received in the public market.²

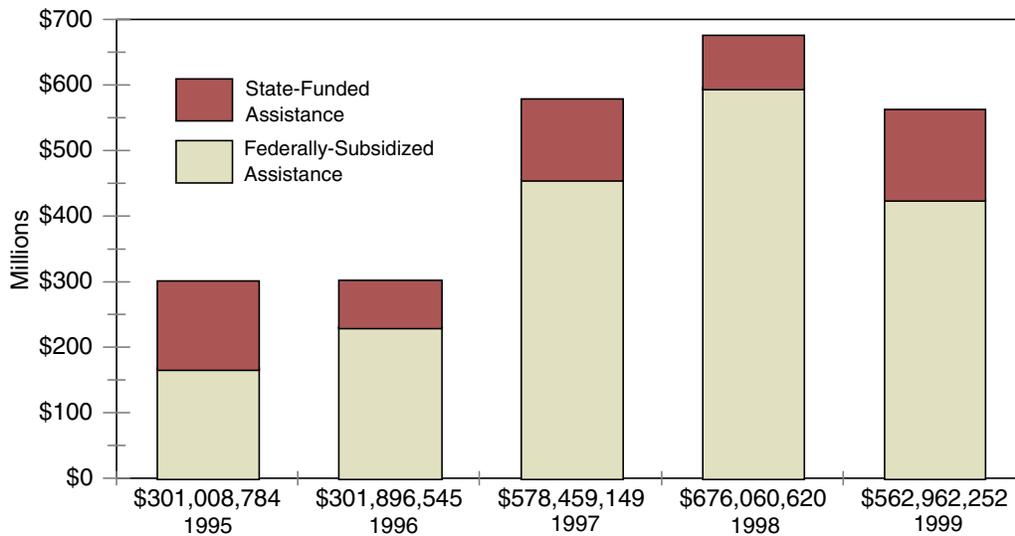
TWDB's financial assistance programs are administered through the Office of Project Finance and Construction Assistance. The agency's Board considers potential water and wastewater projects during monthly public meetings to ensure that projects reflect sound engineering, do not result in adverse environmental impact, and are fiscally sound. Once a project receives a funding commitment and the recipient satisfies certain prerequisites, funds are released to the recipient and TWDB field office staff monitor the progress of the project.

TWDB's financial assistance programs are funded through general obligation and revenue bonds, federal grants, and appropriated funds.

TWDB's financial assistance programs are funded through any one or a combination of state-backed general obligation bonds, special program revenue bonds, federal grant funds, and appropriated funds. Proceeds from the sale of TWDB bonds are loaned to local governments by buying the local governments' bonds or, in limited cases, by executing contracts for repayment. Local governments use the proceeds to construct or improve water-related projects. As local governments repay principal and interest on their loans to TWDB, the agency uses the principal and interest collected to pay the debt service on the State's bonds. Limited funds are made available as grants to disadvantaged communities. Appendix D, *Financial Assistance Programs*, provides basic information about each of the agency's funding programs.³ The chart, *Financial Assistance Commitments – FY 1995 - 1999*, illustrates funding committed by TWDB through its financial assistance programs over the past five years. The following material describes these programs, which are divided

into two categories – assistance funded by the State and assistance subsidized by the federal government.

Financial Assistance Commitments FY 1995 - 1999



State-Funded Assistance

The State, through constitutional and legislative action, has created several separate funding sources for water-related projects. As early as the creation of the agency in 1957, the Legislature and voters authorized funds for water projects. These state-supported funding sources include Water Development Funds, Agricultural Water Conservation Loan Program, and the Texas Water Resources Finance Authority.

Water Development Funds

The primary focus of the agency is to provide loans to help communities finance cost-effective water, wastewater, and flood control projects. In 1957, TWDB was authorized by constitutional amendment to issue up to \$200 million in General Obligation Water Development Bonds for the construction of dams, reservoirs, and other water storage projects. Subsequent amendments to the Constitution and legislation expanded the types of water-related facilities eligible for funding under this bond program. These include wastewater treatment and flood control projects. Over the years, voters have approved constitutional amendments increasing the Board's bond issuance authority, allowing the agency to issue up to \$2.68 billion in General Obligation Water Development Bonds. To date, the Board has issued \$1.74 billion in Water Development Bonds.

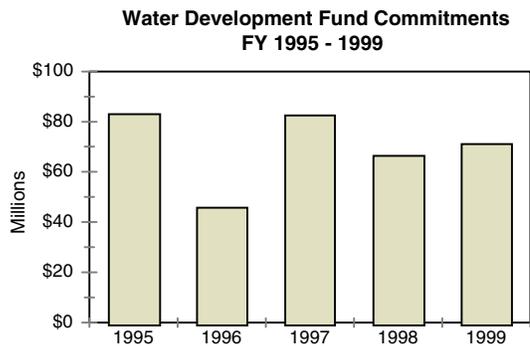
The State of Texas authorized the first general obligation bonds for water development purposes in 1957.

In 1997, the Legislature restructured the funding programs under TWDB’s Water Development Fund, consolidating previously unissued bonds into a new fund to facilitate the use of these bonds. Today, Development Fund II, as it is known, provides financial assistance for the following types of projects:

- water supply and storage acquisition;
- water quality enhancement, including wastewater infrastructure projects and municipal solid waste projects; and
- flood control.

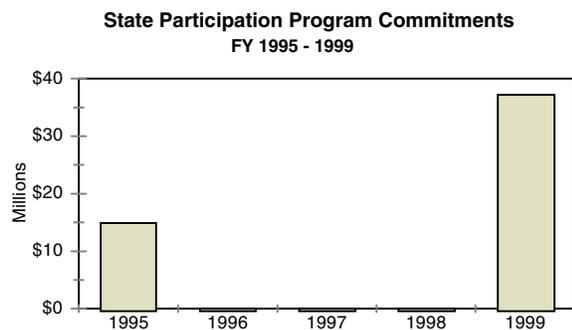
Loans for these purposes are available to all political subdivisions, at tax-exempt rates, and to water supply corporations, at taxable rates that are slightly higher than the State’s borrowing costs. Also under the Development Fund II umbrella are two distinct programs – State Participation and Economically Distressed Areas – both of which are described below.

Commitments from the Water Development Fund over the last five years are illustrated in the chart, *Water Development Fund Commitments – FY 1995 - 1999*. These commitments do not include ones made in the State Participation or Economically Distressed Areas Programs which are shown separately below.



State Participation Program - The Legislature created the State Participation Program in 1985 to help political subdivisions construct optimal-sized regional projects designed to meet future growth. This

program allows TWDB to acquire up to 50 percent of projects for water supply, flood protection, groundwater recharge, and wastewater treatment works. Through partial State ownership, political subdivisions are encouraged to build regional projects that could not be financed otherwise. Commitments from the State Participation Program over the last five years are illustrated in the chart, *State Participation Program Commitments — FY 1995 - 1999*.



TWDB's State Participation Program allows local governments to build larger regional projects to take advantage of economies of scale with fewer overall direct environmental impacts. To keep projects from being a burden to local rate payers, the State bears the cost of reserved capacity until local residents are able to pay back the loan with revenues generated from an expanded customer base. As growth occurs, and more of the capacity is needed, TWDB sells its share of the capacity to the project's owner. TWDB uses money from the sale to retire the State's debt or finance other projects. An example of a project funded by the State Participation Program is described in the textbox, *Brazos River Authority State Participation Project*.

Economically Distressed Areas Program - In 1989, the Legislature passed comprehensive legislation that established the Economically Distressed Areas Program (EDAP). EDAP offers grants and loans to political subdivisions for the planning, design, and construction of water and wastewater infrastructure to assist economically distressed areas, where present services are inadequate to meet the minimal needs of residents.

EDAP funds are available to political subdivisions located within counties adjacent to the Texas-Mexico border, or within counties with qualifying income and unemployment levels. The textbox, *EDAP Funding Eligibility Criteria*, summarizes the requirements to participate in the EDAP program.

Currently, 48 counties are eligible for EDAP funding. Surveys conducted in 1992 and 1996 identified 1,495 economically distressed areas, with approximately 392,000 estimated residents. Projections of projects completed, or in progress, indicate that an estimated 253,000 residents will receive adequate water or wastewater services, or both, when the program is complete. Appendix E, illustrates the counties that are eligible to receive funding under this program on September 1, 2000.

EDAP financial assistance may be awarded to political subdivisions in the form of loans, grants, or a combination of the two. EDAP is the only TWDB financial assistance program funded from general

Brazos River Authority State Participation Project

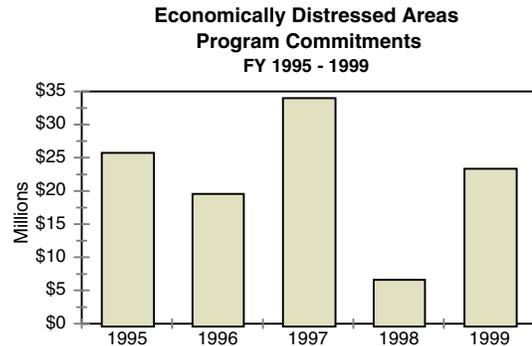
Williamson County, which is within the Brazos River Authority's service area, is one of the fastest growing population centers in the state and needed a supplemental source of water to meet its growing demand. However, the county's population at the time could not afford the necessary infrastructure to meet future demand. To solve the dilemma, TWDB committed \$20 million in 1999 to purchase a share of the proposed 28 mile pipeline from Stillhouse Hollow Reservoir to Lake Georgetown. With the State's participation in this project, the Brazos River Authority was able to build one pipeline that will meet the water demands of the county as it grows. Without the State's participation, the river authority probably would have had to build two smaller pipelines - one now and another later as the population grew. TWDB estimates that the taxpayers of Williamson County saved an estimated \$21.4 million dollars due to the State's participation.

EDAP Funding Eligibility Criteria

- Counties must have an unemployment rate 25 percent above the state average and a per capita income 25 percent below the state average or be adjacent to the Mexico border.
- Counties must adopt and enforce Model Subdivision Rules.
- Area to be served must lack adequate water or wastewater service and the financial resources necessary to obtain adequate service.
- The area to be served must have been established as a residential development as of 1989.
- To receive greater than 50 percent of the projected costs in the form of a grant, the Texas Department of Health must find conditions in the area dangerous to public health.
- Political subdivisions must be participating in TNRCC's program to regulate on-site waste disposal facilities.

obligation bonds that is authorized by the Legislature to provide financial assistance in the form of grants. Up to 90 percent of EDAP-authorized bonds may be given as grants. The debt service on these bonds is then repaid through legislative appropriations.

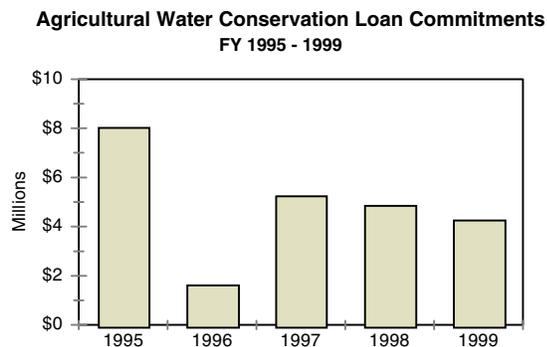
Commitments from this program over the last five years are illustrated in the chart, *Economically Distressed Areas Program Commitments – FY 1995 - 1999*.



Agricultural Water Conservation Loan Program

The Legislature established the Agricultural Water Conservation Loan Program in 1989. This fund allows TWDB to issue up to \$200 million in general obligation bonds for agricultural water conservation projects.

Another source of funding for this program in the past has been Oil Overcharge Funds appropriated to the agency. Through this program, the agency can make low-interest loans to soil and water conservation districts, irrigation districts, and underground water conservation districts. These lender districts may then loan funds to individual farmers. TWDB also makes loans to irrigation and water districts for the improvement, construction, or purchase of district facilities. Commitments from this program over the last five years are illustrated in the chart, *Agricultural Water Conservation Loan Commitments – FY 1995 - 1999*.

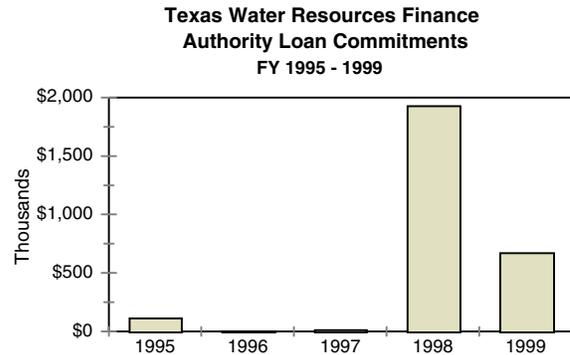


Texas Water Resources Finance Authority

The Legislature created the Texas Water Resources Finance Authority in 1987 to increase the availability of financing to TWDB. The Authority is composed of the members of the Texas Water Development Board, but the Authority has not been used as a financial assistance program like those described above. Instead, it is a strategy for generating additional revenue to fund TWDB's financial assistance programs.

In 1989, the Authority issued \$511 million in revenue bonds to purchase the general obligation debt held by TWDB, freeing up about \$41 million for other Board program purposes. These additional proceeds were applied to the agency's financial assistance programs to fund grants, loans, and state participation in regional water supply and wastewater treatment

projects. In addition to the initial payment, TWDB benefits from excess cash flows resulting from the original transaction. These excess cash flows have been primarily appropriated by the Legislature to pay debt service on EDAP general obligation bonds. TWDB has also used this cash flow to pay its operating expenses and make loans to political subdivisions for water and wastewater infrastructure projects, as illustrated in the chart, *Texas Water Resources Finance Authority Loan Commitments – FY 1995 - 1999*. TWDB staff administer the program, paying and collecting debt and servicing loans, ensuring the continued integrity of financial assistance projects.



Federally-Subsidized Assistance

TWDB offers financial assistance programs funded in part by federal grant money, with the State providing matching funds. TWDB's Clean Water State Revolving Fund is the second largest in the nation, with more than \$2.5 billion in cumulative loan commitments. TWDB's Drinking Water State Revolving Fund, established in 1996, has already provided \$72.3 million in cumulative loan commitments. Other federally-subsidized programs administered by TWDB are the Colonias Wastewater Treatment Assistance Program and the Colonias Plumbing Loan Program.

Through federal and state funds, TWDB has provided \$2.5 billion for water quality projects and \$72.3 million for drinking water projects.

Clean Water State Revolving Fund

Created by Congress in 1987, the Clean Water State Revolving Fund provides a combination of federal and state funds for financial assistance to political subdivisions for the construction and improvement of wastewater treatment works, including projects to control stormwater and nonpoint source water pollution. Originally administered by the U.S. Environmental Protection Agency (EPA) as a grant program, the program is now delegated to the Board as a subsidized loan program in partnership with EPA. The Clean Water State Revolving Fund offers political subdivisions of the state:

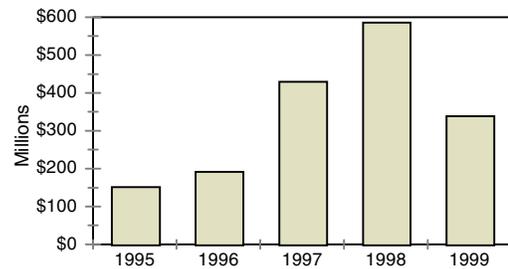
- below-market interest rate loans for the planning, design, and construction of wastewater treatment works; and
- below-market interest rate loans for the implementation of federal Nonpoint Source Pollution and National Estuary Pollution Control Programs.

EPA requires TWDB to develop a priority list of projects annually detailing how available funds will be allocated.

All political subdivisions of the state with authority to own and operate wastewater systems, except nonprofit water supply corporations, are eligible for financial assistance from this program. Funds are allocated annually according to water quality priorities. EPA requires

TWDB to develop a priority list of projects annually detailing how available funds will be allocated in the upcoming fiscal year. To create the priority list, projects are ranked in six population categories, a nonpoint source category, and a rural community hardship category. Once TWDB receives federal funding, it makes financial assistance commitments to entities according to their ranking on the priority list. Commitments from this Fund over the last five years are illustrated in the chart, *Clean Water State Revolving Fund Commitments – FY 1995 - 1999*.

**Clean Water State Revolving Fund Commitments
FY 1995 - 1999**



To support the Board's Clean Water State Revolving Fund program, EPA allocates grant money for an On-site Technical Assistance Program, providing technical services to wastewater managers in small communities. TWDB's On-site Technical Assistance Program provides free consultations, evaluations by a certified operator, and the loan of agency equipment to identify wastewater collection system problems. This service is voluntary, at no cost to cities with a population of less than 25,000, and is provided on a first-come, first-served basis.

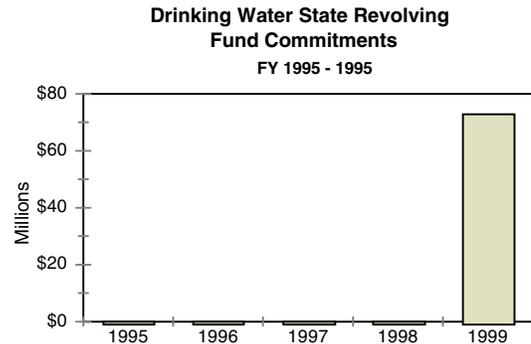
Drinking Water State Revolving Fund

The Drinking Water State Revolving Fund helps communities bring their water systems into compliance with drinking water standards.

The Drinking Water State Revolving Fund, created in 1996, provides a combination of federal and state funds to communities to bring water systems into compliance with drinking water standards. Funding can also be used for source water protection projects. The revolving fund offers below-market interest rate loans to public water systems for the planning, design, and construction of drinking water supply projects, and subsidies, including forgiveness of loan principal, to systems qualifying as disadvantaged communities.

Eligible entities include political subdivisions, water supply corporations, investor-owned utilities, and nonprofit non-community water systems. Funds are allocated annually according to priorities established by EPA. TNRCC ranks drinking water projects according to environmental benefit and public health and safety needs. Federal funding guidelines also require that a reasonable effort is made to award at least 15 percent of the funds

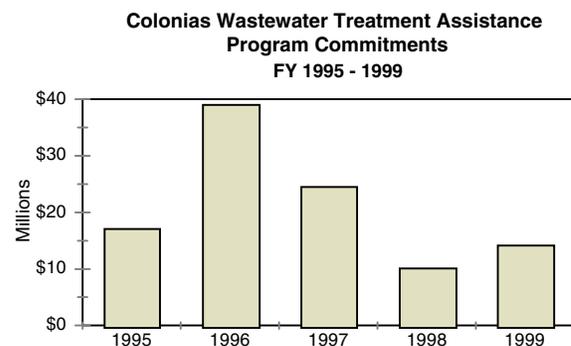
to public water systems serving fewer than 10,000 people. Once TWDB receives federal funding, it makes financial assistance commitments to entities according to their ranking on the priority list. Commitments from this Fund over the last five years are illustrated in the chart, *Drinking Water State Revolving Fund Commitments – FY 1995 - 1999*.



Colonias Wastewater Treatment Assistance Program

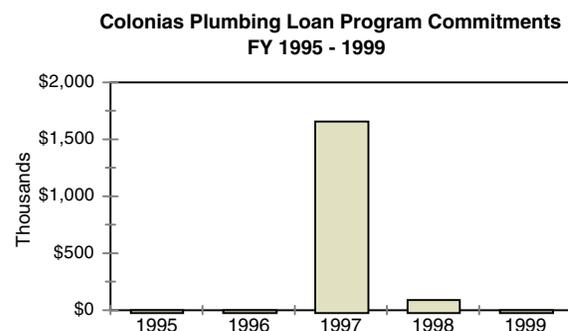
In 1992, EPA designated TWDB to administer the \$300 million federal Colonias Wastewater Treatment Assistance Program. The program provides grants to finance eligible water and wastewater construction projects in economically distressed areas of the state. TWDB is required to contribute a state match. The Board is authorized to use EDAP-authorized general obligation bonds for the state match, which varies between 17 and 50 percent of the federal appropriation.

Entities eligible to receive funding from this program are political subdivisions and nonprofit water supply corporations in counties within 100 kilometers of the Mexico border. The county must adopt model rules for the regulation of subdivisions before applying for financial assistance. In addition, areas to be served must lack adequate water and wastewater service, lack financial resources to obtain adequate services, and be established as residential subdivisions as of 1989. Applicants are considered on a first-come, first-served basis. Commitments from this program over the last five years are illustrated in the chart, *Colonias Wastewater Treatment Assistance Program Commitments – FY 1995 - 1999*.



Colonias Plumbing Loan Program

TWDB also administers an EPA-funded loan program for plumbing improvements and connections, called the Colonias Plumbing Loan Program. Created in 1989 with a \$15 million federal grant, the program offers low-interest loans to political subdivisions and nonprofit water supply corporations. These entities then offer loans to colonia residents for connections to water and wastewater systems, and installation of necessary plumbing improvements within their homes. Commitments from this program over the last five years are illustrated in the chart, *Colonias Plumbing Loan Program Commitments – FY 1995 - 1999*.



Colonia residents in twelve counties along the Texas-Mexico border are eligible for funds through this program. To be eligible, the city or county where the customer resides must have adopted model rules for the regulation of subdivisions. The maximum loan amount per household is \$4,000, unless an applicant can document that costs are greater.

INFORMATION COLLECTION and DISSEMINATION

The third major function of TWDB is collecting and disseminating natural resource information. In 1997, the agency consolidated much of its information collection and dissemination efforts into its Resource Information Office. The creation of this office elevated data and information resource issues to a higher level within the agency and allowed the agency to take advantage of new technologies and resource management practices. The agency's information resources efforts center around the Texas Natural Resources Information System and water resources information function.

Texas Natural Resources Information System

Created in 1972, the Texas Natural Resources Information System (TNRIS) serves as an information clearinghouse and referral center for the state – making available an extensive collection of natural resources and socioeconomic data. TNRIS maintains a library of digital and paper data and provides information about data available from other sources. The textbox, *Information Available Through TNRIS*, lists some of the information distributed through TNRIS and its programs.⁵

Information Available Through TNRIS

- Aerial photographs
- Digital geospatial data
- United States Geological Survey topographic maps
- National Wetlands Inventory maps
- Federal Emergency Management Agency flood hazard maps
- River basin and aquifer maps
- U.S. Bureau of the Census reports, maps, and publications
- Precipitation, evaporation, and temperature records
- Geology, geohydrology, groundwater resources, water quality, well records, irrigation, and other water resources information

TNRIS is unique in that it operates as an administrative unit of TWDB, but also works on a daily basis with the 44 members of the Texas Geographic Information Council and is guided by their recommendations. TNRIS, along with the Texas Department of Information Resources, works under guidance from the Council to coordinate the use of geographic information and related technologies among federal, state, and other public sector entities. Appendix F lists the member entities of the Council.

Within TNRIS, two initiatives provide highly specialized data to the public – the Strategic Mapping Program and the Texas/Mexico Borderlands Data and Information Center. The Strategic Mapping Program, or StratMap, is a multi-year project using public and private funding designed to produce large-scale computerized base map information for the entire state. This project will document land features such as soils, elevation, water features, and man-made attributes like political boundaries and

roadways. The goal of StratMap is to produce consistent, standardized, compatible, statewide digital data for use by state agencies, universities, and other groups needing spatial data in Texas.

The Texas/Mexico Borderlands Data and Information Center is a clearinghouse and referral center for information regarding both sides of the border. This initiative is intended to promote communication and data sharing among entities on both sides of the border and thus help to protect the environment, public health, and well being of the border region.

Water Resources Information

TWDB's effort to integrate, process, and disseminate water resources information supports all agency goals and strategies. The agency's water resources information responsibilities also support external customers. TWDB provides these services through two programs – the Water Information Network and Facilities Needs section.

Senate Bill 1 created the Water Information Network to guide the development of a statewide water resource data collection and dissemination network. TWDB, working in coordination with federal, state, and local governments, institutions of higher education, and other interested parties, is developing a network of cooperators that collect water-related information and make it available over the Internet. Data collected through the Water Information Network helps TWDB respond to inquiries related to groundwater, surface water, evaporation, drought conditions, and water conservation. The Network also facilitates access to basic data and summary information concerning water resources by providing maintenance and programming for water resource databases.

The Facility Needs section is responsible for the collection, management, and distribution of information describing water and wastewater treatment facilities in Texas. Water and wastewater facility capacities and needs are recorded through facility needs surveys. EPA requires these surveys as part of its process to allocate funding to states through the Clean Water and Drinking Water State Revolving Funds. The results of these surveys are used to determine Texas' share of federal appropriated funding. Since 1972, approximately \$2.5 billion has been allocated to Texas based on this process.

StratMap is a multi-year project using public and private funding to produce computerized base map information for the entire state.

EPA requires TWDB to collect information describing water and wastewater facilities to determine Texas' share of federal funding.

¹ For more information about the regional water planning process, see TWDB's Web site at <http://www.twdb.state.tx.us/assistance/rwpg/main-docs/rwpg-main.htm>.

² TWDB, Office of Project Finance and Construction Assistance staff, "SER question," e-mail to Sunset Advisory Commission, October 16, 2000.

³ For more information about the programs described in this section, including application forms and guidance documents, see the Infrastructure Construction Financing section of TWDB's Web site at http://www.twdb.state.tx.us/assistance/assistance_main.htm.

⁴ Sunset Advisory Commission overview meeting with TWDB (Austin, Texas, June 6, 2000).

⁵ For more information about the Texas Natural Resources Information System, see their Web site at <http://www.tnris.state.tx.us/>.

APPENDICES

Appendix A

Key Dates in the History of TWDB and State Water Policy

- 1904** Texas voters approved a constitutional amendment authorizing the first public development of water resources in the state.
- 1913** The 33rd Texas Legislature created the Board of Water Engineers to regulate appropriations of water.
- 1953** The Thomas Committee recommended state financial assistance to local water projects, reorganization of the Board of Water Engineers, and preparation of a long-range water policy for the state.
- 1957** The Texas Water Development Board (TWDB) was created by legislative act and constitutional amendment following the most severe drought in the state's history. The amendment authorized the TWDB to issue \$200 million in State of Texas General Obligation Water Development Bonds for the conservation and development of Texas's water through loans to political subdivisions.
- 1965** The Texas Legislature restructured the state water agencies to form the Texas Water Resource Commission and transferred water resource planning functions to TWDB.
- 1967** The Texas Legislature mandated that the TWDB create and maintain the Texas Water-Oriented Data Bank.
- 1968** The first state water plan was adopted.
- 1972** The Texas Natural Resources Information System was created to serve as a central repository and clearinghouse of maps, and collect and disseminate census and water-related information.
- 1977** The Texas Legislature combined the State's water-related agencies – TWDB, Texas Water Rights Commission, and Water Quality Board – creating the Texas Department of Water Resources (TDWR).
- 1978** The U.S. Environmental Protection Agency (EPA) delegated the Construction Grant Program to TDWR. This program ultimately awarded approximately \$1.7 billion in grants for water and wastewater infrastructure to Texas communities.
- 1985** Sunset legislation reorganized TDWR into two separate agencies, the Texas Water Commission and the Texas Water Development Board. TWDB retained the responsibility for long-range planning and water project financing.
- 1987** Amendments to the federal Clean Water Act phased out the Construction Grant Program and created the Clean Water State Revolving Fund. TWDB became the administrator of this program.
- 1989** The Texas Legislature, with voter approval of a constitutional amendment, created the Economically Distressed Areas Program.
- 1992** The Texas Legislature directed TWDB to establish the Texas Water Bank to facilitate the transfer, sale or lease of water and water rights throughout the state.

Appendix A

Key Dates in the History of TWDB and State Water Policy

- 1996** Amendments to the federal Safe Drinking Water Act created the Drinking Water State Revolving Fund to finance public water supply projects. TWDB became the administrator of this program.
- 1997** The Legislature adopted Senate Bill 1, which changed the water planning process in Texas by creating regional entities to prepare regional water plans every five years and by charging TWDB with incorporating these plans into a comprehensive state water plan.
- 1998** TWDB adopted rules designating regional water planning areas and laying guidelines for the planning process.
- 2000** Initial drafts of the 16 regional water plans were submitted to TWDB for review.

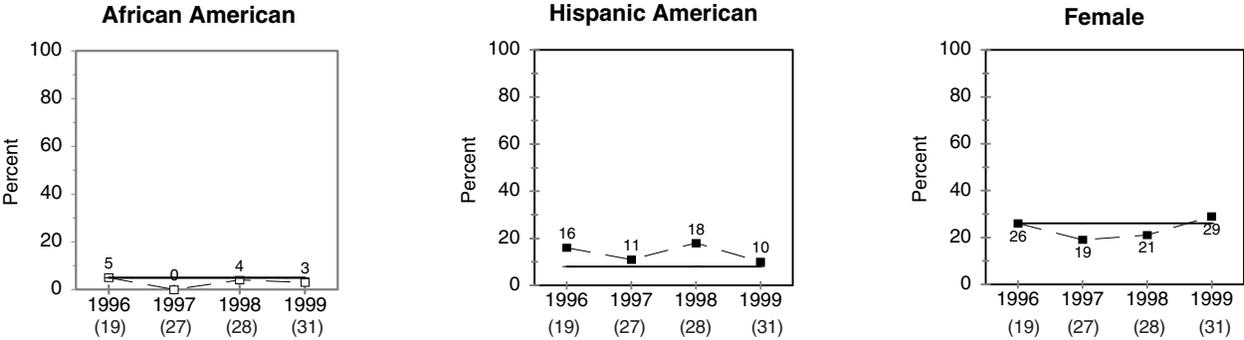
Appendix B

Equal Employment Opportunity Statistics

1996 to 1999

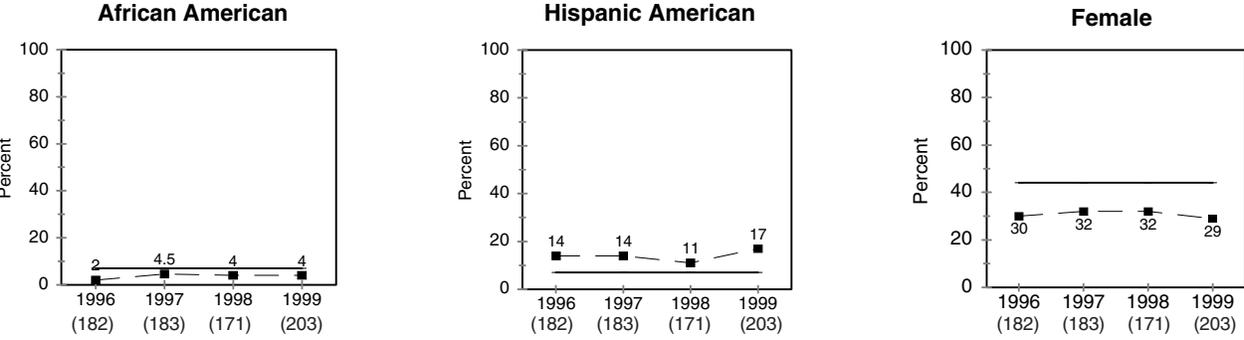
In accordance with the requirements of the Sunset Act,¹ the following material shows trend information for the agency's employment of minorities and females. The agency maintains and reports this information under guidelines established by the Texas Commission on Human Rights.² In the charts, the flat lines represent the percentages of the statewide civilian labor force that African Americans, Hispanic Americans, and females comprise in each job category. These percentages provide a yardstick for measuring agencies' performance in employing persons in each of these groups. The dashed lines represent the agency's actual employment percentages in each job category from 1996 to 1999. Finally, the number in parentheses under each year shows the total number of positions in that year for each job category.

State Agency Administration



The agency generally met the civilian labor force percentages for this job category in 1999.

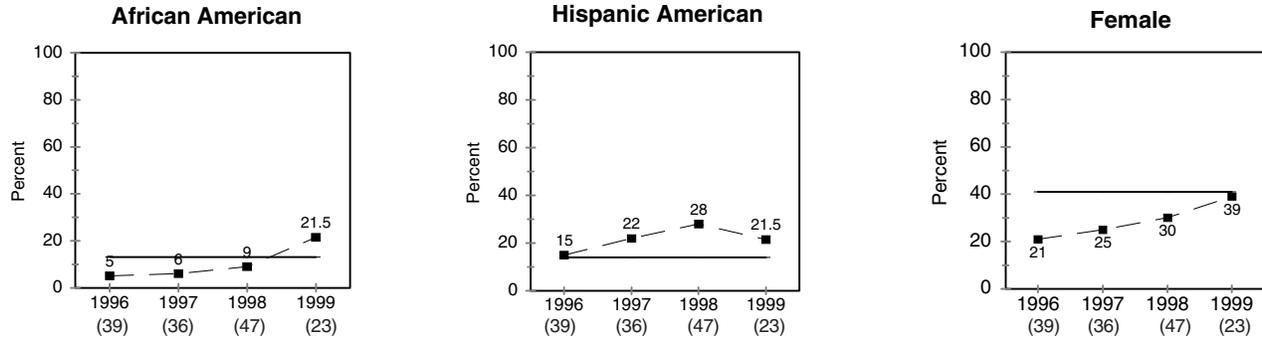
Professional



While the agency exceeded the percentage for Hispanic-Americans, it fell short of the percentages for African-Americans and females.

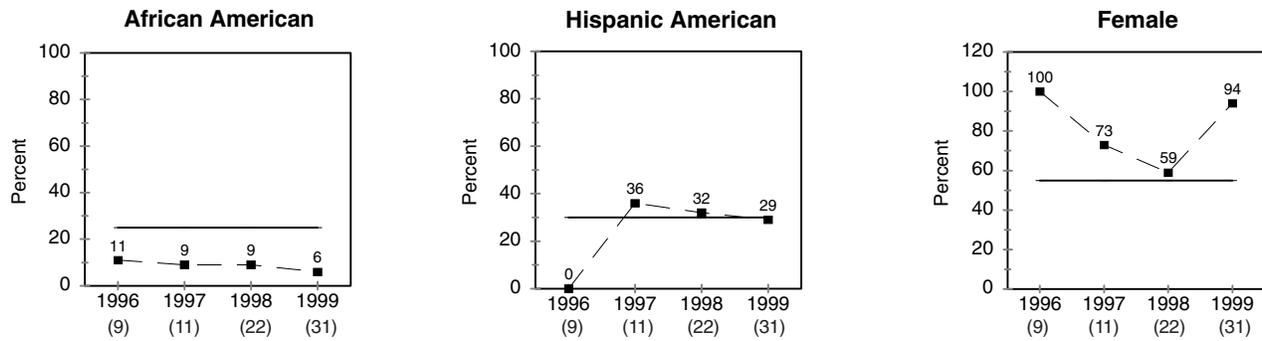
Appendix B

Technical



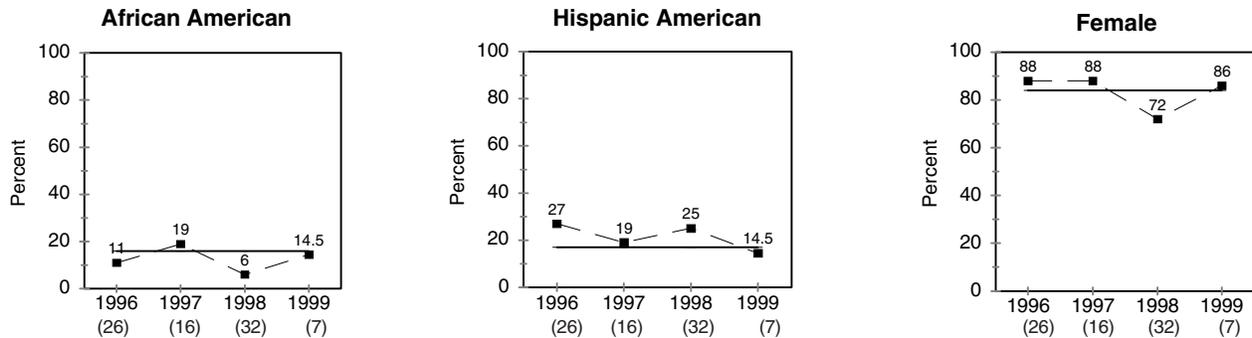
The agency exceeded the civilian labor force percentage for Hispanic-Americans and made improvements in its percentages of African-Americans and females.

Paraprofessional



The agency exceeded the civilian labor force percentage for females by a wide margin and generally met the percentage for Hispanic-Americans, but it fell short of the percentage for African-Americans.

Administrative Support



The agency generally met the civilian labor force percentages for this job category.

¹ Texas Government Code Ann., ch. 325, sec. 325.011(9)(A).

² Texas Labor Code Ann., ch. 21, sec. 21.501 (formerly required by rider in the General Appropriations Act).

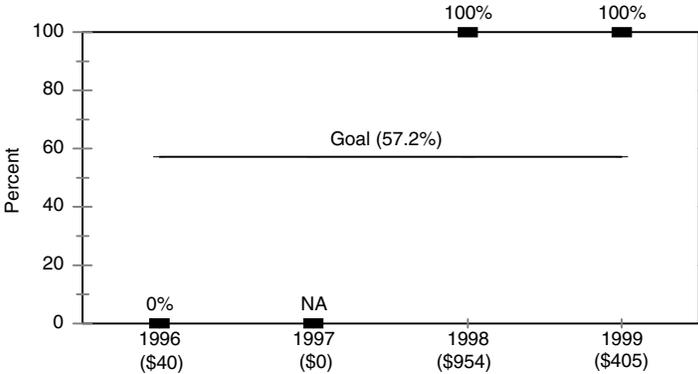
Appendix C

Historically Underutilized Businesses Statistics

1996 to 1999

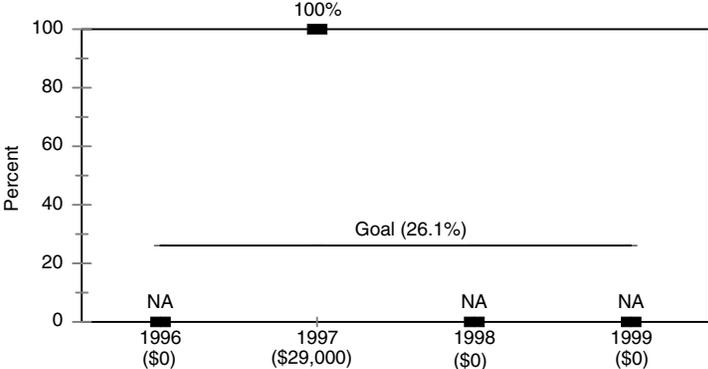
The Legislature has encouraged state agencies to use Historically Underutilized Businesses (HUBs) to promote full and equal opportunities for all businesses in state procurement. In accordance with the requirements of the Sunset Act,¹ the following material shows trend information for the agency's use of HUBs in purchasing goods and services. The agency maintains and reports this information under guidelines in the General Services Commission's enabling statute.² In the charts, the flat lines represent the goal for each purchasing category, as established by the General Services Commission. The dashed lines represent the agency's actual spending percentages in each purchasing category from 1996 to 1999. Finally, the number in parentheses under each year shows the total amount the agency spent in each purchasing category.

Special Trade



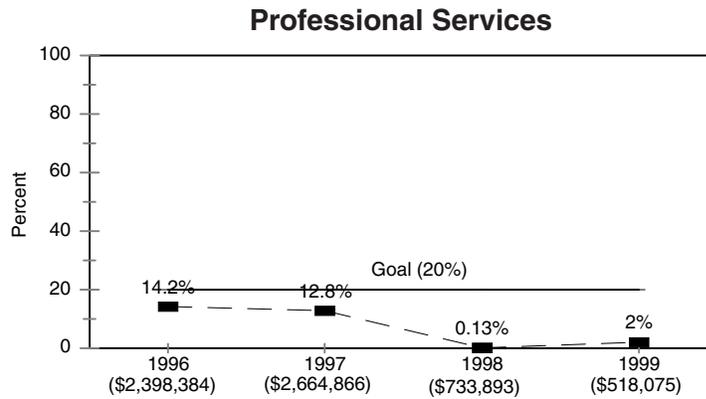
The agency made all of its purchases in this category from HUBs in 1998 and 1999.

Building Construction

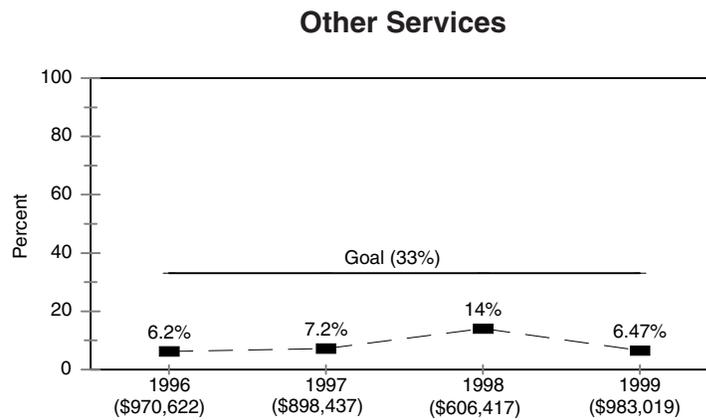


The agency made all of its purchases for building construction from HUBs in 1997. The agency made no purchases in this category in 1996, 1998, and 1999.

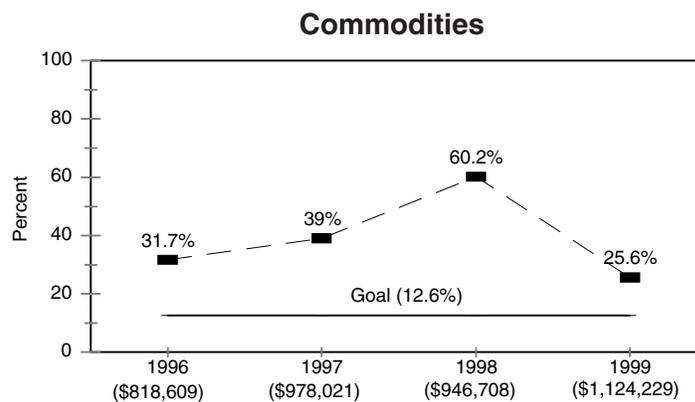
Appendix C



The agency fell below the state goal from 1996 to 1999.



The agency fell below the state goal from 1996 to 1999.



The agency significantly exceeded the state goal from 1996 to 1999.

¹ Texas Government Code Ann., ch. 325, sec. 325.011(9)(B) (Vernon 1999).

² Texas Government Code Ann., ch. 2161. (some provisions were formerly required by rider in the General Appropriations Act).

Appendix D

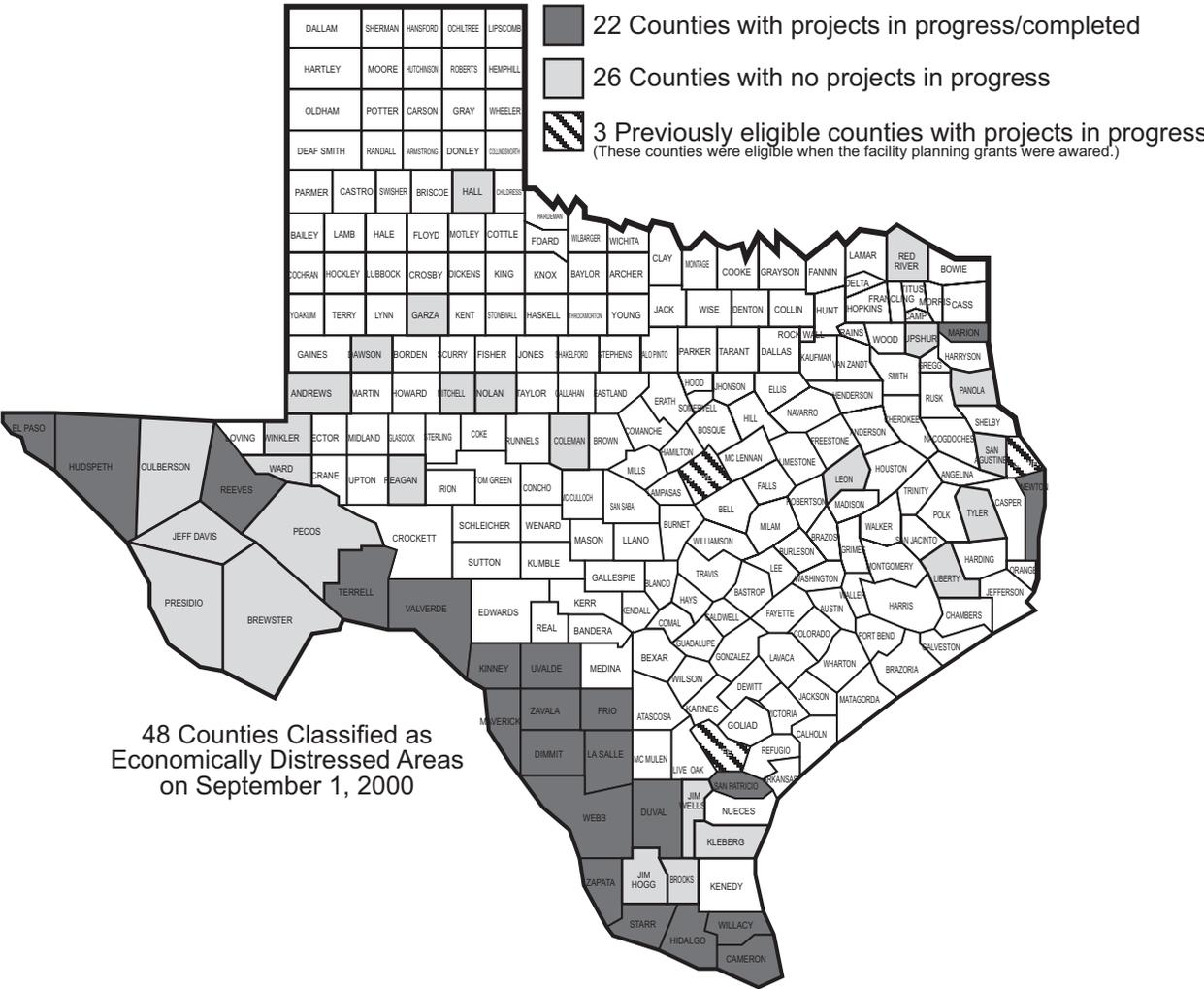
Financial Assistance Programs						
State-Financed Programs						
Fund/Program	Purpose	Creation Date	Method of Finance	Eligible Entities	Method of Allocation	
Agricultural Water Conservation Loan Program	Loans to purchase and install more efficient irrigation equipment and for precipitation enhancement and brush control activities.	1989	General obligation bonds, \$200 million authorized to date.	Groundwater districts, irrigation districts, and soil and water conservation districts.	First come, first served.	
Water Development Fund II	Financial Assistance	1957	General obligation bonds, \$2.48 billion for Water Development Fund II. \$250 million of this bond authorization is designated for EDAP projects.	Political subdivisions and nonprofit water supply corporations.	First come, first served.	
	State Participation	1985	State purchases up to 50% interest in reservoir, regional water or wastewater, and flood control basin projects.	Political subdivisions and nonprofit water supply corporations.	First come, first served.	
	Economically Distressed Areas Program (EDAP)	1989	Loans and grants for water and wastewater projects in designated areas.	Political subdivisions serving economically distressed areas as defined by statute.	First come, first served. Nearly all money has already been allocated.	

Appendix D

Financial Assistance Programs							
Federally-Subsidized Programs							
Program	Purpose	Creation Date	Federal Funds Available	State/Federal Match Ratio	Eligible Entities	Method of Allocation	
Clean Water State Revolving Fund	Loans for planning, design, and construction of wastewater projects and nonpoint source pollution control.	1987	\$61.5 million in FY 1999. Annual allocation is based on federal funding formulas and Congressional appropriations.	16.67/83.33 TWDB uses general obligation bonds to meet this match and provides additional funds through revenue bonds.	Political subdivisions.	State-developed priority system. Funding allocated on an annual cycle.	
Drinking Water State Revolving Fund	Loans (and loan forgiveness to disadvantaged communities) to bring public water systems into compliance with federal drinking water regulations.	1996	\$56.5 million in FY 1999. Annual allocation is based on federal funding formulas and Congressional appropriations.	16.67/83.33 TWDB uses general obligation bonds to meet this match. Additionally, the Legislature appropriated \$12.4 million in General Revenue to this program for the FY 1998-1999 biennium.	Community water systems, including private systems and nonprofit, non-community systems.	Federally-mandated priority systems. Funding allocated on an annual cycle.	
Colonias Wastewater Treatment Assistance Program	Grants for planning, design, and construction of water and wastewater projects for economically distressed areas near the Texas/Mexico border.	1992	\$300 million over life of program. TWDB can draw down these funds as needed.	50/50 or 16.67/83.33 depending on the grant program. TWDB uses general obligation bonds authorized under EDAP to meet this match.	Political subdivisions and nonprofit water supply corporations in eligible counties.	First come, first served.	
Colonias Plumbing Loan Program	Loans for indoor plumbing improvements and hook-ups to infrastructure.	1989	\$15 million over life of program. TWDB can draw down these funds as needed.	No state match required.	Political subdivisions and nonprofit water supply corporations within 12 eligible counties along the Texas/Mexico border.	First come, first served.	

Appendix E

Economically Distressed Areas



Appendix F

Texas Geographic Information Council Membership

State Agencies

Texas Department of Agriculture
Office of the Attorney General
Commission on State Emergency Communications
Office of the Comptroller of Public Accounts
Office of Court Administration
Texas Department of Criminal Justice
Texas Department of Economic Development
Texas Education Agency
Texas Forest Service
General Land Office
General Services Commission
Office of the Governor
Health and Human Services Commission
Texas Department of Health
Texas Historical Commission
Texas Department of Housing and Community Affairs
Texas Department of Human Services
Department of Information Resources
Texas Department of Insurance
Texas Legislative Council
Office of the Lieutenant Governor
Texas Natural Resource Conservation Commission
Texas Natural Resources Information System
Texas Parks and Wildlife Department
Public Utility Commission
Railroad Commission
Texas Rehabilitation Commission
Texas State Occupational Information Coordinating Committee
Texas State Soil and Water Conservation Board
Texas Department of Transportation
Texas Water Development Board

State Associations

Texas Association of Counties
Texas Association of Regional Councils
Texas Mapping Advisory Committee

Appendix F

Texas Geographic Information Council Membership

State Universities

Texas A&M University - Blackland Research and Extension Center

Texas A&M University - Texas Agricultural Extension Service

Texas A&M University - Department of Forestry Science, Spatial Sciences Lab

Sam Houston State University

Southwest Texas State University

Stephen F. Austin State University

Texas Tech University

University of Texas at Austin - Bureau of Economic Geology

University of Texas at Austin - Center for Space Research

Federal Agencies

United States Geological Survey – National Mapping Division

Appendix G

Staff Review Activities

The Sunset staff engaged in the following activities during the review of TWDB.

- Worked extensively with TWDB executive management and staff at the Austin headquarters and with staff in the Harlingen field office.
- Attended public meetings of the Board.
- Met with staff of the Speaker's Office, Lieutenant Governor's Office, Secretary of State's Office, State Auditor's Office, Legislative Budget Board, Governor's Office of Budget and Planning, legislative committees, and key legislators' offices.
- Talked with staff of the Texas Natural Resource Conservation Commission, Department of Information Resources, Texas Department of Housing and Community Affairs, Railroad Commission, Bond Review Board, Texas Parks and Wildlife Department, and Soil and Water Conservation Board regarding shared activities.
- Toured TWDB-financed facilities and met with political subdivisions that have received financial assistance from TWDB in the Lower Rio Grande Valley, Bell County, and San Antonio. Visited several colonias in Hidalgo County.
- Talked with public interest groups, engineering consultants, and entities that have received financial assistance from TWDB in the Lower Rio Grande Valley and the Austin area.
- Met with representatives of the Frank M. Tejada Center for Excellence in Environmental Operations, North American Development Bank, Texas Irrigation Council, and Lower Rio Grande Development Council.
- Attended public meetings of the South Central Texas, Brazos G, and Lower Colorado River Regional Water Planning Groups. Met with a representative of the Rio Grande Regional Water Planning Group.
- Attended a Texas Water Monitoring Congress meeting, GIS software user's conference, Texas Geographic Information Council steering committee meeting, and Texas Border Infrastructure Group meetings.
- Solicited written comments from state and local interest groups, including representatives of political subdivisions that have participated in TWDB's programs, Regional Water Planning Groups, and other interested parties, regarding their ideas and opinions about the State's water planning and financing role.
- Researched and surveyed other states regarding the structure and programs of agencies with common functions.
- Reviewed agency documents, reports, and rules, state and federal statutes, State Constitution, legislative reports, previous legislation, literature on water planning and infrastructure financing, other states' information, and information available on the Internet.

**SUNSET REVIEW OF THE
TEXAS WATER DEVELOPMENT BOARD**

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