



October 1, 2002

To: The Honorable Rick Perry, Governor of Texas
The Honorable Bill Ratliff, Lieutenant Governor of Texas
The Honorable James E. "Pete" Laney, Speaker of the House of Representatives
The Honorable Robert L. Duncan, Acting Chair, Senate Natural Resources Committee
The Honorable David Counts, Chair, House Natural Resources Committee

The 2002 State Water Plan is a significant first step toward realizing the Texas Legislature's vision, as expressed with the enactment of Senate Bill 1 in 1997, to produce a locally and regionally developed plan to meet the future water supply needs of all Texans, even during conditions of severe drought.

The 2002 State Water Plan incorporates 16 Regional Water Plans that collectively identify approximately \$18 billion in key water management strategies and projects to meet Texas' water supply needs through 2050. A common thread in the development of recommendations in the regional water planning process is a desire to implement the plans in a way that ensures that the future needs of all Texans are met. Without implementation, Texans clearly will not have the ability to meet their future water needs.

Although local governments, regional authorities, and other political subdivisions will play an important role in paying for the estimated \$18 billion in strategies and projects, many communities will be unable to afford it alone. Senate Bill 2, enacted by the Texas Legislature in 2001, directed the 16 Regional Water Planning Groups to examine the financing needed for their regions to implement the water management strategy projects identified in the 2002 State Water Plan and to formally report their findings to the Texas Water Development Board.

The 16 Regional Infrastructure Financing Reports were submitted to the Texas Water Development Board by June 1, 2002 as mandated by Senate Bill 2. The Texas Water Development Board reviewed these reports and consulted with potentially impacted groups and other interested persons regarding the information reported and the recommendations made by the Regional Water Planning Groups. While careful scrutiny was given to the information in the 16 Regional Infrastructure Financing Reports, the reported data is dependent upon local political subdivisions' representations of their own ability to pay for needed projects. The short time frame provided to develop the Infrastructure Financing Report did not enable the Texas Water Development Board the opportunity to evaluate this information in great detail for each political subdivision. Therefore, the funding needs discussed in this report are primarily a reflection of the desires of the local political subdivisions. However, the Texas Water Development Board does provide an alternative evaluation that results in funding needs that are significantly more conservative. In the future, the Texas Water Development Board will establish necessary guidelines for the Regional Infrastructure Financing Reports to ensure that data is available to allow more detailed evaluations.

The Board respectfully transmits this report, consisting of the 16 Regional Infrastructure Financing Reports and the Board's "analysis of and recommendations regarding" the Regional Infrastructure Financing Reports, to the Texas Legislature.

Wales H. Madden, Jr., Chairman

J. Kevin Ward, Executive Administrator

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Executive Summary

In January 2002, the Texas Water Development Board (TWDB) released the first State Water Plan that was based on a bottom-up planning approach. *Water for Texas – 2002* documented significant capital costs for implementing water management strategies to meet the water supply needs of all Texans for the next 50 years. TWDB conducted an analysis of funding needs, taking into consideration known information regarding a political subdivision's ability to pay for its needed water projects. This analysis demonstrates that the State may need to invest a minimum of \$503.1 million in new water supply projects in the next decade to help implement State Water Plan projects. Expressed in terms of the next biennium, approximately \$130.7 million may be needed to provide funding for projects. The TWDB assumes that the balance will be paid for locally.

TWDB conducted these analyses separate from the information reported because of known changes in conditions that have a direct bearing on the reported funding needs. For example, new regional water authorities with the ability to raise revenues to support water infrastructure development have been established. These authorities are not currently reflected in the State Water Plan. Other issues related to changes in population projections also have a direct bearing on the projects recommended and hence the funding needs for implementation of recommended projects. These are important developments that must be considered by the Legislature as the members deliberate on potential funding solutions. The following paragraphs characterize the reported funding shortfall from the perspective of the local political subdivisions and the 16 Regional Water Planning Groups (Planning Groups).

According to TWDB's analysis of estimated funding needs represented by the local political subdivisions and the 16 Planning Groups, the State would need to invest a minimum of \$820 million in new water supply projects in the next decade. The estimate is based on information reported by surveyed political subdivisions pursuant to Senate Bill 2 (77th Legislative Session) wherein political subdivisions were asked to evaluate their own ability to pay for specific strategies recommended in the State Water Plan. It also includes TWDB estimates of funding needs for project costs not captured by a survey response using the same ratio of cost to needs as reported by the political subdivisions. In connection with this process, TWDB was not able, in the short time provided, to evaluate whether these numbers accurately reflect the ability to pay for any of the surveyed political subdivisions. This analysis must be done in the future in order to estimate actual funding needs. Future affordability evaluations must be completed for surveyed political subdivisions, taking into account the local economic climate, past ability to pay, tax and utility rates, and other appropriate factors. Thus, the funding needs discussed in this report are likely to change over time as planning cycles proceed.

Approximately \$18 billion in key water management strategies and projects are identified in the 2002 State Water Plan to meet Texas' water supply needs through 2050. Of this amount, approximately \$16.2 billion will be the responsibility of local political subdivisions that provide water for municipal uses and \$575 million will be the responsibility of political subdivisions and individuals for use in irrigated agriculture. The remaining \$1.2 billion consists primarily of capital costs associated with water supply projects to meet the future needs of mining,

manufacturing, and electric power generation interests. These capital costs are expected to be borne by individual and private funding sources.

To help identify financing needs resulting from the State Water Plan, the 77th Texas Legislature, through Senate Bill 2, directed the State's 16 Planning Groups to report the following information to the TWDB in the form of an Infrastructure Financing Report:

- (1) How local governments, regional authorities, and other political subdivisions in the region propose to pay for water infrastructure projects identified in the 2002 State Water Plan; and
- (2) What role the Planning Group proposes for the State in financing projects identified in the 2002 State Water Plan, giving particular attention to proposed increases in the level of State participation in funding regional projects.

The Planning Groups conducted a survey of political subdivisions to identify the financing needed to implement municipal water supply projects in the 2002 State Water Plan. TWDB's analysis of the survey responses estimates that political subdivisions represent they can pay for only \$8.9 billion of the \$16.2 billion in capital costs for municipal water supply projects, resulting in a shortfall of \$7.3 billion over the next 50 years. Expressed in terms of the next three biennia (2004-2009), the political subdivisions represent that there is a funding shortfall of \$4.0 billion.

All 16 Planning Groups see a need for an expanded State role in financing the water supply projects identified in the 2002 State Water Plan. The Planning Groups suggest a number of approaches the Texas Legislature could consider to provide the resources necessary to bridge the \$4.0 billion financing shortfall. These approaches include dedicated funding generated by a tax on the sale of bottled water, appropriation of general revenues, and expanded use of general obligation bonds. In addition, the Planning Groups suggest numerous program changes, such as offering incentives for small system participation in regional projects, supporting research and development of desalination and other non-traditional technologies, and extending the repayment terms in the TWDB's State Participation Program.

To address the political subdivisions' reported \$4.0 billion financing gap and enable implementation of needed water management strategies and projects before the end of this decade, the Planning Groups report that political subdivisions will require a financial assistance mix of roughly two-thirds grants and one-third loans below currently available interest rates.

In order to assess what it would take to fill the \$4.0 billion shortfall using state resources over the next three biennia, TWDB staff analyzed various funding scenarios. In some cases, TWDB assumed no changes to current law and in others, current law was presumed to be changed to better address funding needs.

Results of the analyses for municipal water supply projects indicate that a range of \$820 million to over \$3 billion in cash appropriations would potentially be needed to address the funding shortfall in the next decade. In addition, the analyses indicate that the TWDB would use its bond authority in a range from \$808 million through the 2008-2009 biennium to full depletion of its authority by the 2006-2007 biennium.

Results of the analyses for agricultural water supply projects indicate \$133.2 million would potentially be needed to address the shortfall in the next decade.

Therefore, based upon the information represented by the Planning Groups, the total amount of state cash potentially needed to fund the entire shortfall in the next decade for municipal and agricultural water supply projects ranges from \$820 million to over \$3.3 billion.

The role and goal of state assistance has yet to be established within the context of the 2002 State Water Plan. Current TWDB financial assistance programs appear to have most of the legal authority to address proposed water management strategies. However, because of financial limitations, current funding sources may not be a good fit to ensure accessibility to the respective water users. From an administrative perspective, for example, a bond program is the most accessible state program. However, it provides the least amount of benefit. This type of program does not provide the types of deep subsidies that the Planning Groups report is needed to address the funding shortfall in the next three biennia.

Recommendations in the regional water plans and in the Regional Infrastructure Financing Reports suggest that the State should have a broader role in providing funding for water projects. This role includes additional funding sources such as cash appropriations, dedicated revenue sources, and additional bond authorization. Without these additional resources, the political subdivisions believe that implementation of the strategies and projects recommended in the State Water Plan will be difficult to achieve.

It is important to note that this is the first Infrastructure Financing Report since the adoption of the State Water Plan. Updates to this report will be provided with the State Water Plan every five years. Based on the information reported in the financing surveys, it is evident that there is great variation in how local political subdivisions responded to survey questions. The TWDB will work with the Planning Groups to ensure that future Infrastructure Financing Reports provide more information regarding ability to pay so that a detailed analysis related to past and future trends in affordability can be evaluated and reported. This will help the TWDB to better estimate the amount of the funding shortfall in future biennia.

Map of the Regional Water Planning Groups

Map of the Regional Water Planning Groups

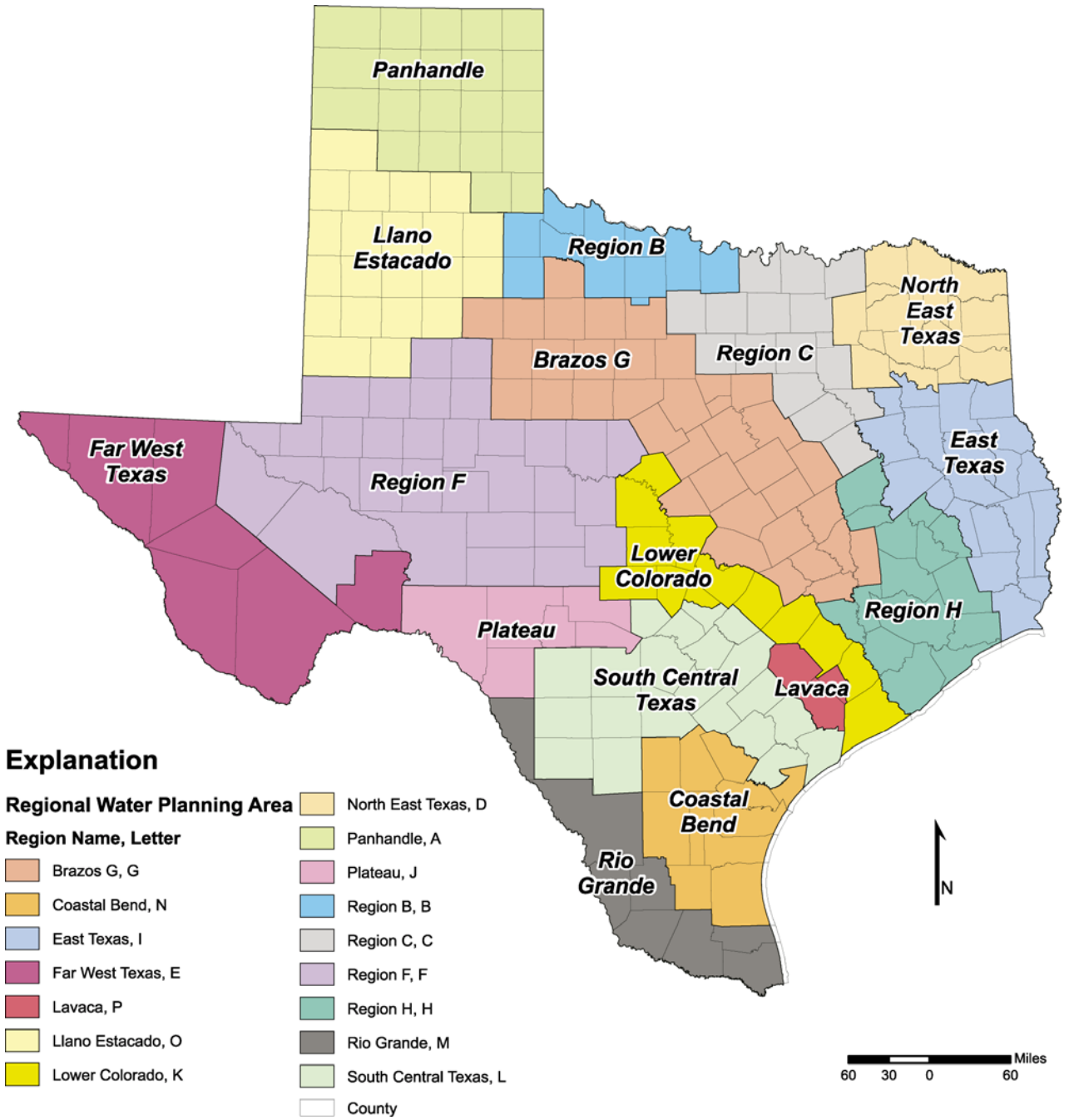


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Introduction

In January 2002, the Texas Water Development Board (TWDB) released the first State Water Plan since the passage of Senate Bill 1 (75th Legislature). The significance of the 2002 State Water Plan is that it is founded on 16 regional water plans developed by citizen volunteers from all across Texas. No previous State Water Plans were developed using a bottom-up planning approach. *Water for Texas – 2002* documents significant capital costs for implementing water management strategies to meet the water supply needs of all Texans for the next 50 years. The *Infrastructure Financing Report (IFR)* is a follow-up report that builds on the information presented in the State Water Plan, but focuses on the ability of local political subdivisions to pay for the recommended water management strategies and projects included in the 16 regional water plans. An analysis by the TWDB examines the financing needs of the local political subdivisions over the next three biennia. Results of this analysis demonstrate that current financial assistance programs administered by the TWDB could significantly enhance local ability to implement water management strategies, provided that funding for those programs is appropriated.

This report recommends a number of actions that will be needed to meet the challenges for funding water management strategies over the coming decade. The Regional Water Planning Groups (Planning Groups) recommend increasing the state role in financing water management strategies where needs are great, public health or the environment is at risk, or local resources are inadequate. This enhanced state role should provide for distribution of funds in fiscally responsible, but flexible ways, including grants, loan deferrals, and loan subsidies.

In order to maintain the integrity of the data reported in the 16 Regional Infrastructure Financing Reports and the 2002 State Water Plan, this report does not address changes in funding needs caused by subsequent shifts in population growth patterns or by new local, state or federal initiatives. Water supply projects and funding needs analyzed in this report are for the most part directly linked to the Regional Infrastructure Financing Reports and the 2002 State Water Plan. In 2007, the TWDB will develop a new State Water Plan and Infrastructure Financing Report that will reflect new conditions.

Water Investment Needs of the Next Half Century

The population of Texas is expected to nearly double over the next 50 years. With that growth comes an expected increase in the demand and need for new water supplies. The 2002 State Water Plan estimates the capital cost of meeting the needs of existing and future Texans at nearly \$18 billion.¹ Of this amount, **approximately \$16.2 billion will be the responsibility of local political subdivisions that provide water for municipal uses**

and \$575 million will be the responsibility of political subdivisions and individuals involved in irrigated agriculture.² The \$1.2 billion balance is associated with water supply projects to meet the needs of mining, manufacturing, and electric power generation interests. It is assumed that individuals and private entities involved in these activities will pay for needed projects. Implementation of all of these projects is necessary to adequately meet the State's water needs.

To implement vital projects recommended in the State Water Plan, \$7.8 billion in financial assistance may be needed in the next 50 years.

Water Investment Needs Associated with Municipal Water Supply Projects

Based on a report recently issued by the Water Infrastructure Network,³ a significant portion of the total cost to build, operate, and maintain water systems is typically financed by local citizens and private businesses through their utility bills.⁴ This appears to hold true in Texas. According to data provided by the Texas Bond Review Board, **local governments in Texas issue bonds to support water-related projects at a rate of approximately \$1.3 billion per year.**⁵ This figure represents debt issued for all types of water infrastructure projects including water supply, wastewater, and flood control. **The TWDB provides financing for water infrastructure projects at a rate of approximately \$600 million per year.** Although these numbers represent far more than just water supply projects, their context within this report is important in that it demonstrates that local governments are currently paying for a significant portion of costs associated with water development projects in Texas. The role currently played by TWDB is to assist local governments in meeting a portion of their financing needs.

In order to determine what portion of the \$16.2 billion could be paid for locally, **the Planning Groups conducted a survey of all local political subdivisions that had a reported municipal water supply need and water management strategy or project recommended in the 16 regional water plans.** The Planning Groups received responses that accounted for \$13.5 billion in projects out of the \$16.2 billion. Based on the survey responses, the Planning Groups report that approximately 55 percent of estimated capital costs for municipal water supply projects could be paid for using local resources, such as utility revenues, tax revenues, and local debt issuance. This is equivalent to \$7.4 billion out of the responded to \$13.5 billion.

To account for the non-responded to capital costs of \$2.7 billion, the TWDB estimated the “cannot pay” fraction of the responded to \$13.5 billion. The result was an estimated non-reported “cannot pay” amount of approximately \$1.2 billion. The \$1.2 billion was then allocated to each planning region pro rata, based on the region’s share of the total \$2.7 billion. This resulted in an additional \$1.5 billion that TWDB estimates local political subdivisions can afford over the next 50 years. The overall effect is that **local political subdivisions can potentially pay for \$8.9 billion in capital costs out of the \$16.2 billion estimated. This results in a financing shortfall for municipal projects of approximately \$7.3 billion over the next 50 years, with over half of the funding shortfall occurring in the next three biennia (Figure 1).** From region to region, the amount of the funding shortfall varied significantly (Figure 2). For example, Region B (Wichita Falls area) reported a funding shortfall of just over \$1 million over the next 50 years, while the South Central Texas Region (Region L) funding shortfall was estimated at over \$3.6 billion. It is important to note that the State Water Plan identified regions C, H, and L as having the highest capital costs for all water supply project needs, accounting for nearly 75 percent of the \$18 billion total. The amount of the estimated funding shortfall attributable to these same three regions is just over \$6 billion or 83 percent of the total shortfall. Although Region P is included in the table, Region P did not have any water supply needs or capital costs associated with water management strategies in the adopted regional water plan.

FIGURE 1: Estimated Fifty Year Funding Shortfall by Decade for Municipal Water Supply Projects (in millions)

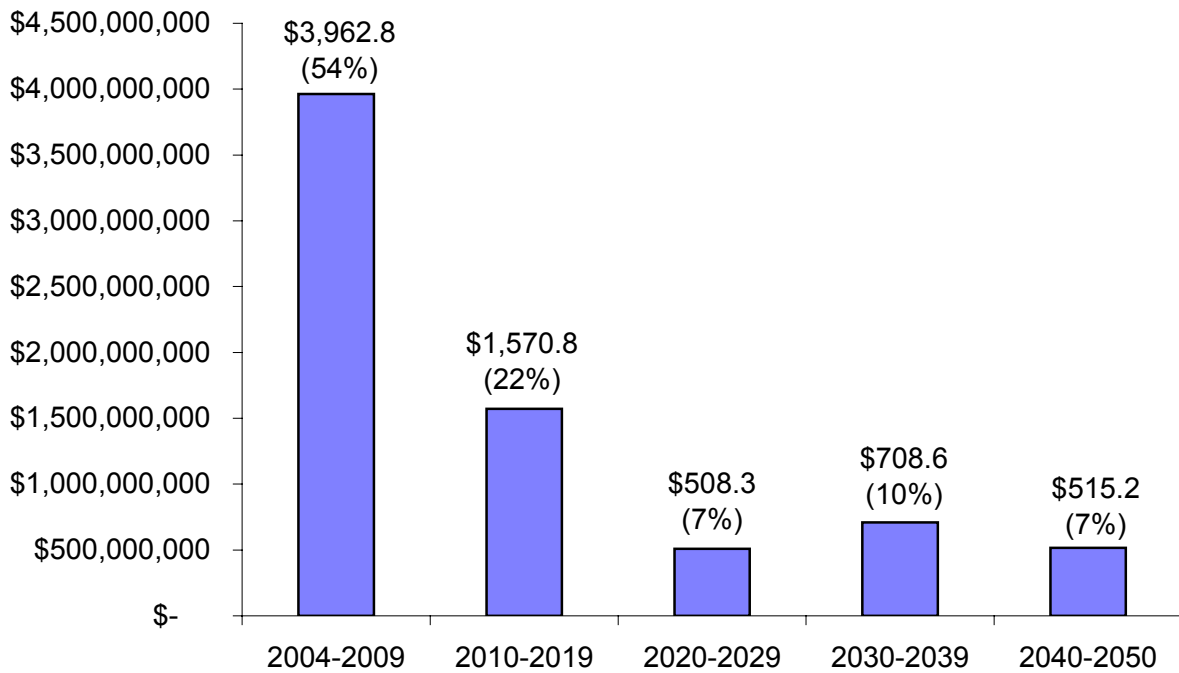


FIGURE 2: Estimated Fifty Year Funding Shortfall by Region for Municipal Water Supply Projects (in millions)

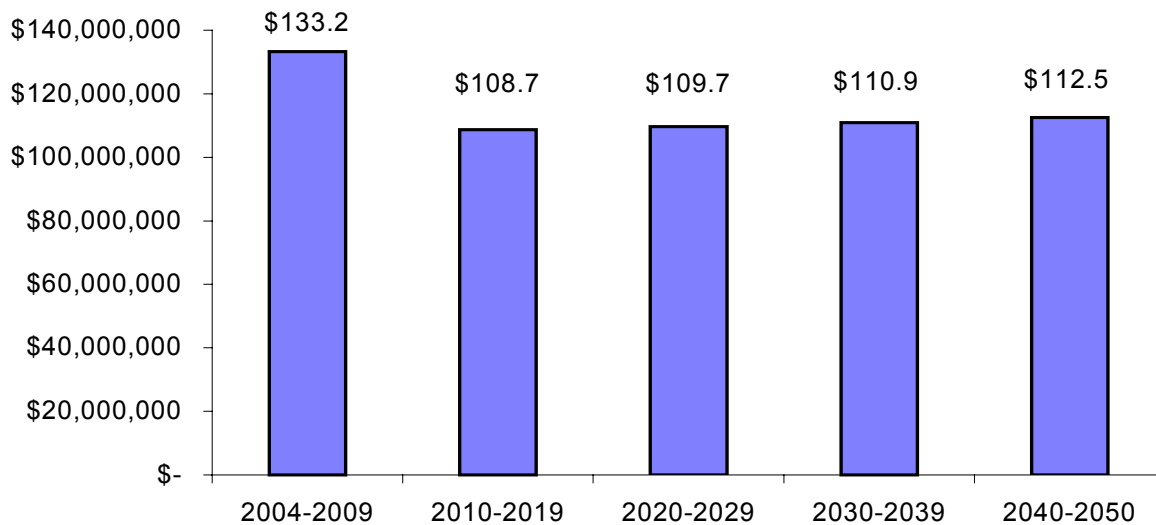


The survey responses did not indicate the specific reasons for local political subdivisions' inability to pay for all of the capital costs or how survey questions may have been interpreted. TWDB is not able to verify on what basis a local political subdivision may have indicated an inability to pay for a project while another may have indicated an ability to pay. However, the TWDB guidelines for completing the financing survey provided that each political subdivision should assume using current utility revenue sources combined with implementing necessary water rate and tax increases to help defray the costs for needed water projects.

Water Investment Needs Associated with Agricultural Water Conservation Projects

Some of the earliest research conducted on groundwater resources in Texas (circa 1915) by the United State Geological Survey focused on irrigated agriculture on the High Plains and the fact that groundwater was being produced at a rate greater than the rate of recharge. Through time, many subsequent reports have increasingly focused on the need to better manage and conserve these limited groundwater supplies. Almost all of the regional water plans recognized an inability to meet all water supply needs for irrigated agriculture. As a result, **the Planning Groups recommended approximately \$575 million in water management strategies to meet water supply needs for irrigated agriculture over the next 50 years (Figure 3).**

FIGURE 3: Estimated Fifty Year Breakdown of Funding Shortfall by Decade for Agricultural Water Conservation Measures and Equipment (in millions)



Most of the strategies are conservation related. TWDB analyzed the timing of the needed water supply and estimates a significant portion of the funding is needed in the next three biennia. It is important to note that the TWDB analysis assumes that agricultural water users would require state assistance to fully implement all of the recommended water management strategies included in the regional water plans.

Water Investment Needs Associated with Projects in Rural and Disadvantaged Communities

TWDB analyzed the reported financing needs over the next 50 years as provided by the Planning Groups to estimate the portion of the funding shortfall attributable to rural communities. **Based on those political subdivisions that reported a financing shortfall in the next 50 years, TWDB estimates approximately \$527 million in estimated capital costs is associated with nearly 100 projects in rural counties.**⁶ Of that amount, nearly 77 percent (\$404 million) was reported by the Planning Groups as unaffordable for rural communities.

The TWDB analysis of financing needs over the next 50 years for disadvantaged communities was more complex. To complete the analysis, TWDB reviewed the list of political subdivisions that reported a funding shortfall in the financing survey to identify those that would potentially be considered economically disadvantaged. The political subdivisions identified in the financing survey were compared to the list of eligible Economically Distressed Areas Program (EDAP) counties for fiscal year 2002. In addition, TWDB compared the political subdivisions list to non-EDAP eligible communities throughout Texas that were identified as disadvantaged in a TWDB report developed by Turner, Collie & Braden, Inc. in 2001.⁷ Based on these comparisons, **TWDB estimates approximately \$222 million in estimated capital costs is associated with nearly 50 projects that will benefit disadvantaged communities.** Of that amount, approximately 93 percent (\$207 million) was reported by the Planning Groups as unaffordable for disadvantaged communities.

It is important to note that there is a significant amount of overlap in the numbers presented for rural and disadvantaged communities. TWDB identified approximately 25 projects with estimated capital costs of \$115 million for rural communities that are also considered disadvantaged. When the overlap is subtracted, **the combined capital cost estimate for projects in rural and disadvantaged communities totals approximately \$634 million over the next 50 years (Table 1).** The combined funding shortfall is \$507 million over the same time period. This funding shortfall is only attributable to the infrastructure costs associated with new water supply development. It does not include additional funding needs related to drinking water and wastewater infrastructure needs, which is outside the scope of this report.

TABLE 1: Fifty Year Capital Cost Estimates and Funding Shortfalls for Projects in Rural and Disadvantaged Communities (in millions)

	Estimated Capital Costs	# of Projects	Reported Shortfall
Rural Communities	\$527	100	\$404
Disadvantaged Communities	\$222	50	\$207
Overlap: Communities that are both Rural and Disadvantaged	(\$115)	(25)	(\$104)
Total without Overlap	\$634	125	\$507

Water Investment Needs of the Next Decade

The timing of needed investments in water supply projects is of critical importance when considering anticipated population growth and the current budgetary climate. Over the next 10

years, Texas' population is projected to grow by nearly 18 percent. In regions C, H and L, where anticipated funding shortages are most pronounced, population growth over the next 10 years is at or above the projected statewide growth rate.

The total funding shortfall for municipal supply projects and agricultural water conservation measures and equipment is estimated at \$7.8 billion over the next 50 years. Putting that number into perspective, more than half of that amount (nearly \$4.1 billion) is needed for implementation of projects through fiscal year 2009 (Figure 4). The majority of the costs (nearly \$4 billion) are associated with over 125 municipal supply projects ranging from implementation of municipal conservation programs to water purchase agreements, new well fields, pipelines, water treatment plant expansions, surface water diversions, reservoirs, wastewater reuse, and desalination facilities (Figure 5). A portion of the \$4 billion needed in these next three biennia is associated with projects in rural counties and disadvantaged communities (estimated by TWDB at approximately \$311 million). The next section of this report addresses how local political subdivisions propose to address the funding shortfalls for the current decade and the next 50 years.

FIGURE 4: Estimated Total Funding Shortfall for Next 3 Biennia (in millions)

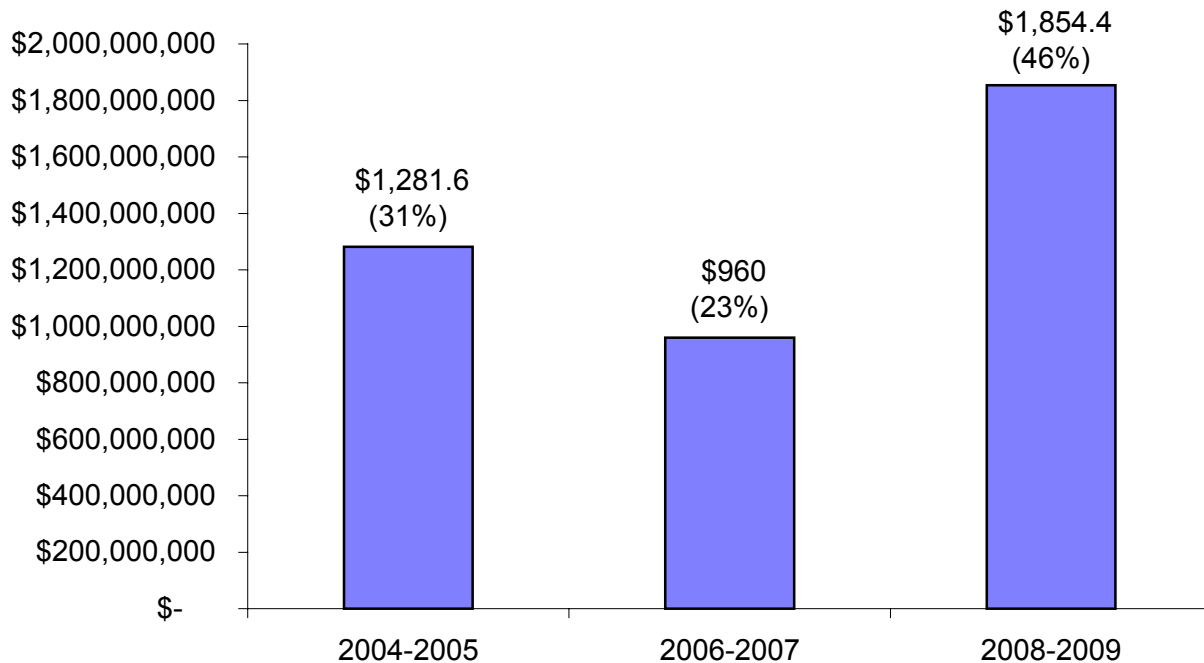
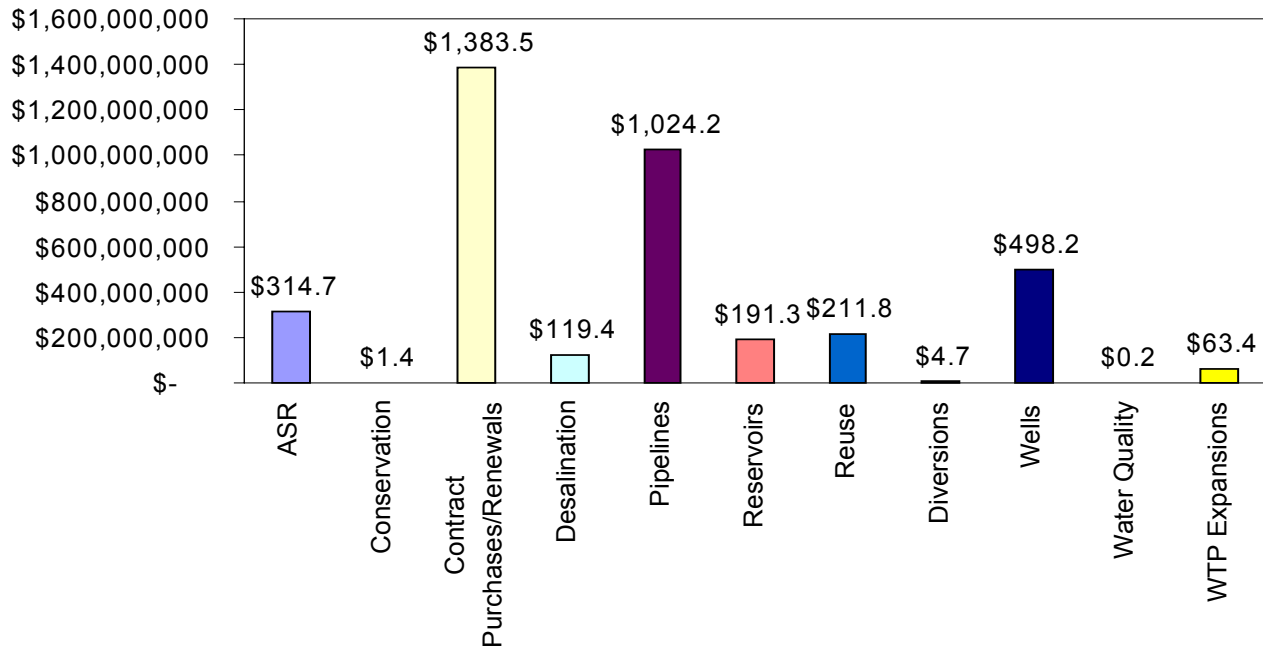


FIGURE 5: Estimated Capital Costs of Municipal Water Supply Projects for Which Financial Assistance is Needed in the Next 3 Biennia (in millions)



Addressing the Funding Shortfall – The Regions Respond

The responses to the financing survey provided valuable insight into how the Planning Groups and local political subdivisions propose to address funding shortfalls associated with water supply projects recommended in the regional water plans. While the Planning Groups recommend a wide range of options for addressing funding shortages (see Appendix A), a review of the 16 Regional Infrastructure Financing Reports indicates the broadest support for the following four recommendations:

A five cent surcharge on bottled water could generate from \$52 million to over \$65 million per year.

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

Surveyed political subdivisions report grant assistance needs of nearly \$2.6 billion in the next decade to address municipal water supply projects.

Eight out of the 16 Planning Groups support some form of tax on the sale of bottled water as a dedicated source of revenue to help political subdivisions pay for water supply projects. Based on the fiscal note prepared for Senate Bill 2 during the 77th Legislative Session, a five cent surcharge on bottled water would have generated an estimated

\$52.1 million in fiscal year 2002 increasing to an estimated \$65.2 million in fiscal year 2006.⁸

The Planning Groups also reported that the financial assistance necessary to address the funding shortfall for municipal water supply projects would need to be roughly a two-thirds grant to one-third loan ratio. The specific mix reported by the political subdivisions surveyed is as follows: 65 percent of the funding shortfall should be addressed by grants, 20 percent of the funding shortfall should be addressed by below market loans, and 15 percent of the funding shortfall should be addressed by zero interest loans (Table 2).

TABLE 2: Estimated Financial Assistance Mix Needed to Address Funding Shortfall Associated with Municipal Water Supply Projects in the Next 3 Biennia (in millions)

	2004-2005	2006-2007	2008-2009	Totals
Grants (65%)	\$804.2	\$595.1	\$1,176.5	\$2,575.8
Loans (35%)	\$433.0	\$320.5	\$633.5	\$1,387.0
Total Shortfall	\$1,237.2	\$915.6	\$1,810.0	\$3,962.8

Addressing the State Role – The Regions Respond

Responses by the Planning Groups reveal a strong recognition of the need for an expanded state role in implementing water supply projects identified in the regional water plans. Although financial assistance is the primary means by which the Planning Groups envision an expanded state role, they expect specific and general changes in existing TWDB programs to play a significant role as well. Review of the 16 Regional Infrastructure Financing Reports indicates the broadest support for the following recommendations:

- The State Participation Program is an important financing program for optimum sizing of projects and should be fully supported;
- Current state financial assistance programs are important programs and should be maintained and/or expanded;
- The State should support research and development of desalination and other non-traditional technologies and strategies such as brush control, weather modification, and development of drought-resistant crops. State support should include funding of demonstration/pilot projects; and,
- In establishing a priority system for projects receiving state assistance from programs that cannot fund all applicants, the State should give the highest priority to projects that are cost-effective and/or regional in scope, environmentally sensitive, address urgent public health or compliance needs, and consider the needs of small and rural communities.

Many of the recommendations put forth by the Planning Groups are already included in existing statutes or TWDB administrative rules. The complete list of policy recommendations provided by the Planning Groups, along with an indication of whether the recommendation is currently permissible under existing law or rule, is included in Appendix A.

Legislative Initiatives of the 77th Legislature

With sufficient cash appropriations provided by the Legislature, TWDB has the necessary financial assistance programs in place to assist local political subdivisions with implementation of necessary water supply projects.

A dedicated source of revenue to fund water-related projects is not a new concept. During the 77th Legislative Session, legislators considered several types of revenue structures including a water rights fee, a retail water customer fee, a wastewater fee, and a surcharge on bottled water assessed on the manufacturer. Although none of these proposals were included in final legislation, the Legislature did establish state financing programs that could receive and be supported by future appropriations of cash from any source.

The Rural Water Assistance Fund (RWF) and the Water Infrastructure Fund (WIF) are designed to provide financing for water supply projects. TWDB is charged with administering both programs. Recognizing a critical state need, the RWF is intended to provide financial assistance to smaller, rural water suppliers at lower cost than is currently accessible to such entities, and to ensure the public outreach and technical assistance necessary for these smaller systems to succeed. The RWF can also assist small systems in participating in regional water projects, which benefit from economies of scale. Although the RWF was established to consist of appropriations, which would allow for the reduced interest rates and public outreach components, funds were not appropriated during the 77th Legislative Session.

The TWDB implemented the RWF program using general obligation bond proceeds, which were sold under the State's Private Activity Volume Cap. While TWDB is unable to use the bond proceeds to reduce interest rates below market level or provide for outreach and technical assistance, water supply corporations (taxable entities) benefit from this program because they can take advantage of lower tax-exempt interest rates, and any project financed through the RWF can receive a sales tax exemption for materials and supplies used in the project. It is anticipated that the RWF will play an important role in implementing water supply projects for rural areas. However, in order for the program to provide the types of loan subsidies and outreach assistance recommended by the Planning Groups, a cash funding source is required.

The WIF is designed to provide a mix of funding options including market loans, below market loans, zero interest loans, and grants. An additional provision allows for certain project elements that are key to obtaining environmental approvals (like planning, design, and permitting) to receive principal and interest payment deferrals for up to 10 years. In addition, the WIF is designed to provide up to 10 percent of funding in the form of a grant or zero interest loan to areas outside metropolitan statistical areas or for projects to serve economically distressed areas. All of the provisions that make the WIF an attractive and viable program for funding water supply projects require a cash source to implement. However, like the RWF, the WIF was not funded during the 77th Legislative Session. Currently, TWDB has \$50 million in general obligation bond authorization "earmarked" for the WIF as required by House Joint Resolution 81 (77th Legislature). However, implementation of the WIF using bond proceeds does not achieve the intended purpose of the program to provide subsidized loans and grants. This is due to the

fact that Article 3, §49-c of the Texas Constitution includes provisions that restrict the use of bond proceeds. This prevents TWDB from offering grants for water projects and from offering zero interest loans. In order to lower the interest rate on the bonds or to provide grants or assistance for many water conservation efforts, a cash source is necessary.

Finally, TWDB received legislative authorization and voter approval for House Joint Resolution 81 (77th Legislature). This provided the TWDB with an additional \$2 billion in general obligation bond authorization for use in funding water-related projects. The timing of the additional bond authorization was fortuitous given the estimated funding shortfall in the next decade. TWDB's analysis of how the additional bond authorization can help in meeting the needs of political subdivisions in the next decade is provided in the following section.

Texas Water Development Board Analysis – Addressing Funding Shortfalls in the Next Decade

As previously discussed, political subdivisions and the agricultural community will face funding shortfalls of approximately \$4.1 billion in the next three biennia. To assess how to fill the shortfall using state resources, TWDB analyzed several funding scenarios using cash appropriations and general obligation bonds as the funding sources.⁹ TWDB constructed three funding models that attempt to show two alternatives to directly respond to the requested financial assistance mix reported by the surveyed political subdivisions and one alternative using the WIF.

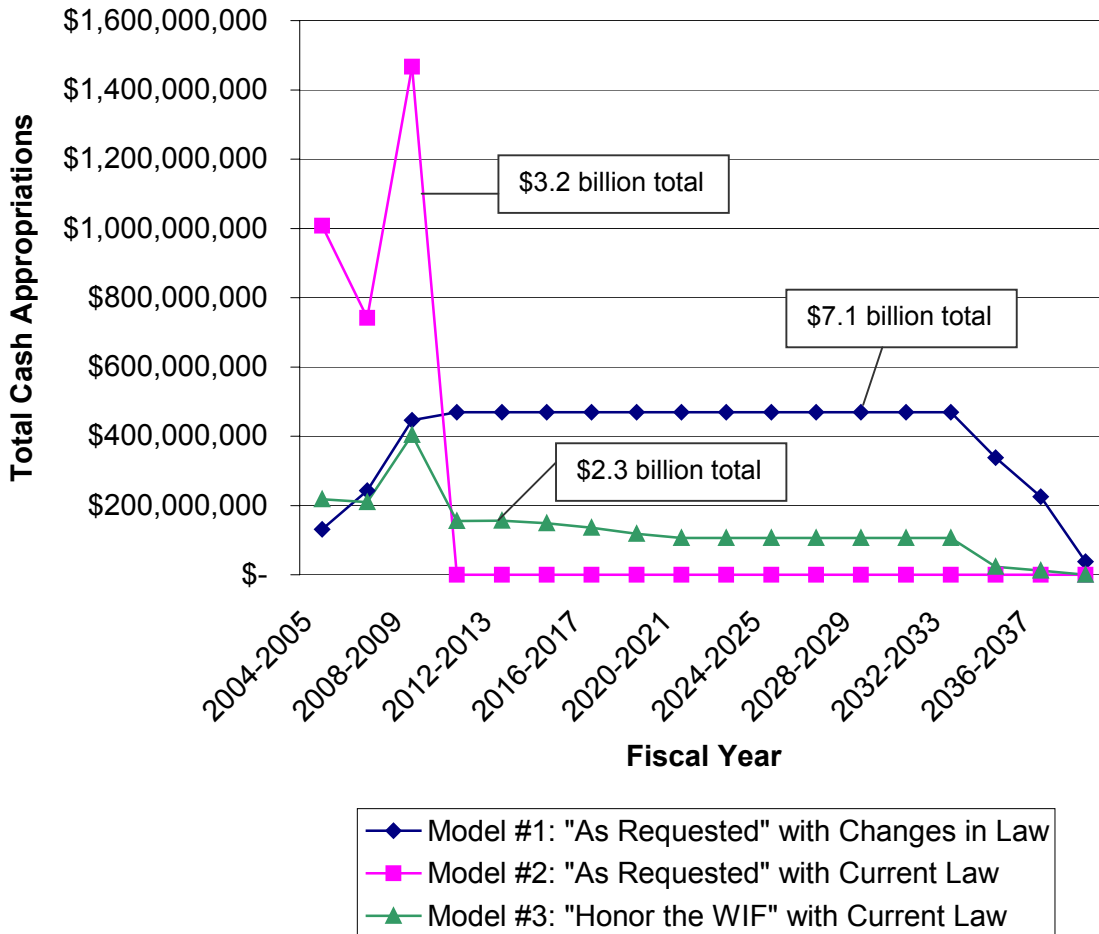
Addressing the funding shortfall in the next decade may require a range of \$820 million to over \$3 billion in cash in the next three biennia.

Municipal Water Supply Funding Needs in the Next Decade

To provide the financial assistance mix requested by the surveyed political subdivisions (two-thirds grants and one-third low interest loans), TWDB analyzed two funding scenarios; Model #1 assumes changes to constitutional provisions to allow bond proceeds to be used for grants and zero interest loans, while Model #2 assumed no changes in law. Results of the analyses for Model #1 indicate that a total of \$7.1 billion in cash appropriations would be needed from fiscal years 2004 through 2038 to provide the requested low interest loans and grants in the next three biennia (Figure 6). This model also indicates that \$820 million in cash appropriations would be needed in the next three biennia. Model #2 indicates that a total of \$3.2 billion in cash appropriations would be needed to provide the requested low interest loans and grants in the next

three biennia, with all of the funding needed in the next three biennia (Figure 6). No additional cash appropriations would be needed beyond fiscal year 2009. Total general obligation debt issued by the TWDB would be approximately \$4 billion for Model #1 and approximately \$808 million for Model #2.

FIGURE 6: Total Cash Appropriations Needed for Municipal Water Supply Projects under Various Modeling Scenarios to Fully Address the Funding Shortfall in the Next Decade



The TWDB also analyzed a financial assistance mix that is consistent with the statutorily authorized WIF program. The “Honor the WIF” model (Model #3) indicates that a total of \$2.3 billion in cash appropriations would be needed from fiscal years 2004 through 2037 (Figure 6). This program would provide a funding mix of up to 10 percent in grants, with the balance provided in the form of low interest loans. This differs from that requested by the surveyed political subdivisions. The model also indicates that \$832.2 million in cash appropriations would be needed in the next three biennia. From fiscal year 2010 and beyond, it appears that the sales tax revenues from a bottled water tax (as recommended by the Planning Groups) could provide the needed cash to pay the future debt service on the bonds for the interest rate subsidies and loan deferrals. Total general obligation debt issued by the TWDB would be approximately \$3.6 billion under this scenario.

Unfortunately, modeling the necessary cash resources needed to address the type of state assistance requested by the political subdivisions under current law results in an extremely high

front end cash appropriation (Model #2). Current constitutional provisions governing TWDB general obligation bonds, which do not allow for grants or zero percent loans for water projects from bond proceeds, cause this. Model #1 responds to the requested financial assistance mix and the results are more acceptable. However, implementation of a program financed in this manner would require changes in constitutional provisions to allow general obligation bond proceeds to be used for direct grant assistance and to provide zero percent loans.

The third model was constructed to illustrate financial assistance provided from the WIF (Model #3). The WIF was intended to fill the gaps in funding that the State felt appropriate. As previously discussed, the WIF is authorized to fund low or zero percent loans to rural and disadvantaged communities, low interest loans with 10 year deferrals for environmental, permitting and design costs, and low interest loans for construction of water projects. The results show a high front end cost but a relatively low cost to the State compared to either of the other two models. The comparative results are not surprising when considering that the requested assistance is a 65 percent, 20 percent, 15 percent mix of grants, low interest loans, and zero interest loans, respectively.

It is important to note that these results do not include any costs associated with TWDB administration. Additional administrative costs would be needed depending upon the amount of the financial assistance program desired.

Agricultural Water Conservation Measures and Equipment Needs in the Next Decade

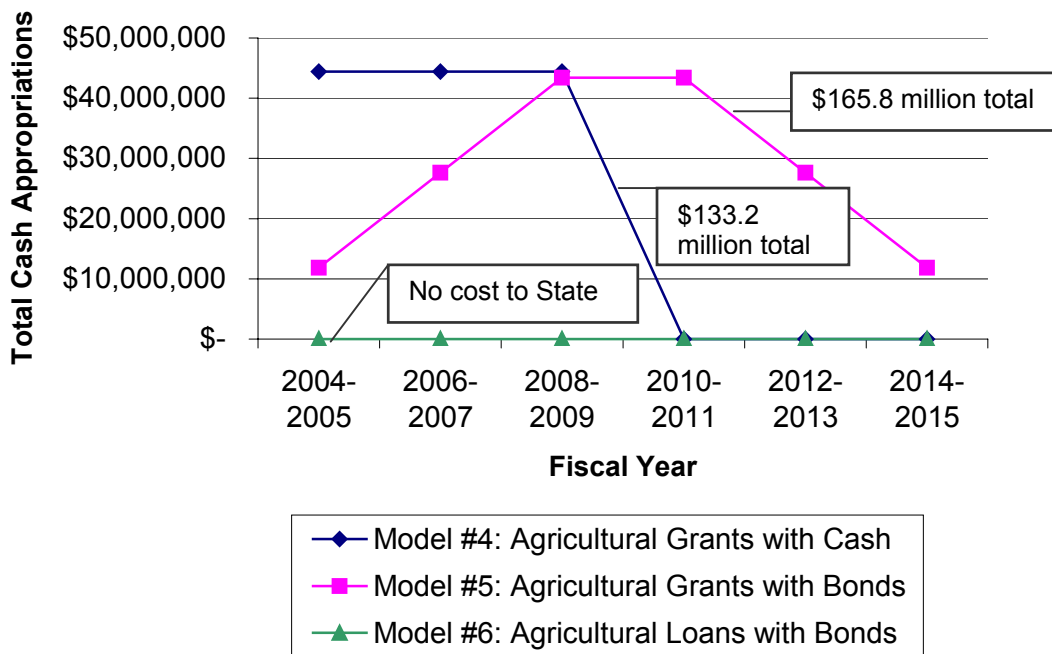
Requirements to complete a financing survey did not extend to agricultural water supply projects. However, the 16 regional water plans include a total of \$575 million in estimated capital costs for agricultural water conservation measures and equipment over the 50 year planning period. TWDB examined these strategies and estimated that \$549 million out of the \$575 million in costs is associated with conservation-type activities. This represents 95 percent of the total estimated costs.

TWDB currently provides a market rate loan program for agricultural water conservation projects. Historically this program has produced relatively few loans as compared to other TWDB programs, indicating that the agricultural sector may require a different mix of financial assistance options. Based on this experience, TWDB assumed that all of the recommended water management strategies and projects for agricultural users would require state financial assistance.

The amount of funding needed for the next three biennia is estimated by TWDB at approximately \$133.2 million. To provide a financial assistance mix of 100 percent grants, TWDB analyzed two funding scenarios; Model #4 assumes TWDB would be appropriated cash to provide direct grant assistance to agricultural users, while Model #5 assumes TWDB would use bond proceeds to provide direct grant assistance. Cash appropriations would be needed for Model #5 to pay debt service on the bonds.

Results of the analyses are as follows: Model #4 indicates that a total of \$133.2 million in cash appropriations would be needed from fiscal years 2004 through 2009 to provide direct grant assistance (Figure 7). Model #5 indicates that a total of \$165.8 million in cash appropriations would be needed from fiscal years 2004 through 2015 to pay the debt service on the bonds issued. In the next three biennia, approximately \$82.9 million in cash appropriations would be needed to pay debt service on the bonds.

FIGURE 7: Cash Appropriations Needed for Agricultural Water Supply Projects under Various Modeling Scenarios to Fully Address the Funding Shortfall in the Next Decade



The TWDB also analyzed a funding scenario that is consistent with the currently authorized Agricultural Water Conservation Loan Program. This program provides loan assistance at market rates for agricultural water conservation projects. Model #6 indicates that TWDB could provide financial assistance for all of the recommended agricultural water management strategies using its existing agricultural bond authority without requiring any cash appropriations (Figure 7). Payments of principal and interest on the agricultural bonds would come from loan repayments to the program. However, this funding scenario is not realistic due to the lack of demand for loans for agricultural water conservation measures and equipment. TWDB experience demonstrates stronger demand for a grant program.

Texas Water Development Board Analysis – A More Conservative Perspective

The survey data presented in the 16 Regional Infrastructure Financing Reports indicates that some political subdivisions will be unable to pay for needed water supply projects in the future. This is based solely on the opinions of the political subdivisions that completed the survey. Based on historical financing practices, the TWDB is of the opinion that the amount of the funding shortfall may be overstated. Therefore, TWDB provides this additional evaluation to present a more conservative funding analysis for local political subdivisions, instead of relying solely on the reported survey data. The TWDB evaluation utilizes programs already authorized in statute, with a goal of limiting grant assistance to communities that demonstrate an economic need. In addition, the TWDB evaluation provides incentives for moving forward with pre-construction activities, such as environmental permitting, planning, etc., and regionalization. This is accomplished through loan subsidies and payment deferrals. It is important to note that agricultural funding needs estimated by TWDB are not reconsidered in this section of the report.

Sorting out the Data – 129 Water Supply Projects by 2010

TWDB analyzed data reported in the 16 Regional Infrastructure Financing Reports to identify those projects that will require financial assistance or incentives so that the water supplies necessary to meet the needs of the State's population in 2010 are provided in a timely manner. This analysis resulted in TWDB's identification of 129 projects with capital cost estimates of approximately \$4.9 billion that must be implemented by 2010. Of the total, TWDB estimates that local political subdivisions may need \$2.4 billion in financial assistance in the next three biennia to implement water supply projects. The financial assistance mix will need to include grants, below market loans, loan deferrals for environmental permitting activities, and loan deferrals for construction of regional projects.

TWDB estimates that \$2.4 billion in additional state assistance may be required to implement 129 water supply projects needed by political subdivisions before the end of the current decade.

The funding needs of disadvantaged and small communities make up a significant portion of the overall \$2.4 billion. Within the group of 129 projects, TWDB identified 47 projects with capital cost estimates of \$257.5 million that will provide water supplies for disadvantaged and small communities.¹⁰ Based on TWDB experience administering financial assistance programs, disadvantaged and small communities typically require significant amounts of grant assistance. This is partly due to the sparse populations and the low per capita incomes associated with these communities. Therefore, the TWDB evaluation provides for 100 percent grant assistance for projects in disadvantaged communities and 50 percent grant assistance for projects in small communities.

The TWDB evaluation includes the following financing goals to address the 129 projects recommended in the State Water Plan that must occur within the next decade:

- 100 percent grant assistance for disadvantaged communities – approximately \$156.65 million;

- 50 percent grant assistance for small communities – approximately \$50.43 million;
- Below market loan assistance with a 10 year deferral of interest and principal payments to be used as incentives for larger projects to proceed with environmental permitting activities – approximately \$207.1 million;
- Below market loan assistance for any project – approximately \$1.66 billion; and,
- State investments in regional construction projects, including a 10 year deferral of principal and interest payments – approximately \$300 million.

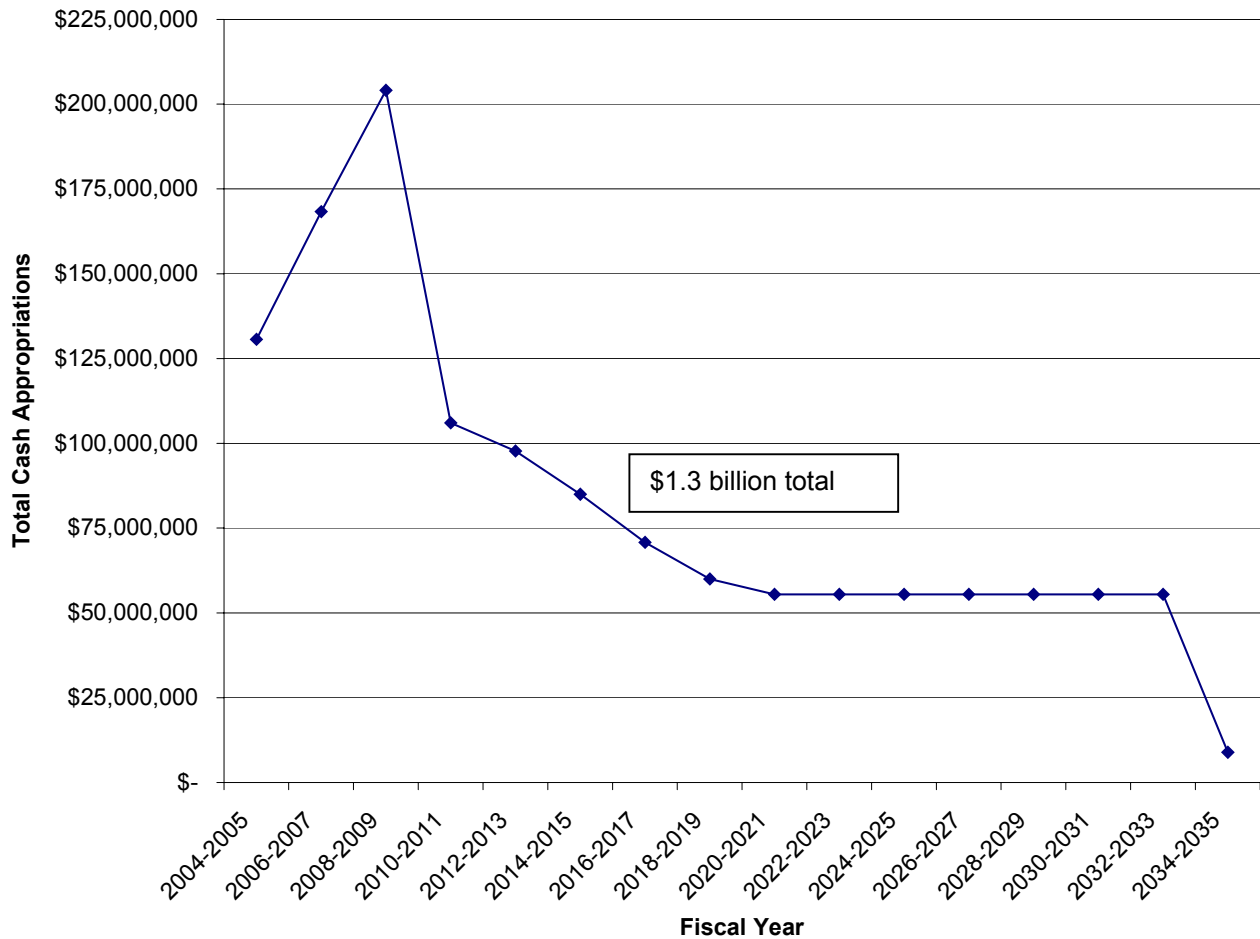
As previously discussed, the WIF is an existing TWDB program that was established by the 77th Legislature specifically with the goal of providing a funding mechanism for implementing projects recommended in the State Water Plan. The State Participation Program is an existing TWDB program that invests state dollars in large, regional projects that produce economic savings to local communities in the long term by over-sizing projects in the short term. All of the dollars invested through the State Participation Program are ultimately repaid to the State and made available to other regional projects. A number of projects recommended in the State Water Plan are potentially eligible for funding through the State Participation Program. TWDB's evaluation considers utilizing the statutorily authorized financing mechanisms of both of these existing programs to address the financial assistance needs of local political subdivisions in the next three biennia. The TWDB analysis does not assume any changes in law to accomplish the financing goals expressed.

Results of the Evaluation

To provide the financial assistance mix discussed above, TWDB developed financial models to estimate the cash appropriations needed to fully implement the WIF and expand the State Participation Program. Results of the analyses indicate that **a total of \$1.3 billion in cash appropriations would be needed from fiscal years 2004 through 2035** to provide grant assistance for disadvantaged and small communities, below market loans, below market loans with 10 year payment deferrals for environmental permitting activities, and additional state participation investments in regional facilities (Figure 8). **This amount of state investment would provide financial assistance for \$2.4 billion in new water supply projects. In the next three biennia, the model indicates that \$503.1 million in cash is needed.** It is important to point out that expansion of the State Participation Program would require legislative authorization to issue up to \$100 million in State Participation General Obligation Bonds in each of the next three biennia. Appropriations needed to pay the debt service on the State Participation Bonds are estimated and included in the figures presented.

In the 2004-2005 biennium, the Legislature would need to provide cash appropriations of approximately \$130.7 million to implement water supply projects through the WIF and State Participation programs. As discussed previously, the Planning Groups recommend a variety of ways to raise the necessary revenue to fund new water supply projects.

Figure 8: Cash Appropriations Needed in the Next 3 Biennia to Fully Implement the WIF and Expand the State Participation Program to Implement 129 State Water Plan Projects



Conclusions – Additional Texas Water Development Board Analysis

The 2002 State Water Plan reports approximately 7.5 million acre-feet of water is needed to meet the needs of existing and future populations in Texas by 2050. Key water management strategies and projects recommended to meet those needs total nearly \$18 billion. The data reported in the financing surveys and the TWDB evaluations clearly demonstrate that there is a significant range of financial assistance options that could be explored. The most conservative funding scenario is based on TWDB’s evaluation, which results in cash appropriations needs of approximately \$503.1 million to fund \$2.4 billion in State Water Plan projects in the next three biennia.

Although there is great variation in the specific mix of strategies and projects proposed in the 16 individual regional water plans, results of the Infrastructure Financing Survey provide some insight into where funding shortages may occur. For example, the 2002 State Water Plan

identifies approximately 66 percent of new water supplies being developed through surface water sources over the next 50 years. However, based on TWDB's analysis, only five percent of the funding shortfall that occurs in the immediate future (the next three biennia) is attributable to reservoir development. Construction of transmission facilities is a much more prevalent strategy for which funding shortages may occur in the next three biennia. Approximately 27 percent of estimated capital costs in the next three biennia are associated with pipeline and conveyance facilities. Construction of these facilities will require environmental and socioeconomic issues to be addressed prior to commencement. Conservation (both municipal and agricultural) and non-traditional water management strategies (such as desalination and wastewater reuse) represent 17 percent of the estimated funding needs in the next three biennia. This too will require that the TWDB put forth some additional resources to address the needs. Finally, strategies and projects recommended for small, rural and disadvantaged communities make up only a small portion (approximately six percent) of the estimated funding shortfall in the next three biennia. However, these needs are significant because local resources are likely to be inadequate to address them.

The TWDB's analysis and the recommendations included in the 16 Regional Infrastructure Financing Reports are consistent in terms of needing to address funding needs for small, rural and disadvantaged communities. In addition, the TWDB and the Planning Groups agree that expanding the State Participation Program is important to meeting the needs associated with large scale, regional projects that produce significant savings to many residents of the State. To this end, TWDB's funding evaluation relies on an expansion of the State Participation Program from its currently authorized funding level of \$35 million for the 2002-2003 biennium to \$100 million for each of the next three biennia. This level of state investment could help provide the incentives for the larger, regional water supply projects to move forward. In addition, full implementation of the WIF Program will provide the necessary incentives for political subdivisions to proceed with environmental permitting activities that are necessary prior to construction of many water supply projects. The challenge for the State is to find the necessary financial resources to ensure that these goals are met.

Current TWDB financial assistance programs appear to have most of the legal authority to address proposed water management strategies. However, because of constitutional and statutory limitations, current funding sources may not be a good fit to ensure funding is provided to the respective water users. For example, bond proceeds may not be the best source of funds to address the needs of the agricultural community or disadvantaged communities, unless there is a cash source to help pay debt service. In the 16 Regional Infrastructure Financing Reports, the Planning Groups recommend a variety of ways to raise the necessary cash to allow TWDB financial assistance programs to be fully implemented so that benefits to respective water users are maximized.

It is important to recognize that not all water management strategies currently under consideration around the State were included in the 2002 State Water Plan's estimated \$18 billion capital cost. These additional water management strategies have resulted both from changed conditions and also from the absence of a recognized water user in need of additional water supply. For example, the Legislature designated the Post Reservoir project in Garza County as a unique reservoir site. While no capital cost estimate was included in any regional water plan for this reservoir project, a previously developed estimate for the project of

approximately \$28.2 million has been reported. Another example is the current efforts to implement significant irrigated agriculture water conservation strategies in the Lower Rio Grande Valley. The magnitude of that effort may significantly exceed the capital costs included in the Rio Grande Regional Water Plan (Region M). In addition there is at least one brackish groundwater desalination project in Cameron County with estimated costs of \$33 million that was not included in the 2002 State Water Plan. The planning process is a dynamic process, as recognized by the fact that Senate Bill 1 required updates to both Regional and State Water Plans every five years. The examples described here are just a sampling of new water management strategies, often the result of changed conditions, which may require some level of state assistance in order to be implemented.

Recommendations

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

The 16 Regional Infrastructure Financing Reports express broad support among the Planning Groups for a number of major policy recommendations previously advanced by the TWDB in the 2002 State Water Plan. The TWDB finds the following recommendations, which include policies endorsed in the Infrastructure Financing Reports or the State Water Plan, of particular importance to members of the Texas Legislature in their deliberations regarding implementation of the water management strategies and projects identified in the 2002 State Water Plan:

- The role of state assistance programs needs to be expanded to ensure problems are addressed and long-term state goals are achieved. Expansion of state assistance should focus on financing gaps associated with implementation and funding for regional projects, small, rural, or disadvantaged communities, innovative water management strategies (such as desalination) and water conservation. Funding should be made available to allow state assistance programs to offer funding for research into water conservation techniques and innovative technologies (such as desalination) and their applicability in various parts of the State, payment deferrals for environmental permitting activities, grants, zero interest loans and below market loans. Constitutional and statutory authority should be provided to allow TWDB the flexibility to offer grants and zero interest loans for water projects using state general obligation bond proceeds;
- The Legislature should consider dedicating specific funding sources to enhance the State's ability to assist local political subdivisions through grants, below market loans, zero interest loans, and payment deferrals for environmental permitting activities to implement water management strategies and projects to provide water security during times of drought for the State's growing population;

- The Legislature should consider creating new funding sources to support agricultural water conservation to implement efficient irrigation systems and encourage research on crops and landscape plants that are drought and saline tolerant; and,
- The Legislature should consider restructuring the existing statutorily authorized agricultural water conservation programs to provide one state program with greater flexibility to offer the range of financial assistance necessary to address the funding, research, and technology transfer needs of the agricultural community.

Copies of the 16 Regional Infrastructure Financing Reports are available on the TWDB web site at: <http://www.twdb.state.tx.us/assistance/rwpg/twdb-docs/IFR/IFR-report-index.htm>.

¹ Texas Water Development Board, *Water for Texas – 2002*, January 2002.

² Texas Water Development Board analysis of water user groups and associated water management strategies recommended and included in the 16 regional water plans.

³ Water Infrastructure Network is a broad-based coalition of local elected officials, drinking water and wastewater service providers, state environmental and health administrators, engineers and environmentalists.

⁴ Water Infrastructure Network, *Water Infrastructure Now: Recommendations for Clean and Safe Water in the 21st Century*, February 2001.

⁵ Texas Bond Review Board, Local Government New-Money Bond Totals by Fiscal Year Issued Exclusively for Water-Related Purposes (Approved by: Office of the Attorney General – Public Finance Division), December 4, 2001.

⁶ The rural county designation refers to data provided by the United States Census Bureau not necessarily “rural” as defined by the *Texas Water Code* for the Rural Water Assistance Fund. Based on the way that data is reported to TWDB, this analysis of rural needs is the best comparison possible.

⁷ Turner, Collie & Braden, Inc., *Water and Wastewater Needs of Non-EDAP Eligible Disadvantaged Areas*, Prepared for Texas Water Development Board (Project No. 200-483-348), February 2001.

⁸ Legislative Budget Board, Fiscal Note for Senate Bill 2, Engrossed Version, 77th Texas Legislature, May 2, 2001.

⁹ While TWDB does have the ability to issue revenue bonds, this type of program could not provide the loan or grant subsidies requested by the Planning Groups.

¹⁰ For purposes of this report, small communities include cities with populations less than 15,001 and ‘county-other’ populations in rural counties (as designated by the U.S. Census Bureau) and ‘county-other’ populations less than 15,001 in urban counties (as designated by the U.S. Census Bureau).

Planning Group Policy Recommendations by Subject/Region

	FUNDING SOURCES	REGIONS															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Tax on sale of bottled water.	a	a			a				ag+rural	a	a			a		a
*	Continued use/support of Federal grant subsidies.		ag														
*	General Obligation Bonds to meet 80% of forecasted IFR needs every 5 years.		no specified %			no specified %					no limit Corps projects + rural				80%, no specified years		5 years, most needs met
	General Revenues as a funding source.		\$50M state match			state match											state match
	General statement promoting increased or expanded legislative appropriation.		a			a											a
	State Lottery percentage.																
	Infrastructure fee on municipal, manufacturing and power generation.									a							
	Fee assessed against retail water accounts.		a														
	Statewide consumer product fee (<i>sales tax</i>).														a		
	Statewide property tax assessment.														a		
	Gas, diesel, and aviation fuel tax.														a		
	Graduated impact fee on new development.														a		
	Statewide water user fee.																
	Environmental violations fee.					a											
	Fee on golf games.										a						
	Fee on interbasin transfers.										a						
	Fee on municipal and commercial wastewater discharges.										a						
	Fee on boating and recreational use of public waterways.										a						
	Fee on drinking water served in restaurants.										a						
	Impact fees on water sales.																a
	Do Not endorse per capita tax; sales tax on water and wastewater services-regressive tax, unfair to economically disadvantaged residents.																a
	Do Not endorse income or property taxes.																a
	Do Not endorse tax on water rights/water at the tap.																a

a: suggested or in agreement
 ag: agricultural
 * These policy recommendations are included in current statutes or TW/DB rules.

STATE PARTICIPATION FUND													REGIONS																	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P															
State Participation Fund should support, encourage (with incentives for small systems to go regional) cost-effective regional projects. Most important program for water supply development.														a	a	a	a	a	a	a	a		a	a	a	a				
Term of State Participation should be extended from current 34 years maximum to the full life of a new reservoir, or about 75 years.																s%, t							e							
Expand State Participation Fund to assist with acquisition of groundwater supplies for future use.																														
The State should share in the cost of projects that are required in response to federal and state environmental protection actions.													a																	

a: suggested or in agreement
s%, t: State %, repayment terms
e: Expected Life

RANKING/ALLOCATION FUNDING RECOMMENDATIONS	REGIONS															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Regions with stated recommendations																
* Prioritize projects that promote regional water and wastewater facilities		a	that are cost-effective			a							EDAP - cost effective	a		
* The State should maintain an equitable priority ranking process for all water and wastewater projects requesting financial assistance.		a		equal consideration												
* Prioritize projects with urgent public service or compliance needs.		a				a							a	a		
* Priority ranking evaluation should consider the environment.		a				priority						a	priority for little impact			
* Priority should be given to projects that show the greatest return on investment.			cost-effective										a			
* Priority ranking evaluation should consider the needs of small, rural communities unable to participate in a regional system.		a				priority										
* Priority ranking evaluation should consider optimum conservation measures.		a				priority, also ag										
* Priority ranking evaluation should consider reclamation or demineralization of impaired existing water sources.		a				priority										
* Prioritize projects that utilize TWDB staff.						a										
* Priority ranking evaluation should consider planning horizons of at least 20 years.		a														
* Prioritize projects that promote reuse.																
* Prioritize projects that promote desalination.						a										
* Priority ranking evaluation should consider employment of recycling or reuse programs where feasible.		a														
* Priority ranking evaluation should consider the willingness of the applicant to obtain or develop necessary technical expertise.		a														
* Priority ranking evaluation should consider applicant's ability to attain financial self-sufficiency.		a														
* TWDB funding allocation should correlate to needs of different types of water suppliers (e.g. regional, rural, urban) to maximize fund benefits.																
* Priority ranking for projects should be community size neutral provided the projects are economically feasible.														a		
* For evaluating needs the state should implement a two-tier system, one for small systems and the other for large systems.																
* The legislature should develop an allocation system to distribute funds to the implementing entities.																
* Regions with greater shortages should be given higher priority.																
* Factors that should be considered when setting priorities for financial assistance: greater shortages, low per capita use, environmentally friendly projects.																
* Priority should be given to applicants that exhibit a history of utilizing rate structures that provide for future maintenance and depreciation.																
* Funding sources should be universal, equitable, dedicated to state water plan implementation, have a stable base, and have a high degree of administrative ease regarding collection and distribution.																

a: suggested or in agreement ag: agricultural * These policy recommendations are included in current statutes or TWDB rules.

