

11 Policy Recommendations

TWDB's statutory requirement to develop a state water plan every five years includes provisions that the plan should be a guide to state water policy that includes legislative recommendations that TWDB believes are needed and desirable to facilitate more voluntary water transfers. TWDB based the following recommendations, in part, on recommendations from the regional water planning process.

During the development of their regional water plans, planning groups made regulatory, administrative, and legislative recommendations (Appendix D) that they believe are needed and desirable to

- facilitate the orderly development, management, and conservation of water resources;

- facilitate preparation for and response to drought conditions so that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare;
- further economic development; and
- protect the agricultural and natural resources of the state and regional water planning areas.

Along with general policy and statutory recommendations, planning groups also made recommendations for designating unique reservoir sites and stream segments of unique ecological value; however, the Texas Legislature is responsible for making the official designations of these sites.

Planning groups may recommend the designation of sites of unique value for construction of reservoirs within their planning areas. The recommendations include descriptions of the sites, reasons for the unique designation, and expected beneficiaries of the water supply to be developed at the site. A planning group may recommend a site as unique for reservoir construction based upon several criteria:

- site-specific reservoir development is recommended as a specific water management strategy or in an alternative long-term scenario in an adopted regional water plan; or
- location; hydrology; geology; topography; water availability; water quality; environmental, cultural, and current development characteristics; or other pertinent factors make the site uniquely suited for: (a) reservoir development to provide water supply for the current planning period; or (b) to meet needs beyond the 50-year planning period.

Planning groups may also recommend the designation of all or parts of river and stream segments of unique ecological value located within their planning areas. A planning group may recommend a river or stream segment as being of unique ecological value based upon several criteria:

- biological function
- hydrologic function
- riparian conservation areas
- high water quality
- exceptional aquatic life
- high aesthetic value
- threatened or endangered species/unique communities

The recommendations include physical descriptions of the stream segments, maps, and other supporting documentation. The planning groups coordinate each recommendation with the Texas Parks and Wildlife

Department and include, when available, the Texas Parks and Wildlife Department's evaluation of the river or stream segment in their final plans.

Based on planning groups' recommendations and other policy considerations, TWDB makes the following recommendations that are needed to facilitate the implementation of the 2012 State Water Plan:

ISSUE 1: RESERVOIR SITE AND STREAM SEGMENT DESIGNATION

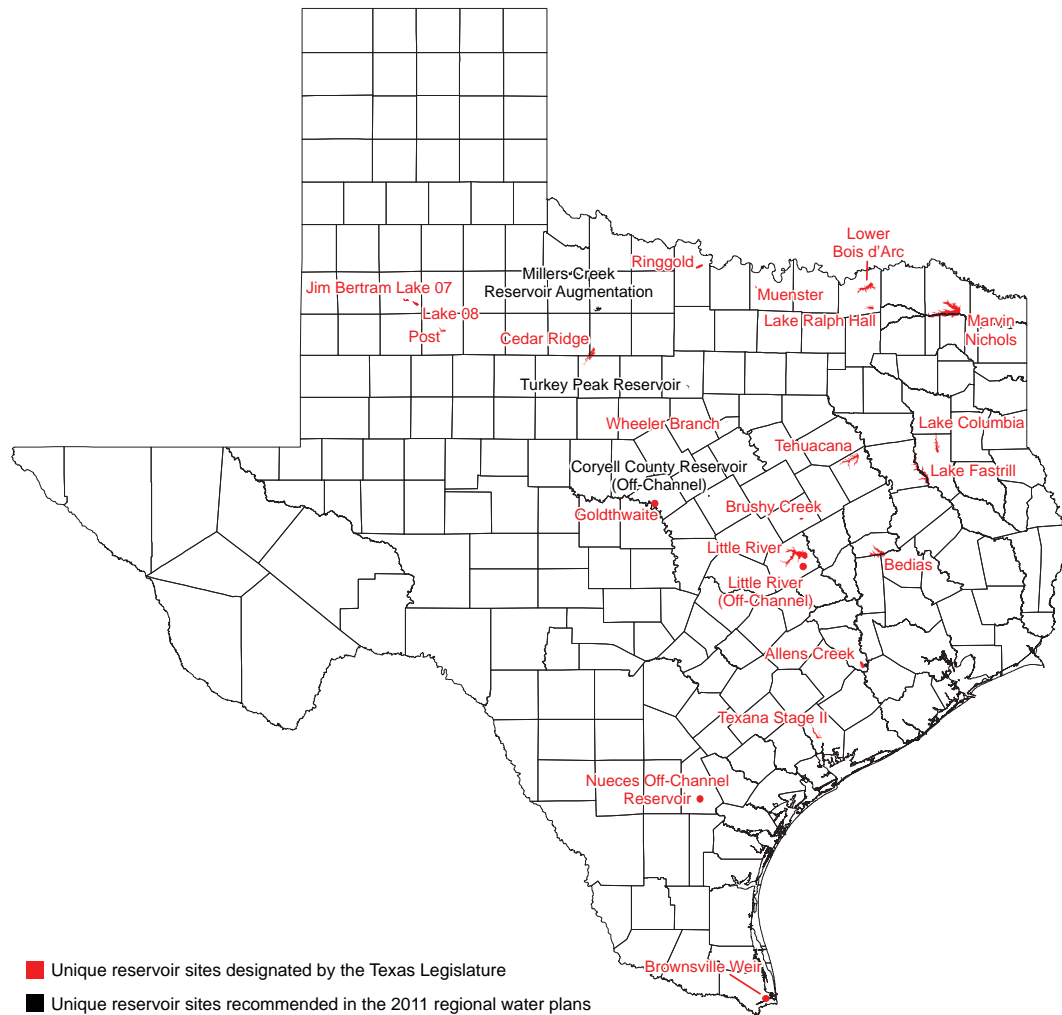
The legislature should designate the three additional sites of unique value for the construction of reservoirs recommended in the 2011 regional water plans (Turkey Peak Reservoir, Millers Creek Reservoir Augmentation, and Coryell County Reservoir) for protection under Texas Water Code, Section 16.051(g) (Figure 11.1).

The legislature should designate the nine river stream segments of unique ecological value recommended in the 2011 regional water plans (Pecan Bayou, Black Cypress Creek, Black Cypress Bayou, Alamito Creek, Nueces River, Frio River, Sabinal River, Comal River, and San Marcos River) for protection under Texas Water Code, Section 16.051(f) (Figure 11.2).

SUMMARY OF THE RECOMMENDATION

Recent regional water plans reflect the recognition that major reservoir projects absolutely must remain a strong and viable tool in our water supply development toolbox if the state is to meet its future water supply needs. The 2011 regional water plans include recommendations to develop 26 major reservoirs, which by 2060 would provide nearly 1.5 million acre-feet of water annually (16.7 percent of the total water management strategy volume).

FIGURE 11.1. DESIGNATED AND RECOMMENDED UNIQUE RESERVOIR SITES.

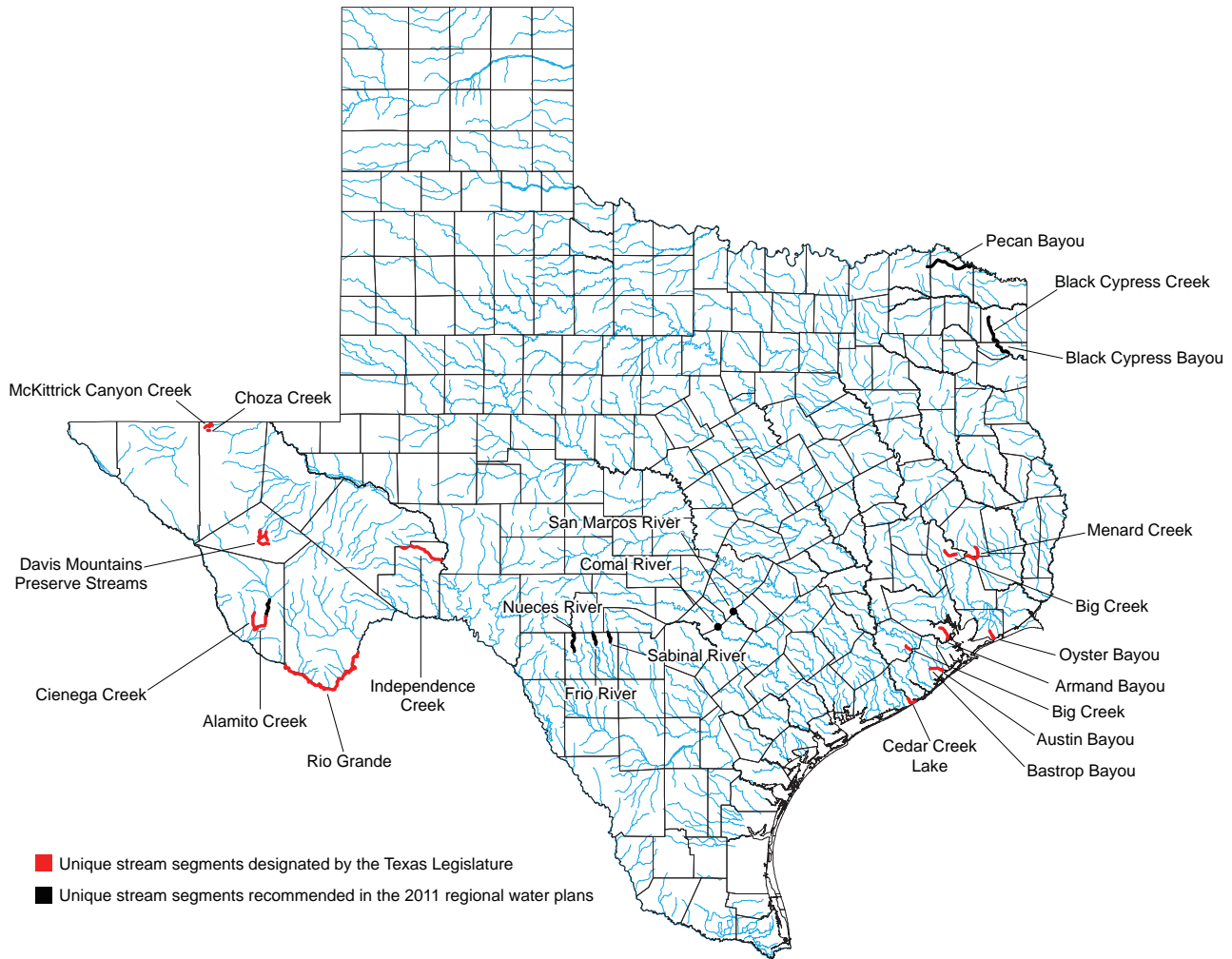


In response to the drought of record of the 1950s, Texas embarked on a significant program of reservoir construction. In 1950, Texas had about 53 major water supply reservoirs, with conservation storage amounting to less than one-half acre-foot per resident of the state. By 1980, the state had 179 major reservoirs, and conservation storage per capita (Chapter 1, Introduction) had increased to nearly 2.5 acre-feet. However, reservoir construction and storage capacity have slowed considerably. Texas currently has 188 major water supply reservoirs, storing just over 1.5 acre-feet per capita. If nothing is done to

implement the strategies in the regional water plans, population growth will result in per capita storage declining to less than 1 acre-foot per resident, the lowest since immediately following the drought of record.

A number of factors have contributed to the slowdown in reservoir development. The earlier period of construction captured many of the most logical and prolific sites for reservoirs. However, increased costs and more stringent requirements for obtaining state and federal permits for reservoir construction have

FIGURE 11.2. DESIGNATED AND RECOMMENDED UNIQUE STREAM SEGMENTS.



also been major factors. A significant factor in whether or not the major reservoirs recommended in the 2011 regional water plans can actually be developed involves the reservoir site itself and the manner in which the state addresses issues associated with preserving the viability of the reservoir site for future reservoir construction purposes.

Actions by federal, state, or local governments to protect natural ecosystems located within the reservoir footprint can significantly impact the viability of a site for future construction of a proposed

reservoir. Development of Waters Bluff Reservoir on the main stem of the Sabine River was prevented in 1986 by the establishment of a private conservation easement. In addition, the proposed Lake Fastrill, which was included in the 2007 State Water Plan as a recommended water management strategy to meet the future water supply needs of the City of Dallas, was effectively precluded from development by the U.S. Fish and Wildlife Service’s designation of the Neches River National Wildlife Refuge on the basis of a 1-acre conservation easement. Lack of action by the state legislature in protecting reservoir sites has been

cited as a problem in precluding federal actions that could otherwise be considered to be in contravention of the state's primacy over water of the state.

Texas Water Code, Sections 16.051(e) and 16.053(e) (6), provide that state and regional water plans shall identify any sites of unique value for the construction of reservoirs that the planning groups or TWDB recommend for protection. Texas Water Code, Section 16.051(g) provides for legislative designation of sites of unique value for the construction of a reservoir. By statute, this designation means that a state agency or political subdivision of the state may not obtain a fee title or an easement that would significantly prevent the construction of a reservoir on a designated site.

Designation by the Texas Legislature provides a limited but important measure of protection of proposed reservoir sites for future development and provides a demonstration of the legislature's support for protection of potential sites.

The 80th Texas Legislature in 2007 designated all reservoir sites recommended in the 2007 State Water Plan as sites of unique value for the construction of a reservoir (Senate Bill 3, Section 4.01, codified at Texas Water Code Section 16.051 [g-1]). Senate Bill 3 (Section 3.02, codified at Texas Water Code Section 16.143) also added provisions providing certain protections to owners of land within a designated reservoir site. A former owner of land used for agricultural purposes within a designated reservoir site whose property is acquired either voluntarily or through condemnation is entitled to lease back the property and continue to use it for agricultural purposes until such time that the use must be terminated to allow for physical construction of the reservoir. In addition, a sunset provision was included that terminates the unique

reservoir site designation on September 1, 2015, unless there is an affirmative vote by a project sponsor to make expenditures necessary to construct or file applications for permits required in connection with construction of the reservoir under federal or state law.

Texas Water Code, Sections 16.051(e) and 16.053(e) (6), also provide that state and regional water plans shall identify river and stream segments of unique ecological value that the planning groups or TWDB recommend for protection. Texas Water Code Section 16.051(f) also provides for legislative designation of river or stream segments of unique ecological value. By statute, this designation means that a state agency or political subdivision of the state may not finance the actual construction of a reservoir in a specific river or stream segment that the legislature has designated as having unique ecological value. Senate Bill 3, passed by the 80th Texas Legislature, also provided that all river or stream segment sites recommended in the 2007 State Water Plan were designated as being of unique ecological value.

ISSUE 2: RESERVOIR SITE ACQUISITION

The legislature should provide a mechanism to acquire feasible reservoir sites so they are available for development of additional surface water supplies to meet the future water supply needs of Texas identified in the 2011 regional water plans and also water supply needs that will occur beyond the 50-year regional and state water planning horizon.

SUMMARY OF THE RECOMMENDATION

If the major reservoir sites recommended for construction in the 2011 regional water plans are not developed, the state will be short 1.5 million acre-feet of water in 2060, about 16.7 percent of the total water supply needed. Without additional water supplies,

the state is facing a total water deficit of 8.3 million acre-feet in 2060. Failure to meet the state's water supply needs in drought conditions could cost Texas businesses and workers up to \$115.7 billion in 2060.

The cost of acquiring the remaining sites recommended as water management strategies is estimated to be \$558.2 million, based on 2011 regional water planning data. The advantages of acquiring these reservoir sites include the following:

- Provides for more efficient and economical long-term infrastructure planning
- Provides certainty to project sponsors that recommended reservoirs could be constructed on designated sites for future water supplies
- Provides some protection from actions by federal agencies that could prohibit the development of reservoirs
- Ensures these sites would be available to meet future water supply needs
- Demonstrates the state's commitment to provide sufficient water supply for Texas citizens to ensure public health, safety, and welfare and to further economic development
- Allows the state to lease sites, prior to reservoir construction, to existing landowners or others for land use activities, such as crops and livestock, wildlife, or recreation, thereby also generating income for the state through lease revenue

Although prior legislative designation helps with preserving reservoir sites, purchasing future sites would provide significant additional protection, including much better protection from unilateral actions by federal agencies that could preempt major water supply projects. If the state owned the sites, it would be highly unlikely that a federal agency could take an action related to those sites, such as the U.S.

Fish and Wildlife Service action establishing the Neches Wildlife Refuge at the location of the proposed Fastrill Reservoir.

ISSUE 3: INTERBASIN TRANSFERS OF SURFACE WATER

The legislature should enact statutory provisions that eliminate unreasonable restrictions on the voluntary transfer of surface water from one basin to another.

SUMMARY OF THE RECOMMENDATION

Interbasin transfers of surface water have been an important, efficient, and effective means of meeting the diverse water supply needs of an ever-increasing population in Texas. Interbasin transfers that have already been permitted are or will be used to meet a wide variety of water demands, including municipal, manufacturing, steam-electric power generation, and irrigated agriculture demands.

Prior to the passage of Senate Bill 1, 75th Legislative Session (1997), Texas Water Code, Section 11.085, was entitled Interwatershed Transfers and contained the following provisions:

- Prohibited transfers of water from one watershed to another to the prejudice of any person or property within the watershed from which the water is taken.
- Required a permit from the Texas Commission on Environmental Quality to move water from one watershed to another.
- Required the Texas Commission on Environmental Quality to hold hearings to determine any rights that might be affected by a proposed interwatershed transfer.
- Prescribed civil penalties for violations of these statutory requirements.

In Senate Bill 1, 75th Texas Legislative Session, Texas Water Code, Section 11.085, was amended to replace the above provisions with significantly expanded administrative and technical requirements for obtaining an interbasin transfer authorization. Since the amendments to the Texas Water Code requirements for interbasin transfers in 1997, there has been a significant drop in the amount of interbasin transfer authorizations issued and a significant amount of public discussion about whether the 1997 amendments to Texas Water Code, Section 11.085, have had a negative effect on issuing interbasin transfer authorizations.

Any impediments to obtaining interbasin transfer permits will severely impact the implementation of the projects included in the 2011 regional water plans. There are 15 recommended water management strategies which would rely on an interbasin transfer and will still require a permit to be granted.

ISSUE 4: THE PETITION PROCESS ON THE REASONABLENESS OF DESIRED FUTURE CONDITIONS

The legislature should remove TWDB from the petition process concerning the reasonableness of a desired future condition except for technical review and comment.

SUMMARY OF THE RECOMMENDATION

Prior to the passage of House Bill 1763 in 2005, regional water planning groups decided how much groundwater was available for use in the water planning process after considering groundwater conservation districts' management plans and rules. Groundwater conservation districts also decided how much groundwater was available for use for purposes of their management plans and permitting rules but with the requirement that their number not be inconsistent with the implementation of the state

water plan. The passage of House Bill 1763 granted groundwater conservation districts the sole role of deciding how much groundwater was available for use for both regional water planning and groundwater conservation districts' purposes. Regional water planning groups are now required to use numbers called modeled available groundwater, known as managed available groundwater before statutory changes effective September 1, 2011 (Chapter 5, Supplies). These availability numbers are determined by TWDB on the basis of the specific desired future conditions adopted by the groundwater districts.

Current statute allows a petition to be filed with TWDB challenging the reasonableness of a desired future condition. A person with a legally defined interest in a groundwater management area, a groundwater conservation district in or adjacent to a groundwater management area, or regional water planning group with territory in a groundwater management area can file the petition.

If TWDB finds that a desired future condition is not reasonable, it recommends changes to the desired future condition. The groundwater conservation districts then must prepare a revised plan in accordance with the recommendations and hold another public hearing, but at the conclusion of the hearing the districts may adopt whatever desired future condition they deem appropriate. The final decision by the districts is not reviewable by TWDB, and at the conclusion of the process districts are free to retain the same desired future condition that existed before a petition was filed.

TWDB's Legislative Priorities Report for the 82nd Texas Legislative Session (TWDB, 2011) recommended that the legislature repeal the petition process

concerning the reasonableness of desired future conditions or modify the process to provide a judicial remedy exclusive of TWDB, except for the agency’s technical review and comment. This recommendation was made because the process, as is, allows districts to make the final decision on their desired future condition regardless of TWDB’s determination of reasonableness. TWDB recommended a judicial remedy exclusive of TWDB because the agency is not regulatory and is therefore ill-suited for a regulatory process.

The Sunset Advisory Commission (2010) recommended that the petition process with TWDB be repealed and that district adoption of a desired future condition be appealed to district court in the same manner as any challenge to a district rule under substantial evidence review. Although the petition process was discussed and debated during the 82nd Texas Legislative Session, the legislature ultimately did not pass legislation to change the process. Because the same concerns remain on the petition process, TWDB continues to recommend that the legislature should remove TWDB from the petition process except for technical review and comment.

ISSUE 5: WATER LOSS

The legislature should require all retail public utilities to conduct water loss audits on an annual basis, rather than every five years.

SUMMARY OF THE RECOMMENDATION

System water loss refers to the difference between how much water is put into a water distribution system and how much water is verified to be used for consumption. Water loss includes theft, under-registering meters, billing adjustments and waivers, main breaks and leaks, storage tank overflows, and

customer service line breaks and leaks. High values of water loss impact utility revenues and unnecessarily increase the use of water resources, especially during drought. During reviews of loan applications, TWDB has seen water losses as high as 50 percent for some water systems. Smaller municipal water systems tend to have higher percentage water losses than larger systems. Based on information collected in 2005, statewide water losses were estimated at 250,000 to 460,000 acre-feet per year (Alan Plummer Associates, Inc. and Water Prospecting and Resource Consulting, LLC, 2007).

The first step toward addressing high water losses is measuring where the water is going in a system with a water loss audit. An audit shows a utility how much of its water is lost and where they may need to focus efforts to reduce those losses. Water loss audits done over time help a utility identify progress with minimizing water losses as well as identifying any new water loss issues.

Currently, the Texas Water Code requires all retail public utilities (about 3,600 in all) to submit a water loss audit to TWDB every five years. During the 82nd Legislative Session, based, in part, on TWDB’s Legislative Priorities report for the 81st Legislative Session, the legislature required annual reporting for retail public utilities that receive financial assistance from TWDB (about 200). While this is a step in the right direction, TWDB believes that all retail public utilities would benefit from annual water loss surveys. Municipal water conservation is expected to account for about 7 percent of new water supplies (about 650,000 acre-feet per year) by 2060 in the state water plan. Measuring—and ultimately addressing—water loss will help achieve those conservation goals.

DROUGHT AND PUBLIC POLICY

Droughts and other natural disasters have often served as the impetus behind significant changes in public policy. A severe drought in the mid-1880s resulted in the state's first disaster relief bill and set off a public policy debate on how the federal government should respond to disasters.

Many of the settlers that arrived in Texas in the mid-1800s had little knowledge of the variability of the state's climate. As a result, they were often ill-prepared to respond to droughts. While struggling to survive the effects of a drought that began in 1885, local leaders in Albany, Texas, selected John Brown, a local minister, to solicit donations of wheat for farmers in nearby counties. Believing it was just as appropriate to ask for drought relief as it was to seek aid following hurricanes, Brown appealed to financial institutions and churches throughout the eastern United States. He persisted despite attacks from Texas newspaper editors and land promoters, who feared that the negative publicity would harm the state's economic development (Caldwell, 2002).

In response to Brown's efforts and those of Clara Barton, founder and first president of the American Red Cross, Congress passed the Texas Seed Bill of 1887. The bill appropriated \$10,000 for the purchase of seed grain for distribution to farmers in Texas counties that had suffered from the drought. The legislation was quickly vetoed by President Grover Cleveland, citing his belief that the government should not provide assistance, "to individual suffering which is in no manner properly related to the public service or benefit" (Bill of Rights Institute, 2011). It is still widely known as the most famous of President Cleveland's many vetoes.

Despite the defeat of federal aid, the Texas Legislature appropriated \$100,000 for drought relief, providing a little over \$3 to each needy person. The Red Cross and other donors also sent clothing, household goods, tools, and seed to drought-stricken areas. This type of response to disasters—government aid, combined with private charitable donations—is a template that is still in use today (Caldwell, 2002).

ISSUE 6: FINANCING THE STATE WATER PLAN

The legislature should develop a long-term, affordable, and sustainable method to provide financing assistance for the implementation of the state water plan.

SUMMARY OF THE RECOMMENDATION

Following publication of the 2007 State Water Plan, TWDB conducted an Infrastructure Finance Survey to evaluate the amount of funding needed from state financial assistance programs to support local and regional water providers in implementing water management strategies recommended in the 2007 State Water Plan. The survey reported an anticipated

need of \$17.1 billion in funds from TWDB financial assistance programs. Steps toward meeting these needs were made in the form of subsidized funding for state water plan projects provided during each of the previous two biennia to provide incentives for state water plan projects to be implemented. The 80th Legislature appropriated funds to subsidize the debt service for \$762.8 million in bonds, and the 81st Legislature appropriated funds to subsidize the debt service for \$707.8 million in bonds. The 82nd Legislature approved the issuance of up to \$200 million in Water Infrastructure Funds bonds for state

water plan projects; however, the funds appropriated to subsidize the debt service will provide for approximately \$100 million to be issued.

To date, incentives for state water plan projects have included reduced interest rates and deferral of payments and some grants, depending on the program. While these incentives have proven successful, they are a steady draw on general revenues of the state as long as there is debt outstanding.

During the 82nd Legislative session a new model of funding state water plan projects was discussed. This model would involve a deposit of funding, either from general revenue, a fee, or another appropriate source designated by the legislature. This funding, one-time or ongoing over a period of time, could be utilized to make loans to entities for state water plan projects. As the loan payments are received by TWDB, these funds would be available to be lent out again. In this way, the original funding would provide “capital” for the fund. Once established, this model could be expanded to include bond funding and reduced interest rates without being a draw on general revenue.

The latest estimate of funding needed to implement the 2012 State Water Plan is \$53 billion, with financial assistance needed from the state estimated to be \$26.9 billion, based on the planning groups’ financing survey. With a need of this size identified, it is imperative that the state determine a sustainable, long-term methodology to provide funding necessary to implement state water plan projects.

REFERENCES

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