Water Conservation Assistance	
Programs	• Agricultural Conservation Grants to Districts • Water Conservation Technical Assistance • Water Conservation Education and Public Information • Drought Response
Creation Date	1985
Purpose	Encourage the implementation of water conservation and drought response practices by water providers and water users
Statutory Requirements	Texas Water Code §§15.106, 15.208, 15.431-.435, 15.471-.473, 15.607, 16.012, 16.015, 16.051, 16.053, 16.055, 17.125, 17.277
Functions	• Provide grant money for conservation equipment to assess water use efficiency and water quality • Offer technical assistance including on-farm irrigation system efficiency evaluations; water utility on-site surveys; staff training and loan of water audit and leak detection equipment; training workshops that assist entities in developing or improving conservation programs; and assistance to municipalities in developing a conservation plan as required to receive TWDB financing • Educate municipal, institutional, commercial, industrial, and agricultural water providers and users about water use efficiency, and alternative water resources such as desalting, reuse, rainwater harvesting, and other emerging technologies • Create water conservation literature for use in public information campaigns (ex. Water Smart Campaign)
Customers	• Political subdivisions • Local water resource agencies • Water providers and water users
Eligibility Requirements	Grants may be made to eligible districts
Funding Sources	• General revenue • Agricultural Trust Fund • Appropriated receipts • Interagency contracts
Funding Adequacy	**Proposals for funding have exceeded appropriations**
Program Evaluation	Necessity for program will continue to exist as the pursuit of water conservation is an ongoing need

The TWDB's Interagency Coordination on Water Conservation Assistance

The TWDB provides technical assistance for the implementation of agricultural, commercial, industrial, institutional, and municipal water conservation practices by water providers and water users, including the public. Additionally, the TWDB works jointly with other state agencies to provide financial assistance in the form of loans and grants to private entities and political subdivisions.

For a more in-depth description of the interagency coordination efforts between the TWDB and other agencies, refer to the Water Conservation Assistance Stategy in the Part VI Section titled, **Shared Jurisdiction of the Texas Water Development Board and Other Agencies**, page 68.

RESEARCH AND LOCAL ASSISTANCE STRATEGY DESCRIPTION

Purpose: Provide grants for practical research and feasibility studies to encourage cost-effective regional solutions to local community water, wastewater, and flood control infrastructure problems

Research and Local Assistance is an interrelated strategy that allows the TWDB to finance water-related research projects and engineering feasibility studies on regional water, wastewater, and flood control projects. Regional planning grants can be used to address future water needs and to develop information and recommendations regarding various alternatives, to enable local policymakers to evaluate the feasibility of regional projects and make informed and coordinated decisions relating to water supply, wastewater, and flood control problems. Grants are available to help communities pay a portion of the cost of developing regional facility plans for alternative water supply, wastewater treatment, and flood control projects.

To date, the TWDB has provided about $13 million for regional water supply and wastewater facilities planning, $20 million for research grants to enhance the proper management, development, and protection of Texas' water resources, and $9 million for flood protection planning to encourage long-term, comprehensive mitigation planning.

Activities within this strategy require agency-wide collaboration to implement successfully. The TWDB's Office of Planning recommends research projects that will aid water service providers in improving their operations, and recommends water and wastewater infrastructure projects that encourage regional participation. Most of the applicants for Research and Local Assistance programs are also customers of other loan or planning programs, and therefore receive assistance from many divisions of the agency.

Contact: Phyllis Thomas
Location: Office of Planning
FTEs (Budgeted/Actual): 8/8

Research and Local Assistance	
Programs	• Water Research • Regional Water Supply and Wastewater Infrastructure Planning Financial Assistance • Federal Emergency Management Administration Grant Program • Flood Protection Planning Assistance
Creation Date	Water research and planning grants were allocated beginning in 1981
Purpose	Provide funding for research and implementation of cost-effective measures to promote conservation and development of the state's water resources, and to reduce or eliminate the long-term risk of flooding
Statutory Requirements	Texas Water Code §§15.002, 15.401-.406; National Flood Insurance Act of 1968 §§1366 and 1367; 42 USC §§ 4104c and 4104d
Functions	• Recommend and manage water research, planning, and project grants • Aid in local and regional management of water resources • Provide input to water policy decisions by state and local decision-makers • Assist communities in developing flood protection plans for the entire watershed area • Assist in developing flood mitigation plans and carrying out project options • Provide federal grants to eligible political subdivisions to plan for and mitigate the impacts of flooding
Customers	• Political subdivisions • Federal, state, regional and local water resource agencies • Local and regional flood plain managers • State and local water policy decisionmakers
Eligibility Requirements	• Up to 100 percent grant funding may be awarded for water research based on the following evaluation criteria: description of project, responsiveness to Request For Proposal, approach to organizing and managing project, estimate of cost, estimated time to complete project, and ability to perform research • Up to 50 percent grant funding may be awarded to communities for regional water and wastewater facility planning (75 percent in cases of economically distresses areas and up to 100% in cases of demonstrated need) - see EDAP strategy under Goal 2
Funding Sources	• General revenue • General revenue appropriations riders for specific projects • Water Assistance Fund • Grant funds provided by the Federal Emergency Management Administration
Funding Adequacy	**Current level of funding is acceptable to continue water-related grant programs;** will require additional appropriations of general revenue and federal funds to continue in next biennium
Program Evaluation	The need for this program will continue to exist as the planning and prevention of long-term risk of flood damage, and the pursuit of information and knowledge relating to water resources remains in demand

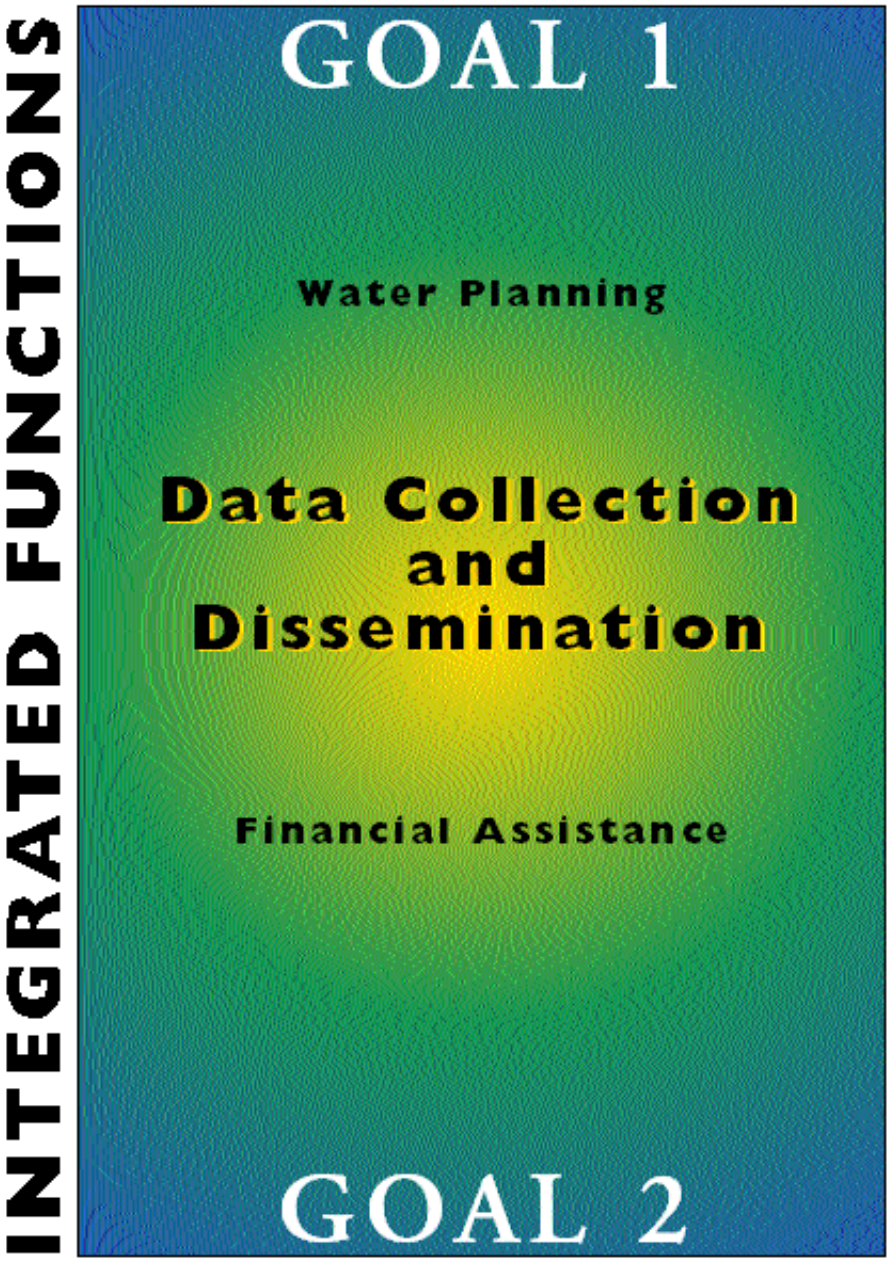
The TWDB's Interagency Coordination on Research and Local Assistance

The TWDB is the Point-of-Contact (POC) for the Federal Emergency Management Administration's Flood Mitigation Assistance Grant Program, which awards funds for flood projects and planning grants and for TWDB technical assistance.

The TWDB also works with the TNRCC and the TPWD on water research and flood protection planning.

GOAL 1: Water Resources Planning

Plan and guide the conservation, orderly and cost-effective development, and best management of the state's water resources for the benefit of all Texans



Strategies

Texas Natural Resources Information System (01-01-03)

Water Resources Information (01-01-04)

TEXAS NATURAL RESOURCES INFORMATION SYSTEM (TNRIS) STRATEGY DESCRIPTION

Purpose: Facilitate public access to natural resources and census data

The TWDB's Texas Natural Resources Information System is a truly integrated function, supporting all of the TWDB's goals and strategies, as well as the activities of other agencies. This system facilitates the process of delivering information to TWDB staff, other state agencies, and external customers. The TNRIS, under the auspices of the TWDB, makes available to customers one of the state's most extensive collections of natural resources and socioeconomic data. The TNRIS is an invaluable clearinghouse and referral center that works collaboratively with the United States Geological Survey and with over 40 other federal, state, and local agencies. The TNRIS, through the Borderland Information Center, also coordinates with the Instituto Nacional de Estadistica Geografica e Informatica (INEGA) to gather and distribute data for both sides of the United States-Mexico border.

Senate Bill 1 designated the TWDB as the lead agency for the Strategic Mapping Initiative (StratMap), which is housed within the TNRIS. StratMap is a multi-year, cost-sharing project designed to produce large-scale (1:24,000 scale) computerized base map information, documenting land features such as soils, elevation and hydrography (water features), and man-made attributes like political boundaries and roadways. Through StratMap, TNRIS staff will create a common frame of reference for mapping conducted throughout the state. Other agencies will be able to use StratMap's accepted base map to collectively input their data, making it easy to cross-reference different sets of information such as water supplies, highways, school districts, and pipelines. StratMap will be designed to provide the most comprehensive set of public domain digital geographic information in the United States.

Contact: Roddy Seekins
Location: Resource Information Office
FTEs (Budgeted/Actual): 13/13

Texas Natural Resources Information System (TNRIS)	
Programs	• Strategic Mapping Initiative (StratMap) • Research and Distribution Center • Borderland Information Center • Information Services
Creation Date	1972
Purpose	Acquire and make available an extensive collection of natural resources and socioeconomic data, including a complete set of quadrangle map and aerial photos of the state; and facilitate access to this data via the Internet
Statutory Requirements	Texas Water Code §16.021
Functions	• Distribute information on groundwater and surface water reports, Texas Department of Transportation highway digital data, USGS maps, county grid maps, flood insurance rate maps, National Wetland Inventory maps, census data, and historic and current aerial photography • Digitize StratMap data layers for orthoimagery (aerial photos), elevation, soils, water features, transportation, and political boundaries • Provide public access to data through effective acquisition and dissemination of digital files • Facilitate access to natural resources and census information and promote data-sharing across both sides of the Texas-Mexico border
Customers	• Federal, state, and local government entities • Public and private industry • General public
Eligibility Requirements	None
Funding Sources	• Federal government appropriations • General revenue • Cost recovery receipts
Funding Adequacy	**Current level of funding is below what is considered necessary for effective data dissemination over the Internet** • Funding is not adequate to maintain current web technology • Funding is not sufficient to support required employees or database consultants for digital data development and maintenance
Program Evaluation	This program is in high demand; it supports all areas of the agency with water-related information and receives high usage from external customers • Tens of thousands of data files are electronically downloaded each week through the TNRIS' Internet website

The TWDB's Interagency Coordination on the Texas Natural Resources Information System (TNRIS)

The TNRIS is exceptional in that it operates as an administrative unit of the TWDB, but also works on a daily basis with the 46 members of the Texas Geographic Information Council (TGIC) and is guided by their recommendations.

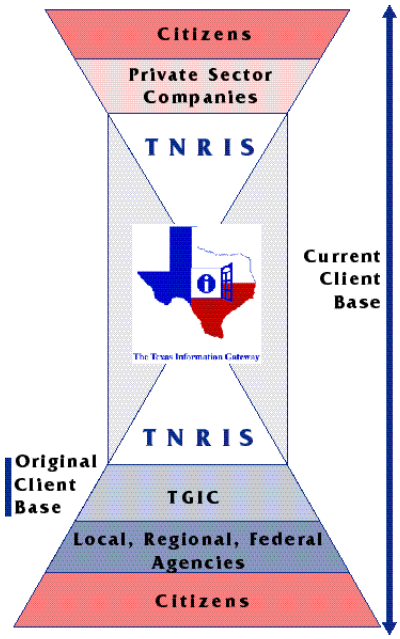
- The TNRIS, along with the Department of Information Resources, works under guidance from the TGIC to coordinate the use of geographic information and related technologies among federal, state, and other public sector entities.

- The TNRIS collaborates extensively with TGIC member agencies and actively participates and supports these other affiliated geographic information groups:

    - The Managers Committee of the TGIC, bringing together mid-level staffers who have a hands-on approach to geographic information;

    - The Texas Mapping Advisory Committee, which provides a forum for agencies and businesses to advise the TGIC on geographic information issues; and

    - The Texas Federal Geographic Information Workgroup, focused on the coordination of disaster response efforts, the reduction of redundant geographic information system data creation, and methods of sharing the production cost of base mapping data layers.



Additionally, the TNRIS collaborates with the TNRCC and the TPWD on the Texas Border Infrastructure Group (TBIG), to develop and implement a Border Activity Tracking system to facilitate project information-sharing.

For a more in-depth description of the interagency coordination efforts between the TWDB, the TNRCC, and the TPWD, refer to the TNRIS Stategy in the Part VI Section titled, **Shared Jurisdiction of the Texas Water Development Board and Other Agencies**, page 69.

Interstate Coordination

- The TNRIS, under the auspices of the TWDB, also assists in the development of geographic information and related technologies within and among the western states;

- The TWDB works with the Gulf of Mexico Program Data and Information Transfer Committee; and

- The TWDB collaborates on the Trans-Boundary Resource Inventory Program, providing access to information describing the natural resources of the United States/Mexico border region.

WATER RESOURCES INFORMATION STRATEGY DESCRIPTION

Purpose: Integrate, process and disseminate water resources information and infrastructure facility needs information (facilities to be developed to meet future water infrastructure needs)

This last strategy under Goal 1 is an essential, interrelated function. Water Resources Information is composed of two distinct programs with similar objectives. These programs collect and maintain information that supports both agency goals and all agency stategies.

The Water Information Network (WIN) Section serves both internal and external customers through the integration and distribution of water-related information. Data collected from the TWDB's Hydrologic and Environmental Monitoring Division are integrated into the groundwater database managed by the WIN, and made available to all customers. The WIN, working in coordination with federal, state and local governments, institutions of higher education and other interested parties, guides the development of a statewide network of cooperators that collect water-related information and make it available over the Internet.

The Facility Needs (FN) Section is responsible for the collection, management, and distribution of information describing the water and wastewater processing facilities in Texas. To efficiently manage this information, the TWDB has constructed and maintains a relational database management system which includes TWDB-funded projects, publicly owned water and wastewater facilities, other public drinking water systems, and economically distressed areas (all potential or current TWDB customers).

Periodically, reports are generated from this database to meet the requirements of the Environmental Protection Agency (EPA). The EPA requires that needs surveys be conducted to guide the distribution of federal funds to the state-operated revolving fund loan programs (see Statewide Financial Assistance strategy under Program Goal 2). Regional water facility capacities and needs are recorded through facility needs surveys to assist the state in obtaining sufficient funding to meet the demands of all Texans. The results of these surveys are used to determine Texas' share of federal appropriated funding. Since 1972, approximately $2.5 billion has been allocated to Texas based on this process.

Contact: Roddy Seekins
Location: Resource Information Office
FTEs (Budgeted/Actual): 13.5/13.5

Water Resources Information	
Programs	• Water Information Network • Facility Needs Survey Program
Creation Date	Began to conduct facility needs surveys with the creation of the Clean Water Act in 1987; Water Information Network program created in response to Senate Bill 1, 1997
Purpose	Support the integration, processing, and distribution of water resources information and water-related infrastructure financing needs
Statutory Requirements	Texas Water Code §16.012; Federal Water Pollution Control Act (Section 516(b)); Safe Drinking Water Act Amendments of 1996 (Section 1452(h))
Functions	• Answer inquiries related to groundwater, surface water, evaporation, drought conditions, and water conservation • Provide maintenance and programming for water resource databases • Guide the development of a statewide water resource data integration and dissemination network • Facilitate access to basic data and summary information concerning water resources of the state, and provide guidance regarding data formats and descriptions required to access and understand Texas water resources data • Manage the state's participation and interests in national water infrastructure needs surveys • Forecast demand for the TWDB's federal financing programs
Customers	• Federal, state, and local government entities • Regional Water Planning Groups • Industry, consultants • Conservation districts • Financing program loan recipients • Investor-owned utilities • TWDB staff • The general public
Eligibility Requirements	None
Funding Sources	• Federal government appropriations • General Revenue
Funding Adequacy	**Current level of funding is appropriate**
Program Evaluation	• The Water Information Network is in high demand; it supports all areas of the agency with water-related information and receives high usage from external customers • Strong demand for the TWDB's financing programs creates the need to continue participation in federal facility needs surveys; additionally, both internal and external customers frequently request facility needs information

The TWDB's Interagency Coordination on Water Resources Information

The TWDB coordinates with the TNRCC, the TPWD, and other agencies to deliver regional water planning data to the regions for their use in developing regional water plans.

The TWDB also acquires facility needs information from the TNRCC regarding the Drinking Water Needs Survey and the Clean Water Needs Survey.

For a more in-depth description of the interagency coordination efforts between the TWDB, the TNRCC, and the TPWD, refer to the Water Resources Information Strategy in the Part VI Section titled, **Shared Jurisdiction of the Texas Water Development Board and Other Agencies**, page 71.

SHARED JURISDICTION OF THE TEXAS WATER DEVELOPMENT BOARD AND OTHER AGENCIES

Goal 1 - Water Resources Planning

The Texas Water Development Board (TWDB), the Texas Natural Resource Conservation Commission (TNRCC), and the Texas Parks and Wildlife Department (TPWD) each have specific and unique roles for various Water Resources Planning activities, as identified and assigned in the Texas Water Code, and coordinated through a September 1997 Memorandum of Agreement (MOA) between the three agencies, relating to Senate Bill 1, 75th Legislature.

Coordination on the TWDB's Water Planning Data Strategy

Bays and Estuaries

- September 1986 Master Operating Agreement between the TWDB, the TNRCC, and the TPWD.

- The TWDB and the TPWD are charged to jointly establish a bay and estuary data collection and analytical studies program to be used by the TNRCC and the TPWD for determining the freshwater inflow needs of these valuable coastal environments. (Texas Water Code §16.058)

- The TWDB, the TNRCC, and the TPWD also retain joint responsibility for developing water management options to meet the freshwater inflow needs of bays and estuaries. (Texas Water Code §11.1491)

- The TWDB has a cooperative relationship with the TPWD that offers skills in hydrology, measurement of physical parameters, hydrodynamic modeling, nutrient budgeting, and freshwater inflows optimization, with verification of the solution being performed by the TPWD.

Matagorda Bay and the Lavaca-Colorado Estuary Study

- The TWDB, the TPWD, and the TNRCC worked collaboratively with the Lower Colorado River Authority (LCRA) to complete the study. (There is an MOA dated October 1993 among the LCRA,

the TWDB, the TNRCC, and the TPWD for studies to determine freshwater inflow needs of these estuaries.)

The Gulf of Mexico Program

- TWDB staff serve on the Monitoring, Modeling, and Research Committee to develop projects that will improve understanding of coastal processes, restore and maintain ecological health, and benefit decisionmakers in all five gulf states.

- The TWDB, the TPWD, and the TNRCC coordinate with other state and federal agencies to develop plans and projects to improve the health of the Gulf of Mexico bays, estuaries, and coastal waters.

Groundwater Protection Committee

- The TWDB is the vice-chair of the committee. Other committee members include state and local entities and organizations interested in protecting the groundwater resources of the state. The Committee's activities coordinate the collection of groundwater quality data and provide reports to the Texas Legislature on its actions.

Texas Border Infrastructure Group

- The TWDB and numerous state and federal agencies participate in the Texas Border Infrastructure Group (TBIG) to develop a data collection and dissemination network.

Coordination on the TWDB's Water Plan Development Strategy (refer to the Regional Water Planning Graphic, page 48)

State Water Plan Development

- The 1997 State Water Plan was adopted as a consensus effort among the TWDB, the TPWD, and the TNRCC. An MOA existed between these three agencies for developing the consensus, and coordination has continued since the plan was approved in August 1997.

Regional Water Planning (Senate Bill 1, 75th Legislature)

- The TWDB, the TNRCC, and the TPWD worked jointly to develop regional planning rules, to delineate 16 planning regions and to designate members of the initial coordinating bodies. (An MOA

developed between the TWDB, the TNRCC, and the TPWD addresses these issues.)

- Population and water demand projections used in the development of the regional water plans are reviewed by staff from all three agencies.

Texas Water Bank and Trust

- The TWDB administers the Texas Water Trust, a program within the Texas Water Bank that offers an opportunity to acquire by donation, lease, or purchase water rights for environmental needs, including instream flows, water quality, fish and wildlife habitat, and bay and estuary inflows.

- The TWDB, in consultation with the TPWD and the TNRCC, adopted rules governing the process for holding and transferring water rights in the Water Trust. No water right shall be placed in the Texas Water Trust without the review and approval of the TNRCC, after appropriate consultation with the TPWD and the TWDB.

- The TWDB, the TPWD and the TNRCC also participated in a workshop to discuss the implementation of the Texas Water Trust. A workgroup, which includes staff from the TWDB, the TPWD and the TNRCC, has been established to further develop a strategy to promote the Texas Water Trust.

Data Management and Integration

- The TWDB, the TNRCC and the TPWD formed a senior level Senate Bill 1 Coordination Committee.

- An interagency Data Steering Team and a Water Information and Integration Committee (WIIC) were created to cooperatively develop data sets for supporting regional water planning efforts, to identify strategies for improving interagency access to water resource data, and to create Internet web pages (and other delivery mechanisms) for distributing information to the RWPGs.

- The TNRCC is improving its water rights and water utilities databases so that the TWDB may easily access this data to facilitate water planning.

Collection of Water Use Data

- The TWDB gathers information for RWPGs regarding annual water use through a survey sent to cities, water districts, and river authorities.

- The TWDB collects groundwater and surface water use data at the point of use.

- The TNRCC collects surface water use data based on the point of diversion from the source of supply.

- All three agencies coordinate requests for information and have developed methods of sharing information via Internet links between their databases.

Water Availability Models

- The TNRCC will make water availability models (WAMs) available to the TWDB, the TPWD, and the RWPGs for analyzing water supply management strategies, and for calculating unappropriated available water.

- The TNRCC identifies how much water is available to each existing water right holder, and calculates unappropriated available water using the newly-developed hydrological water availability models, which improve the assessment of water rights applications and provide flexibility to the TWDB in performing analyses of water supply options.

- The TWDB and the TPWD are assisting in the development of the WAMs through participation on the WAM Management Team.

- For regional and state water planning, the TNRCC will make the WAMs available to the TWDB and the RWPGs for analyzing water supply options to ensure that the parameters of the hydrological models used for planning purposes are consistent with the models used for regulatory purposes.

Groundwater Availability Modeling

- The TWDB collaborates with the TNRCC and the TPWD to develop Geographic Information System-based models which provide all relevant data regarding groundwater availability in aquifers across Texas.

- Both the TNRCC and the TPWD will participate in a technical steering committee that will develop technical guidelines for implementation of the models and provide technical assistance to the RWPGs, groundwater conservation districts, and other interested parties.

Groundwater Conservation District Management Plans

- Groundwater conservation districts are required to develop and submit management plans to the TWDB for certification of administrative completeness. If a district does not submit a management plan to the TWDB as required, the TNRCC is responsible for enforcement. (Texas Water Code §36.1071 et seq. and Subchapter I)

- The TNRCC and the TWDB provide technical assistance to a district in the development of the management plan.

Priority Groundwater Management Areas

- The TWDB and the TNRCC coordinate on the identification of priority groundwater management areas (PGMAs) and groundwater conservation district issues; PGMAs are reported to the TNRCC. (This coordination is established by a September 1997 MOA between the TWDB, the TNRCC, and the TPWD.)

- The TWDB and the TNRCC gather information on those areas of the state experiencing or expected to experience critical groundwater problems including shortages of surface water or groundwater, land subsidence resulting from groundwater withdrawal, and contamination of groundwater supplies. (Texas Water Code §35.007)

- No later than January 31 of each odd-numbered year, the TNRCC, in conjunction with the TWDB, prepares and delivers a comprehensive report to the Governor, the Lieutenant Governor, and the Speaker of the House of Representatives, detailing all activities during the preceding two years. (Texas Water Code §35.018)

Coordination on the TWDB's Water Conservation Assistance Strategy

Financial Assistance

- The TWDB provides loans to entities for precipitation enhancement projects, brush control projects, and other water supply initiatives.

- The TNRCC may also provide grants to political subdivisions for precipitation enhancement projects, provided that the local political subdivisions provide a 50 percent match.

Coordination on the TWDB's Research and Local Assistance Strategy

Water Research and Flood Protection Planning

- The TWDB, the TNRCC, and the TPWD informally coordinate as necessary on water research topic selections and recommendations, and flood planning project reviews and evaluations.

Coordination on the TWDB's Texas Natural Resources Information System (TNRIS) Strategy

The TNRIS collaborates extensively with member agencies of the Texas Geographic Information Council (TGIC), and actively participates in and supports these other geographic information groups.

- The Managers Committee of the TGIC brings together mid-level staffers who have a hands-on approach to geographic information issues. The Managers Committee meets at least six times a year and provides a forum in which many of the TGIC programs are generated. The Managers Committee is the primary author of the Geographic Information Framework for Texas and the follow-up action plans that supplement that document.

- The Texas Mapping Advisory Committee provides a forum for both public and private sector agencies and businesses to advise the TGIC on geographic information issues. This committee meets four times a year and is comprised of geographic information professionals in surveying, engineering, software, geographic information systems, and other related fields.

    - One major initiative for this committee is the improvement of the state's Field Data Collection efforts, to promote a unified approach to traditional surveying, and the use of global positioning software as an important tool in the state's geographic information efforts.

- The Texas Geographic Information Workgroup is comprised of federal agencies involved in geographic information initiatives within Texas. Current efforts focus on the coordination of disaster response efforts, the reduction of redundant geographic information system data creation by different agencies working in the same region, and ways to share the production cost of base mapping data layers.

The Texas Border Infrastructure Group (TBIG)

- In 1997, the TWDB brought together state and federal agencies to address coordination issues relating to the funding initiatives for colonias and the Texas/Mexico border.

- Coordination efforts include the following agencies: the Texas Department of Housing and Community Affairs, the TNRCC, the Texas Department of Health, the Office of the Attorney General, the Environmental Protection Agency, the Border Environment Cooperation Commission (BECC), the North American Development Bank (NADBank), the United States Department of Agriculture - Rural Division, and the Economic Development Administration.

- The TBIG is developing an Action Plan to coordinate and prioritize the provision of water and wastewater services to border colonia areas. Additionally, the TNRIS is assisting the TBIG in the development and implementation of a Border Activity Tracking system to facilitate project information-sharing, to assist in coordinating programs, and to improve service delivery to economically distressed areas.

The TNRIS is assisting the TBIG in the development and implementation of a Border Activity Tracking system to facilitate project information-sharing, to assist in coordinating programs, and to improve service delivery to economically distressed areas.

Drought Monitoring

- The Division of Emergency Management Drought Preparedness Council is responsible for assessing drought monitoring, advising the Governor of Texas on significant drought conditions, recommending provisions for state response to drought disasters, advising the RWPGs on drought-related issues in regional water plans, and ensuring effective coordination among state, local, and federal agencies in drought-response planning.

- The TWDB reports drought monitoring and water supply conditions to the RWPGs, the Governor of Texas, and the general public.

Interstate Coordination

- The TNRIS, under the auspices of the TWDB, assists the Western States Governors' Association Geographic Information Council in the development of geographic information and related technologies within and among the western states.

- The TWDB works with the Gulf of Mexico Program Data and Information Transfer Committee to promote the development of information standards for the exchange of natural resources information describing the Gulf of Mexico.

- The TWDB coordinates the development and access to information describing the natural resources of the United States/Mexico border region with the Trans-Boundary Resource Inventory Program.

Coordination on the TWDB's Water Resources Information Strategy

The TWDB coordinates with the TNRCC, the TPWD, and other agencies to deliver regional water planning data to the regions for use in developing regional water plans.

- An interagency Data Steering Team and a Water Information and Integration Committee (WIIC) were created to cooperatively develop data sets for supporting regional water planning efforts, to identify strategies for improving interagency access to water resource data, and to create Internet web pages (and other delivery mechanisms) for distributing information to RWPGs.

Additionally, the TWDB's Facility Needs Section interacts with a variety of federal, state, and local agencies to acquire and process information.

- TWDB staff coordinate with the Environmental Protection Agency program staff, and actively participate in national policy formulation meetings. These meetings establish survey ground rules, define the content of congressional reporting, and are an excellent forum with which to exchange ideas and information with other states.

- The TWDB partners with the TNRCC for the Drinking Water Needs Survey (and the TNRCC in turn contracts with the Texas Rural Water Association); staff members from both agencies act as primary points-of-contact for surveyed water systems.

- The TWDB also coordinates with local water officials in the collection and interpretation of information.

San Antonio Water System (SAWS)

The TWDB has provided a wide range of data, water resources planning, and financial assistance services to the SAWS since the 1960s. This case study highlights the TWDB's participation in several significant milestones over the last decade that contributed to the SAWS' development of its water resources.

INTEGRATED FUNCTIONS

Water Resources Planning

- SAWs used the *1997 State Water Plan* recommendations to make decisions regarding water resources needs and solutions
- Population and water demand projections presented to Mayor's Water Committee and approved by Regional Water Planning Area L for use in their Senate Bill 1 regional water plan development in 1999
- Numerous simulations conducted using the TWDB's water availability model of the Edwards Aquifer to estimate the supply available from the aquifer

Data Collection and Dissemination

- Hydrographic survey of Lake Medina to determine the amount of water storage available in the reservoir which could be used for municipal water supply
- Population and water demand projections provided to be used in the City's Water Plans
- Maps, aerial photographs, census data, as well as state and federal digital data accessed via the Texas Natural Resources Information System to facilitate SAWS' water resources planning
- Instream flow information collected on the Guadalupe River with state (TPWD) and local (GBRA) cooperators to determine monthly flow requirements to maintain the stream's fish and wildlife populations and ecological health
- Drilling rig contracted to dig 16 monitoring wells in the Edwards aquifer, needed to pinpoint the "bad water line" for water supply estimates
- Stream flow and water well level data exchanged with the Edwards Aquifer Authority and the USGS to monitor water supply conditions and provide input into water availability planning

Financial Assistance

- $71,410,000 loan provided for wastewater recycling and major sewer interceptor replacements in the Leon Creek and Salado Creek watersheds
- $47,500,000 loan provided for major sewer interceptor replacements in the Leon Creek and Salado Creek watersheds and improvements to existing wastewater treatment plants
- $3,950,000 grant or loan to San Antonio, Bexar County Metropolitan Water District, and Atascosa County Rural Water Supply Corporation for 88 water supply projects
- $46,000 grant or loan and oversight of groundwater study supplied to determine the impacts of the sale of Carrizo Wilcox groundwater in Bastrop and Milam Counties
- Flood protection planning grant in the amount of $248,750 provided for Leon, Upper Olmos and Salado Creeks

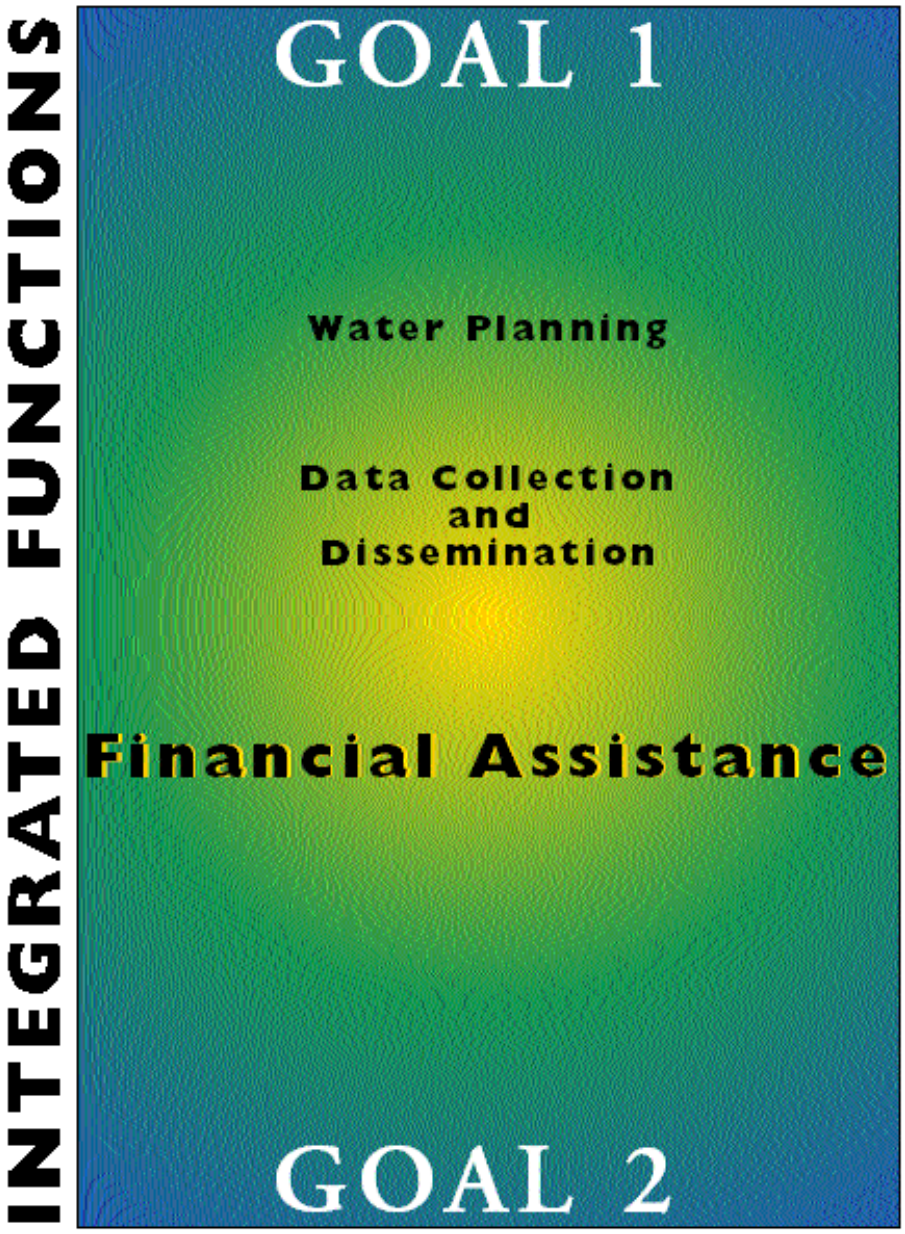
Integration of Goals 1 and 2

The TWDB's Water Resources Planning Goal (Goal 1) and Water Project Financing Goal (Goal 2) are integrated in that both goals are needed to effectively serve the agency's customers. One compelling example highlighting this essential relationship, is that after January 2002, with the adoption of the State Water Plan, TWDB financial assistance may only be provided to water supply projects that meet needs in a manner consistent with the approved regional water plans submitted by the Regional Water Planning Groups.

Additionally, without the results of the Facility Needs Survey, falling under Goal 1, the TWDB's federally-funded financial programs in Goal 2 would only receive the minimum allocation of available funds (or one percent) for the State Revolving Fund financial programs (Drinking Water State Revolving Fund and Clean Water State Revolving Fund, explained in further detail later). Being able to effectively advocate for these federal funds is a significant revenue benefit for Texas, amounting to many millions of dollars.

GOAL 2: Water Project Financing

Provide cost-effective financing for the development of water supply, for water quality protection, and for other water-related projects.



Strategies

Statewide Financial Assistance (02-01-01)

Economically Distressed Areas Program (EDAP) Financial Assistance (02-01-02)

Overview of the Bond Financing Process

The TWDB's financial assistance programs are funded through any one of a combination of state-backed general obligation bonds; state special program revenue bonds; federal grant funds; and/or limited appropriated funds. When the TWDB sells State of Texas General Obligation or Revenue Bonds, the proceeds are then loaned to local governments by buying the local governments' bonds or, in limited cases, by executing contracts for repayment. Local governments use the proceeds to construct or improve water-related projects. As local governments repay principal and interest on their bonds to the TWDB, the agency uses the principal and interest collected to pay the debt service on the state's bonds. The TWDB uses its strong credit rating and other available capital to offer interest rates that are generally lower than what a borrower could otherwise obtain from the market or other lending institutions. A limited amount of funds are made available as grants to disadvantaged or hardship communities.

The TWDB offers a variety of financial programs and services that directly or indirectly benefit the customer through cost savings.

STATEWIDE FINANCIAL ASSISTANCE STRATEGY DESCRIPTION

Purpose: Enable communities to build needed water infrastructure and save them money in doing so

Statewide Financial Assistance offers potential TWDB customers a range of cost-saving options for addressing their water and wastewater infrastructure needs. A water project can be funded in part by any number of financing programs, including other state and federal agency programs, as well as through banks and debt issued by the customer. The TWDB's programs are unique in terms of volume and subsidy levels. The agency utilizes the proceeds from state bonds sold in the public bond market and federal capitalization grants from the Environmental Protection Agency as the primary sources of funding for Statewide Financial Assistance programs. Regardless of the funding option chosen, TWDB staff work closely with customers to ensure that all projects receiving some financial assistance from the TWDB are consistent with agency policy, as well as with applicable state and federal regulations.

The TWDB's Statewide Financial Assistance offerings have resulted in an average of $70 million in cost savings to customers over the last two years.

Statewide Financial Assistance Strategy
Cost Savings, Fiscal Year 1998

Targeted cost savings = $47,188,476 (100%)

Actual cost savings = $62,765,795 (133%)

The TWDB exceeded the targeted 1998 cost-savings for this strategy by 33 percent

Statewide Financial Assistance Strategy
Cost Savings, Fiscal Year 1999 up to 3rd Quarter

Targeted cost savings = $51,939,000 (100%)

Actual cost savings = $77,860,946 (150%)

The TWDB exceeded the targeted 1999 cost savings for this strategy by 50 percent

The TWDB works collaboratively with the Texas Natural Resource Conservation Commission (TNRCC) to rank drinking water projects eligible for federal funds according to environmental benefit and public health and safety needs. The TNRCC is also responsible for reviewing plans and specifications for water infrastructure projects, but has formally agreed (through a Memorandum Of Agreement) to allow the TWDB to perform these activities for projects funded by the TWDB to better facilitate project management. State-funded water projects are considered by the TWDB on a first-come, first-served basis, and are not required to be prioritized in order to be eligible for financial assistance.

The TWDB's Statewide Financial Assistance programs are administered by multi-disciplined teams from the Office of Project Finance and Construction Assistance (OPFCA). The TWDB's Board considers potential water projects during regularly scheduled monthly Board meetings to ensure that projects reflect sound engineering and do not result in adverse environmental impact as defined by federal guidelines. Once a project receives a funding commitment and the recipient satisfies certain prerequisites, funds are released to the recipient, and TWDB field office staff monitor the progress of the project and report back to the project teams.

Contact: Kevin Ward
Location: Office of Project Finance and Construction Assistance
FTEs (Budgeted/Actual): 89.5/89.5

Key Federal-State Partnership Funding Programs: CWSRF and DWSRF

The TWDB offers two financial assistance programs funded in part by federal grant money, with the state providing matching funds. The TWDB's Clean Water State Revolving Fund (CWSRF) is the second largest SRF in the nation with over $2.5 billion in cumulative loan commitments. The TWDB's Drinking Water State Revolving Fund (DWSRF), established in 1996, has already provided $72.3 million in cumulative loan commitments.

Clean Water State Revolving Fund (CWSRF)	
Creation Date	1987
Purpose	Provide a combination of federal and state funds for financial assistance to political subdivisions for the construction and improvement of wastewater treatment works, including projects to control storm water and nonpoint source water pollution
Statutory Requirements	Federal Water Pollution Control Act, as amended (33 U.S.C. §1251 et seq.); Texas Water Code (Chapter 15, Subchapter J and Chapter 17, §17.0821)
Functions	• Offer below-market interest rate loans to political subdivisions for the planning, design and construction of wastewater treatment works • Supply below-market interest rate loans for the implementation of federal Nonpoint Source Pollution and National Estuary Pollution Control Programs
Customers	2,140 eligible entities: political subdivisions of the state
Eligibility Requirements	Funds must be expended on publicly-owned wastewater treatment works or nonpoint source projects which are necessary to achieve clean water standards or alleviate public health problems
Funding Sources	• Yearly Capitalization Grant from EPA • State match of at least 20 percent from general obligation bonds • Program leveraging from revenue bonds • Loan repayments • Cash management interest earnings • Fees for administration
Funding Guidelines	State-developed priority system for funds is based on the goals of the Clean Water Act
Funding Adequacy	**Current and expected future funding resources will not be adequate** • Actual annual capacity = $334 million per year* • Annual funding needs = $617 million per year
Program Evaluation	This program continues to be in high demand as more projects become available for funding

**Projections are limited by uncertainty regarding the levels (if any) of federal appropriations that will be available in the future.*

On-site Technical Assistance

To support the TWDB's CWSRF financing program (previous page), the EPA has also allocated grant money for an On-site Technical Assistance Program, affording valuable technical services to wastewater managers in small communities. The TWDB's On-site Technical Assistance Program provides free consultations, evaluations by a certified operator, and the loan of agency smoke-testing equipment to identify leaks in wastewater collection systems. This unique service is a voluntary, no-cost courtesy to customers, available to cities with a population of less than 25,000 and limited resources, and is provided on a first-come, first-served basis.

Drinking Water State Revolving Fund (DWSRF)	
Creation Date	1996
Purpose	Provide a combination of federal and state funds to communities in order to bring their water systems into compliance with national drinking water standards
Statutory Requirements	Public Health Service Act (42 U.S.C. §§300f to 300j-26); Safe Drinking Water Act Amendments of 1996, (Public Law 104-182, Aug. 6, 1996 110 Stat. 1613); Texas Water Code (Chapter 15, Subchapter J and §17.0821)
Functions	• Offer below-market interest rate loans to public water systems for the planning, design and construction of drinking water supply projects • Provide additional subsidies, including forgiveness of loan principal, to systems qualifying as disadvantaged communities
Customers	4957 eligible entities: political subdivisions of the state, water supply corporations, investor-owned utilities, and nonprofit non-community water systems
Eligibility Requirements	Funds must be applied to projects which bring public water systems into compliance with national drinking water standards, or otherwise further the health objectives of the Safe Drinking Water Act
Funding Sources	• Yearly Capitalization Grant from EPA • State match of at least 20 percent from general obligation bonds • State appropriations • Authorization for revenue bonds (unused to date) • Loan repayments • Cash management interest earnings • Fees for administration
Funding Guidelines	• Federally-mandated priority system administered by the TNRCC • No less than 15 percent of DWSRF funds may be awarded to public water systems serving fewer than 10,000 people (to the extent that eligible projects exist) • Up to 30 percent of the EPA Capitalization Grant may be used for loan subsidies (including forgiveness of principal) for disadvantaged communities • Funds may be designated for source water protection loans and for capacity development projects
Funding Adequacy	**Current and expected future funding resources will not be adequate** • Appropriated funding 1996-2003 = $500 million + $100m (state match) • Safe drinking water-related needs for Texas = $12.4 billion as identified in Drinking Water Needs Survey
Program Evaluation	The need for this program will remain high as safe drinking water-related needs continue to increase

Key State-Funded Programs: General Obligation (G.O.) Bond Programs, Water Assistance Fund, Agricultural Water Conservation Programs

Since 1957, the Texas Legislature and voters have approved constitutional amendments authorizing the TWDB to issue up to $2.68 billion in Texas Water Development Bonds, i.e. general obligation bonds, to be used to finance water and wastewater-related projects in Texas. As of July 31, 1999, $945.8 million in unissued general obligation bond authorization remains for financing future construction of water- and wastewater-related projects, including State Participation projects. In addition, the TWDB has $181 million in unissued Agricultural Water Conservation Project bond authorization.

Water Financial Assistance (G.O. Bond Program)	
Creation Date	1957
Purpose	Provide cost-effective loans to assist communities in funding water, wastewater, and flood control projects
Constitutional and Statutory Requirements	Article III of the Texas Constitution (§§49-c through 49-d-8); Texas Water Code (Chapter 17), (except Subchapters I, J, and K)
Functions	Offer low-interest loans to political subdivisions for the planning, design and construction of wastewater treatment works, water supply projects (including public water supply, rainwater enhancement and brush control), municipal solid waste projects and structural and nonstructural flood control programs
Customers	2,993 eligible entities: political subdivisions of the state and nonprofit water supply corporations
Eligibility Requirements	• Funds must be used for water, wastewater, municipal solid waste or flood control projects • Applicants are considered on a first-come, first-served basis
Funding Sources	• Development Fund I: General Obligation Water Development Bonds • Development Fund II: General Obligation Water Financial Assistance Bonds
Funding Guidelines	Limited by amount of bonding authority constitutionally authorized
Funding Adequacy	**Remaining bonding authority is sufficient to sustain programs through 2003**
Program Evaluation	Financing will always be needed for water infrastructure projects and water supply projects; therefore, this program will continue to be in demand