

WATER MANAGEMENT ISSUE PAPER

“The primary message of the 2012 State Water Plan is a simple one: In serious drought conditions, Texas does not and will not have enough water to meet the needs of its people, its businesses, and its agricultural enterprises. This plan presents the information regarding the recommended conservation and other types of water management strategies that would be necessary to meet the state’s needs in drought conditions, the cost of such strategies, and estimates of the state’s financial assistance that would be required to implement these strategies. The plan also presents the sobering news of the economic losses likely to occur if these water supply needs cannot be met. As the state continues to experience rapid growth and declining water supplies, implementation of the plan is crucial to ensure public health, safety, and welfare of economic development in the state.”

***Edward G. Vaughan, Chairman
Texas Water Development Board***

INTRODUCTION

Sustainable water management is a shared challenge of diverse stakeholders often with competing requirements. The real challenge is to meet the needs of your organization and to work with others to meet their needs, too. The goal of this paper is to point out opportunities where the military can participate in collaborative processes/structures that benefit long term management of military and regional water resources. This is necessary as mega trends including increasing population growth and development, reduced potable water reserves and climate change are placing a creeping stress on water resources available to the military. The national frequency and intensity of droughts, provides further incentive for the military to be a good water neighbor – it is reasonable to assume that at some point in time a military installation’s water supply capabilities could be exceeded and the installation will be dependent on an auxiliary water supply or supplies.

The United States has no cohesive federal water policy; the nation’s water-related authorities are dispersed amongst multiple agencies. Just as water rights are predominantly administered at the state level, so is water management. A case study of water management in the State of Texas is applied in this paper to illustrate the integrated process and opportunities for military engagement in the process. Texas was considered a good working model for several reasons to include: (1) a significant Army/military presence in the State; (2) the State in 2011 experienced the worst drought year on record (99% of the State experienced severe, extreme, or exceptional drought conditions); (3) the author of this paper spent four and a half years at Fort Bliss serving as the Director of Environment; (4) Texas in 2012 published its most recent State Water Plan; and, (5) as recognized by the Texas Legislature upon passage of omnibus water planning legislation in 1997, water – more than any other natural resource – challenges the state’s future.

GOVERNANCE

The climate of Texas is frequently marked by extremes in temperature, precipitation, and catastrophic weather events such as droughts, floods, and hurricanes. It is often said that Texas' weather can best be described as droughts punctuated by floods. Subsequently, major policy changes in the management of Texas' water resources have largely corresponded to cycles of droughts and floods. The idea of a dedicated water planning agency came to fruition not long after the state experienced the worst drought in recorded history. For Texas as a whole, the drought began in 1950 and by the end of 1956, all but one of Texas' 254 counties were classified as disaster areas. This drought represents the driest seven-year period in the state's recorded history and is still considered Texas' "drought of record" upon which most water supply planning in the state is based. Ironically, the drought ended in the spring of 1957 with massive rains that resulted in the flooding of every major river and tributary in the state.

In 1957, the Texas Water Development Board (TWDB) was created by legislative act and constitutional amendment; the constitutional amendment authorized the TWDB to issue bonds for the conservation and development of Texas' water resources through loans to political subdivisions. TWDB is the state's primary water supply planning and financing agency. TWDB supports the development of sixteen (16) regional water plans and is responsible for developing a state water plan every five years. The agency provides financial assistance to local governments for water supply and wastewater treatment projects, flood protection planning and flood control projects, agricultural water conservation projects, and groundwater district creation expenses. TWDB also collects data and conducts studies of the fresh water needs of the state's bays and estuaries and is responsible for all aspects of groundwater studies. The agency further maintains the Texas Natural Resources Information System, the clearinghouse for geographic data (which includes water-bearing formations and watersheds) in the state. Furthermore, TWDB administers the Texas Water Bank, which facilitates the transfer, sale or lease of water and water rights throughout the state, and administers the Texas Water Trust, where water rights are held for environmental flow maintenance purposes. Finally, as a member of the Texas Water Conservation Advisory Council, the TWDB provides administrative support to the council.

The TWDB includes a six-member Board of Directors appointed to six-year staggered terms by the Governor, along with an Executive Administrator who serves as the chief executive officer of a state agency employing over 300 scientists, engineers, lawyers, GIS professionals, finance officers, and related support staff. The Board meets monthly (usually on the third Wednesday of the month in Austin) to consider loan applications from eligible applicants, award grants for water-related research and planning, and conduct other TWDB business, such as approving the State Water Plan.

While TWDB is the state's primary water planning agency, a number of state and federal agencies in Texas have responsibility for the management of water resources and participate in the regional planning process directly and indirectly. An overview of the involvement of such agencies is summarized in appendix 1. Texas is also a member of five interstate river compacts with neighboring states for the management of the Rio Grande, Pecos, Canadian, Sabine, and Red rivers. Additionally, Texas has a pair of water treaties with Mexico.

PLANNING

Although Texas has been developing state water plans since 1961, the current regional water planning process framework was established by the 75th Texas Legislature (met in 1997), through Senate Bill 1, that directed water planning be conducted from the ground up via local and regional stakeholders developing consensus-based regional plans for how to meet water needs during times of drought. TWDB would then develop a comprehensive state water plan – based on the regional water plans – every five years. One of the most important aspects of the legislation specified that TWDB could provide financial assistance for water supply projects only if the needs to be addressed by the project were addressed in a manner consistent with the regional water plans and the state water plan. This same provision also applied to the granting of water right permits by the Texas Commission on Environmental Quality (TCEQ). The progression of state water plans also illustrates an increased emphasis on water conservation and natural resource protection.

Following passage of the legislation in 1997, TWDB initiated regional water planning with administrative rules to guide the process. TWDB designated 16 regional water planning areas through a consensus process with TCEQ and the Texas Parks and Wildlife Department (TPWD), taking into consideration river basin and aquifer delineations, water utility development patterns, socioeconomic characteristics, existing regional water planning areas (while previous plans were organized by river basins the 1990 State Water Plan was based on eight regions), state political subdivision boundaries, public comments, and other factors. TWDB is required to review and update the planning area boundaries at least once every five years, but no changes have been made to date.

Each regional water planning area has its own planning group responsible for developing a regional water plan every five years. Regional water planning groups are required to have at least eleven interests represented, including the public, counties, municipalities, industries, agriculture, environment, small businesses, electric-generating utilities, river authorities, water districts, and water utilities. Legislation passed during the 82nd Legislative Session (met in 2013) further requires that groundwater conservation districts in each groundwater management area located in the regional planning area to appoint one representative to serve on the regional water planning group. Planning groups must have at least one representative from each interest, and can designate representatives for other interests that are important to the planning area. Planning groups also have non-voting members from federal (to include military), state, and local agencies and have members that serve as liaisons with planning groups in adjacent areas. Each planning group approves bylaws to govern its methods of conducting business and designates a political subdivision of the state.

The regional planning process consists of ten tasks:

- Describing the regional planning area
- Quantifying current & projected population and water demand over a 50-year planning horizon

- Evaluating and quantifying current water supplies
- Identifying surpluses and needs
- Evaluating and recommending water management strategies to meet the needs
- Evaluating the effects of water management strategies on water quality
- Describing how the plan is consistent with long-term protection of the state's water, agricultural, and natural resources
- Recommending regulatory, administrative, and legislative changes
- Describing how sponsors of water management strategies will finance projects
- Adopting the plan

After planning groups adopt their regional water plans, they are sent to TWDB for approval. As required by statute, TWDB then begins the development of the state water plan. The state water plan incorporates information from the regional water plans, but it is more than just the sum of the regional plans. The state water plan serves as a guide to state water policy; it also explains planning methods, presents data for the state as a whole, identifies statewide trends - such as the affect of mining operations like hydraulic fracturing operations on statewide water use and how water reuse and desalination are becoming a growing source of water, and provides recommendations to the state legislature. Prior to adoption of the final state water plan, TWDB releases a draft for public comment, publishes its intent to adopt the state water plan in the Texas Register, notifies the regional water planning groups, and holds a public hearing in Austin, the state capitol.

MILITARY ENGAGEMENT

Military installation personnel are best postured to participate in the regional planning process. A review of the 2011 Far West Texas (E) Regional Water Plan indicates that Fort Bliss had four participants in the respective planning group; two of these participants were clearly identified as being from Fort Bliss and the other two are known by the author of this paper as being retired Fort Bliss employees who are loyal military advocates. As of today, Fort Bliss participation has dropped to one non-voting member on the planning group, but one former Ft. Bliss employee remains as an officer and voting planning group member. The Far West Texas Regional Water Planning Area includes seven counties and lies within the Rio Grande Basin; it is a component of The Rio Grande Council of Governments (RGCOG). The RGCOG Board of Directors includes the Fort Bliss Garrison Commander. About 97 percent of the people in this planning area reside in El Paso County. The largest economic sectors in the region are agriculture, agribusiness, manufacturing, tourism, wholesale and retail trade, government, and the

military. Ft. Bliss, Texas/New Mexico, which is home to the U.S. Army Air Defense Artillery School and four combat Air Defense Artillery brigades, also serves as the region's largest employer and economic driver. The region relies on groundwater for most of its water supply that is predominantly provided by two major aquifers – the Hueco-Mesilla Bolsons and the Edwards-Trinity (Plateau) outcrop. In contrast, Fort Hood which is part of the Brazos (G) Water Planning Area has no representation on the area's respective water planning group. The Brazos (G) Regional Water Planning Area includes all or parts of 37 counties. Over 90 percent of the region lies within the Brazos River Basin, with the Brazos River being the region's primary source of water. The largest economic sectors in the region are service, manufacturing, and retail trade. Major cities in the region include Abilene, Bryan, College Station, Killeen, Round Rock, Temple, and Waco.

While installation military personnel are best suited to participate in the regional planning process, the ARMY REEOs or corresponding DOD RECs are in an excellent position to participate in the statewide water planning process. In Texas, the Army REEO-Central (Kansas City, MO) and the Air Force Central Regional Environmental Office (located in Dallas) can be vigilant on activity of the TWDB and water legislation in the state. As noted earlier in this paper, prior to adoption of the final state water plan, TWDB releases a draft for public comment, publishes its intent to adopt the state water plan in the Texas Register, notifies the regional water planning groups, and holds a public hearing in Austin. The Army REEOs and DOD RECs have vast experience in developing both comments and testimony that are fully vetted with the Services, to represent and advocate military interests/positions.

CONCLUSION

The military has an excellent opportunity to participate in respective state water management planning processes. Similar to Army installation garrison master planners being familiar with off-post comprehensive land management plans and possibly being members of corresponding off-post planning groups, the Army installation garrison can benefit by engaging likewise in water management planning efforts. Guidance on such engagement can be drawn from ongoing Fort Bliss participation in the Far West Texas (E) Regional Water Planning Group. The Army REEOs and DOD RECs provide yet another opportunity for the military to participate at a higher level in statewide and multi-state water planning efforts. With the Army REEOs being transitioned to the U.S. Army Corps of Engineers (USACE), a federal agency with premiere water management expertise, the Army is even better postured to participate in state and regional water management.

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29 April 2013 / Updated 28 June 2013

APPENDIX 1

OTHER TEXAS STATE AGENCIES WITH WATER RESPONSIBILITIES

Texas Commission on Environmental Quality (TCEQ)

In 1992, to make natural resource protection more efficient, the Texas Legislature consolidated several programs into one large agency now known as the TCEQ. The TCEQ is the environmental agency for the state, focusing on water quality and quantity through various state and federal programs. The agency issues permits for the treatment and discharge of industrial and domestic wastewater and storm water; reviews plans and specifications for public water systems; and conducts assessments of surface water quality. The TCEQ regulates retail water and sewer utilities, reviews rate increases by investor-owned water and wastewater utilities, and administers a portion of the Nonpoint Source Management Program. In addition, it administers the surface water rights permitting program and a dam safety program; delineates and designates Priority Groundwater Management Areas; creates some groundwater conservation districts; and enforces the requirements of groundwater management planning. The agency also regulates public drinking water systems and is the primary agency for enforcing the federal Safe Water Drinking Act. The TCEQ provides support to the environmental flows process and adopts rules for environmental flow standards. The TCEQ is also a member of the Texas Water Conservation Advisory Council.

Texas Department of Agriculture (TDA)

The TDA was established by the Texas Legislature in 1907, and is headed by the Texas Commissioner of Agriculture. The TDA has marketing and regulatory responsibilities and administers more than 50 separate laws. The current duties of the department include: (1) promoting agricultural products locally, nationally, and internationally; (2) assisting in the development of agribusiness in Texas to include providing financial assistance to farmers and ranchers; (3) regulating the sale, use and disposal of pesticides and herbicides; (4) providing protection of agricultural crops and livestock from harmful pests and diseases; (5) administering consumer protection, economic development, and healthy living programs; and, (6) ensuring the accuracy of all weighing or measuring devices used in commercial transactions. TDA is also a member of the Texas Water Conservation Advisory Council.

Texas Parks and Wildlife Department (TPWD)

The State Parks Board, originally created in 1923, was later merged with other state entities and renamed the TPWD. Today, the agency has primary responsibility for conserving, protecting, and enhancing the state's fish and wildlife resources. It maintains a system of public lands, including state parks, historic sites, fish hatcheries, and wildlife management areas; regulates and enforces commercial and recreational fishing, hunting, boating, and nongame laws; and monitors, conserves, and enhances

aquatic and wildlife habitat. TPWD reviews and makes recommendations to minimize or avoid impacts on fish and wildlife resources resulting from water projects. The agency works with regional and state water planning stakeholders and regulatory agencies to protect and enhance water quality and to ensure adequate flows for rivers, bays, and estuaries. It also provides technical support to the environmental flows process and is a member of the Texas Water Conservation Advisory Council.

Texas State Soil and Water Conservation Board (TSSWCB)

Created in 1939, the TSSWCB administers Texas' soil and water conservation law and coordinates conservation and nonpoint source pollution abatement programs pertaining to agriculture and forests. Currently, the agriculture/forest nonpoint source management program includes problem assessment, management program development and implementation, monitoring, education, and coordination. The TSSWCB also administers water quality and water supply enhancement programs and is a member of the Texas Water Conservation Advisory Council.

Texas Railroad Commission

The Railroad Commission of Texas was created by the State in 1891 to regulate the private railroads spreading across the state. This resulted in economic regulation (passenger fares, shipping rates), including entry and exit authority (what locations to be served). Over the years, the Commission's jurisdiction grew to encompass many activities: oil and gas production and transportation (1919), gas utilities (1920), buses and trucks (1931), liquefied petroleum gas (1939), surface mining and reclamation (1976), and alternate fuels research (1991). Economic regulation was joined by health, safety, and environmental regulation. The last decades have brought regulatory changes. The Commission no longer regulates buses and trucks, and railroads. The state's oil and gas industry remains, however, a primary focus of the Railroad Commission of Texas. The Railroad Commission, through its Oil and Gas Division, regulates the exploration, production, and transportation of oil and natural gas in Texas. Its statutory role is to (1) prevent waste of the state's natural resources, (2) to protect the correlative rights of different interest owners, (3) to prevent pollution, and (4) to provide safety in matters such as hydrogen sulfide. Recently the Texas Railroad Commission adopted new drilling regulations designated to make drilling and hydraulic fracturing safer, the rules go into effect in 2014. This is first major upgrade of well integrity rules in thirty years.