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January 2005
SFR-053/04

Priority Groundwater Management Areas and Groundwater Conservation Districts, Report to the 79th Texas Legislature

Jointly Prepared by the

Texas Commission on Environmental Quality
Texas Water Development Board

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Executive Summary

This report provides information to the legislative leadership on activities undertaken during the preceding two years relating to the study and designation of priority groundwater management areas (PGMAs), the creation of groundwater conservation districts (GCDs), and the operation of districts. This report has been prepared by the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB), with assistance from the Texas Parks and Wildlife Department (TPWD), the State Auditor's Office (SAO), and the Texas Cooperative Extension (TCE). The report fulfills the requirements of Texas Water Code, Section 35.018.

Priority Groundwater Management Area Program. Seventeen PGMA studies and one PGMA update study have been completed to date, and three PGMA update studies and one new PGMA study are presently ongoing. Five PGMAs have been designated—three by TCEQ rules under previous statutory provisions, and two by TCEQ order. The study areas that have been designated as PGMAs include: (1) parts of Reagan, Upton, and Midland counties; (2) all of Swisher and parts of Briscoe and Hale counties; (3) part of Dallam County; (4) part of El Paso County; and, (5) all of Bandera, Blanco, Gillespie, Kendall, and Kerr and parts of Bexar, Comal, Hays, and Travis counties (Hill Country area). The TCEQ has determined that seven of the PGMA study areas—including an update PGMA study area in Gregg, Rusk, and Smith counties completed in August 2004—do not meet the criteria for designation and no further evaluation is planned.

Locally initiated district creation or annexation activities have occurred in four of the five previously designated PGMAs; however, areas remain in each PGMA that have not yet established a GCD. One new district, the Hays Trinity GCD, was confirmed by election in the Hill Country PGMA during the 2003–2004 biennium. District creation through local efforts has failed in Comal County, most recently as 2001, and district creation action also remains pending for the Travis County portion of the Hill Country PGMA. In the Briscoe, Swisher, and Hale County PGMA, landowner efforts to add Swisher County to the High Plains district have not succeeded, and district creation action remains pending for the Swisher County and the Briscoe County portions of the PGMA. In the other PGMAs, areas of Dallam, Midland, and Upton counties have not yet established a district, and the state agencies are not aware of any locally initiated action to create a regional entity in the El Paso County PGMA to address identified critical groundwater problems.

A new PGMA study to evaluate the water resources in Hudspeth County was initiated in June 2004. Completion of TWDB and TPWD studies are scheduled for December 2004, and the TCEQ executive director's report and recommendations are scheduled for completion in February 2005. TCEQ update PGMA studies are presently ongoing to evaluate the following: the Cenozoic Pecos Alluvium aquifer in Loving, Reeves, Ward, and Winkler counties; the Edwards and Trinity aquifers in Burnet, Williamson, and northern Travis counties; and the Trinity aquifer in Bosque, Brown, Callahan, Coryell, Eastland, Falls (part), Hamilton, Hill, Limestone (part), McLennan, and Somervell counties. The TCEQ executive director's reports and recommendations for each

of these areas will be completed before September 2005. The TCEQ anticipates that a fourth PGMA update study for the Trinity and Woodbine aquifers in about 20 counties of north Texas will be initiated in early 2005.

Groundwater Conservation District Creation and Dissolution. Six new GCDs were created by special Acts of the 78th Legislature, 2003. These districts included the Brazoria County, Rusk County, Southeast Texas, Upshur County, and two Kenedy County GCDs. One district, the Southeast Trinity GCD, was dissolved in 2003 by the repeal of its enabling Acts, and one district, Bexar Metropolitan Water District, had its groundwater management authority provisions removed from its enabling Acts in 2003. Five districts, including two previously created districts, were confirmed by election during the biennium. Two districts, including one the TCEQ had previously created, were defeated. In addition, there was one successful landowner effort to add territory to an existing district. No new districts were created by the TCEQ through either the landowner petition process or the PGMA process during the 2003–2004 biennium. As a result of these actions, a total of 87 GCDs have been created in the state. The total includes 83 established (confirmed) districts and four unconfirmed districts. The 83 established districts cover all or part of 124 of the state's 254 counties. Of the 83 established districts, 44 have been confirmed by the voters since the passage of Senate Bill 1 by the 75th Legislature, 1997.

Chronologically over the past two years, the TCEQ-created Lake County GCD was defeated by the voters of Wood County in February 2003. The legislatively created Hays Trinity and Tri-County GCDs were confirmed in May 2003. The Tri-County GCD was confirmed in Hardeman and Foard counties, but defeated in Wilbarger County. Also in May 2003, voters in the southeastern two-thirds of Mason County voted to join the Hickory Underground Water Conservation District (UWCD) No. 1. The Upshur County GCD was defeated by the voters in May 2004, and the Rusk County GCD was confirmed in June 2004. Both the Kenedy County GCD in Kenedy County and part of Kleberg County, and the Southeast Texas GCD in Jasper and Newton counties, were confirmed by the voters in November 2004.

Confirmation elections have not been held to determine creation of the Lower Seymour GCD in Jones County or the Brazoria County GCD. If the districts are not confirmed by the voters, their enabling Acts will expire on June 17, 2005, and September 1, 2005, respectively. Confirmation of the Crossroads GCD in Victoria County and the Lavaca County GCD was defeated by the voters in November 2001. Both of these districts are authorized to hold subsequent confirmation elections, and both districts' legislation will expire on September 1, 2006, if they remain unconfirmed at that time.

Groundwater District Management Planning and Implementation. Texas Water Code, Chapter 36, provides that each GCD must develop, in coordination with surface-water management entities, and adopt a groundwater management plan to address district goals. Once adopted, the plan must be certified for statutory completeness by the executive administrator of the TWDB. District implementation of the plan is subject to review by the SAO after a one-year time frame. In addition, the TCEQ is required to take certain enforcement actions if a district does not adopt its plan within statutory deadlines, or if a district is

determined by the SAO to be not operational in achieving the objectives of its certified plan.

Between January 2003 and November 2004, the TWDB certified 23 new GCD management plans. Four additional new GCD plans are presently being reviewed for TWDB certification. Also during this same time frame, the TWDB received and recertified 28 GCD management plans that had been readopted by existing districts. The TWDB did not receive management plans from eight districts whose plans were due for readoption during the biennium.

During the 2003–2004 biennium, seven new GCDs did not comply with statutory deadlines to adopt a management plan and to submit the plan to the TWDB for certification consideration. Minor TCEQ intervention to compel compliance was necessary for the Coastal Bend GCD, Coastal Plains GCD, Guadalupe County GCD, Kimble County GCD, and the Neches and Trinity Valleys GCD. Greater TCEQ intervention and compliance agreements were necessary to compel the Bee GCD and the Texana GCD. By September 2004, all of these GCDs had achieved compliance, and each district had a certified management plan in place.

In April 2003, the SAO determined that 11 of 12 audited GCDs were operational, and one GCD, the Salt Fork UWCD, was not operational. To date, the SAO has reviewed plan implementation for 45 GCDs and has determined that 35 of the districts were operational in achieving the objectives of their management plans, nine districts were not operational, and one district plan could not be evaluated because of unclear objectives. In response, two districts independently addressed the SAO finding before the 2003–2004 biennium. The Live Oak UWCD addressed operational issues, and the Sterling County UWCD addressed unclear plan objectives. TCEQ intervention was not necessary in either case.

Since January 2003, voluntary compliance agreements and various levels of TCEQ involvement have been successful in compelling management plan implementation for six of the remaining eight SAO-determined nonoperational GCDs. The Collingsworth County UWCD, Hudspeth County UWCD No. 1, Real-Edwards Conservation & Reclamation District, and Permian Basin UWCD took significant action to hire staff and develop sufficient revenue to finance district operations. With these new resources and a little extra time, each of the four districts was able to demonstrate compliance with the objectives of their management plans. Though still without district-generated and dedicated funding or full-time staff, the Fox Crossing Water District and Saratoga UWCD were also able to demonstrate compliance with their limited plan objectives. TCEQ staff were not able to achieve voluntary resolution for two nonoperational cases: the Dallam County UWCD No. 1 and the Salt Fork UWCD. Both of these districts entered into voluntary compliance agreements to implement their plans. However, neither district could demonstrate plan implementation within agreed time frames, and the two cases have been referred for formal TCEQ enforcement action.

Groundwater Management Issues. During the biennium, the Office of the Attorney General (OAG) issued one opinion regarding the Trinity Glen Rose GCD definition and regulation of public water supply wells (Opinion No. GA-0072). The agencies are not aware of any other recent OAG opinion requests

specific to groundwater conservation districts or groundwater management as outlined and authorized under Texas Water Code, Chapters 35 and 36.

Many of the new GCDs adopted their first management plans and first set of permitting and groundwater management regulations during the 2002–2003 biennium, and some of the preexisting GCDs amended longstanding rules based on groundwater availability modeling and similar types of data. Some issues that have been heavily debated include GCD historic-use permitting programs, hearing procedures, and water marketing by both private entities and the General Land Office.

Over the interim, the Senate Select Committee on Water Policy, the Subcommittee on the Lease of State Water Rights, and the House Committee on Natural Resources have held numerous hearings around the state to invite testimony and public input to identify the water management issues that should be addressed and to develop the appropriate recommendations for consideration by the 79th Legislature, 2005. The TCEQ and the TWDB respectfully defer recommendations regarding the management of groundwater supplies to the work of these committees and the subcommittee.

Introduction

This report has been prepared for the 79th Legislature by the Texas Commission on Environmental Quality (TCEQ or Commission) and the Texas Water Development Board (TWDB), as required by Section 35.018 of the Texas Water Code (the Water Code). The introduction describes the purpose and scope of the legislative report and describes the interagency roles and coordination by which the provisions of Chapters 35 and 36 of the Water Code are implemented.

Purpose and Scope

The purpose of the report is to provide updated information on the designation of priority groundwater management areas (PGMAs) and the creation and status of new groundwater conservation districts (GCDs or districts). The report describes state agency efforts to implement the groundwater management provisions of Chapters 35 and 36 of the Water Code. The report provides information on the implementation of the state's PGMA program and discusses state agency and local activities that have occurred in the designated PGMAs.

The report summarizes the Acts of the 78th Legislature, Regular Session, 2003, that generally and specifically affect the state's GCDs. The report describes elections held for the confirmation of recently created groundwater conservation districts and the additions of territory into existing districts. The report provides information on district activities, including district adoption and TWDB certification of comprehensive groundwater management plans. The report describes State Auditor's Office (SAO) management plan implementation reviews and TCEQ noncompliance review actions related to district management plan adoption or implementation. The report presents information on educational programming that has been initiated by the state agencies and other entities, and in other areas where local governments or landowners have requested education on groundwater management and groundwater conservation district creation.

This legislative report is the fourth of a series that has been prepared jointly by the TCEQ and the TWDB. The first three reports were presented to the 78th Legislature in 2003 (TCEQ, 2003), the 77th Legislature in 2001 (TNRCC, 2001), and the 76th Legislature in 1999 (TNRCC, 1999). The Texas Parks and Wildlife Department (TPWD), the Texas Cooperative Extension (TCE), and the SAO provided assistance in preparing these reports.

In addition, six previous reports on groundwater conservation districts and groundwater management issues have been prepared by the TCEQ's predecessor agencies, the Texas Natural Resource Conservation Commission (TNRCC) and the Texas Water Commission (TWC). These reports, spanning the years 1985 to 1997, were presented to the 70th (1987) through 75th (1997) legislatures (TWC, 1987, 1989, 1991 and 1993; TNRCC, 1995 and 1997). These reports were prepared under Chapter 133 (General and Special Laws), Regular Session, 69th Legislature, 1985, which was repealed and replaced with Section 35.018 of the Water Code in 1997.

Interagency Coordination and Implementation

Several state agencies have responsibilities for and are involved in implementing the groundwater management plan requirements of the Water Code. The **Texas Commission on Environmental Quality** is responsible for delineating and designating PGMA and creating groundwater conservation districts in response to landowner petitions or through the PGMA process. The TCEQ is also responsible for enforcing the GCD management plan adoption, certification, and implementation requirements of Chapter 36 of the Water Code, and for providing technical assistance to groundwater districts, when requested.

The **Texas Water Development Board** provides technical and administrative support to groundwater districts in the development of their groundwater management plans, reviews and certifies district management plans, performs PGMA water-availability and water-use studies at the request of the TCEQ, and is responsible for the delineation and designation of groundwater management areas. The TWDB also provides financial assistance to groundwater conservation districts for activities, including groundwater data collection, development and implementation of long-term management plans, and participation in regional water-planning efforts.

The **Texas Parks and Wildlife Department** is the state agency with primary responsibility for protecting the state's fish and wildlife resources. The TPWD also conducts natural resource evaluations when requested by the TCEQ in the PGMA process and provides follow-up assistance as needed. The **Texas Department of Agriculture** may also provide input to the TCEQ for the purposes of PGMA evaluation.

The role of the **Texas Cooperative Extension** in the PGMA process is to provide educational opportunities to the public. The TCE is charged with conducting educational programs in designated PGMA on the area's water resources and the management options available for these resources. TCE has developed numerous groundwater management educational brochures, fact sheets, and videos, and has expanded the educational programming to all areas of the state in response to the needs of local governments and landowners.

The **State Auditor's Office** is required to review district activities (with the assistance of the TCEQ, TWDB, and TPWD), to determine if a district is actively engaged in achieving the objectives of its management plan. The first review is required to be conducted after the first anniversary of the plan's certification by the TWDB, and subsequent reviews occur on a seven-year, risk-assessment basis. The SAO reports its findings to the TCEQ and the Legislative Audit Committee.

The **Texas Alliance of Groundwater Districts** (TAGD) is a nonprofit organization formed to further the purposes of groundwater conservation and protection activities. The TAGD's membership is restricted to groundwater conservation districts in Texas that are responsible for the management of groundwater, as defined in Water Code, Chapter 36. Members of TAGD serve on various local, state, and federal advisory groups and routinely assist the TCE and the state agencies through their participation in groundwater educational programming efforts.

A memorandum of agreement (MOA) was signed by the TCEQ, the TWDB, and the TPWD in September 1997 to implement changes mandated by Senate Bill 1 (SB 1, 77th Legislature, 1997). Regarding PGMA program planning and groundwater conservation district management planning, the purpose of the 1997 MOA was to develop time lines and procedures for required interagency meetings, reports, and rule development. These agreed actions were completed by the agencies in December 1997.

A second MOA regarding responsibilities of state agency groundwater management programs was signed in April 2001 by the TCEQ and TWDB. The purpose of the second MOA was to clarify agency communications regarding the creation of new groundwater conservation districts, the administrative certification of management plans for groundwater conservation districts by the TWDB, and TCEQ noncompliance review and enforcement actions if a district failed to submit or receive certification of its management plan.

Priority Groundwater Management Area Program

To enable effective management of the state's groundwater resources in areas where critical groundwater problems exist or may exist in the future, the Legislature has authorized the TCEQ, the TWDB, and the TPWD to study, identify and delineate priority groundwater management areas (PGMAs), and initiate the creation of GCDs within those areas, if necessary. "Critical groundwater problems" are defined as shortages of surface water or groundwater, land subsidence resulting from withdrawal of groundwater, or contamination of groundwater.

This chapter provides a brief overview of PGMA program activities that have been completed to date. The chapter also describes the status of GCD creation action in designated PGMAs and other present and pending PGMA activities at the commencement of the 79th legislative session.

The PGMA process provided in Chapter 35 of the Water Code is implemented by TCEQ rules that outline procedures for the designation of PGMAs and address issues related to the creation of GCDs in areas which have been designated as PGMAs. These TCEQ rules are contained in Title 30, Texas Administrative Code (TAC), §293.19 and §§294.41 - 293.44.

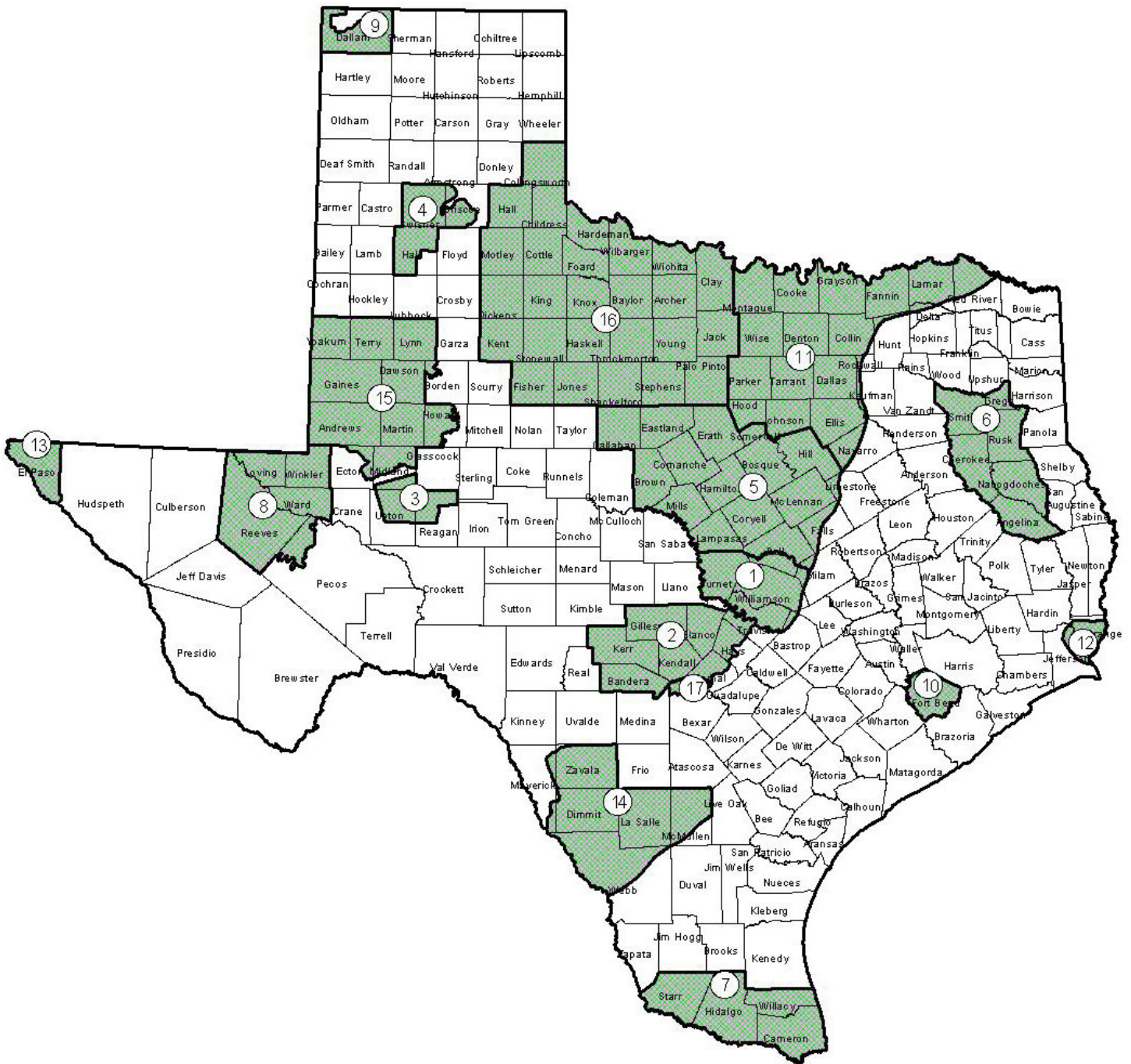
Background

Between 1987 and 1991, 16 PGMA studies (then known as "critical area" studies) were initiated and 14 were completed. The two unfinished PGMA studies were then completed in 1998, and an additional new study was initiated in 1999 and completed in 2001. These 17 PGMA study areas are shown in Figure 1 and information for each of the completed PGMA studies is presented in Table 1. The numbers referenced in parenthesis in the following text refer to each study area as labeled on Figure 1.

After evaluation, six study areas were determined not to be PGMAs. These study areas included:

- Lower Rio Grande Valley Area (#7),
- Fort Bend County Area (#10),
- Orange-Jefferson Counties Area (#12),
- Wintergarden Area (#14),
- Southernmost High Plains Area (#15), and
- North Texas Alluvium and Paleozoic Outcrop Area (#16).

Figure 1. Priority Groundwater Management Study Areas



- | | | |
|---|--------------------------------|---|
| ① Williamson and Parts of Adjacent Counties | ⑦ Lower Rio Grande Area | ⑬ El Paso County Area |
| ② Hill Country Area | ⑧ Trans-Pecos Area | ⑭ Wintergarden Area |
| ③ Reagan, Upton, Midland County Area | ⑨ Dallam County Area | ⑮ Southernmost High Plains Area |
| ④ Briscoe, Swisher, Hale County Area | ⑩ Fort Bend County Area | ⑯ North Texas Alluvium and Paleozoic Outcrop Area |
| ⑤ Central Texas Area | ⑪ North-Central Texas Area | ⑰ Northern Bexar County Area |
| ⑥ East Texas Areas | ⑫ Orange-Jefferson County Area | |

Table 1. Priority Groundwater Management Area Studies

PGMA Study Area	(Figure reference location)	Major Aquifer(s)	Date Study Started	TCEQ or Executive Director Action
Study Areas Determined to be PGMA's and Designated by the TCEQ				
Hill Country Area	(Figs. 1 & 2, Area 2)	Trinity	04/01/87	Designated on 06/06/90
Northern Bexar County Area	(Fig. 1, Area 17)		07/26/99	Designated on 01/24/01 Added to Hill Country PGMA
Reagan, Upton and Midland County Area	(Figs. 1 & 2, Area 3)	Edwards-Trinity	10/01/87	Designated on 06/13/90
Briscoe, Hale and Swisher County Area	(Figs. 1 & 2, Area 4)	Ogallala	01/01/88	Designated on 06/06/90
Dallam County Area	(Figs. 1 & 2, Area 9)	Ogallala	09/01/89	Designated on 06/06/90
El Paso County Area	(Figs. 1 & 2, Area 13)	Hueco Bolson	01/29/98	Designated on 12/02/98
Study Areas Determined Not to be PGMA's; No Further Evaluation Required				
Lower Rio Grande Valley Area	(Fig. 1, Area 7)	Gulf Coast	09/01/89	Decision made 09/19/90 (Commission)
Fort Bend County Area	(Fig. 1, Area 10)	Gulf Coast	09/01/89	Decision made 09/19/90 (Commission)
Orange-Jefferson Counties Area	(Fig. 1, Area 12)	Gulf Coast	09/01/89	Decision made 09/19/90 (Commission)
Wintergarden Area	(Fig. 1, Area 14)	Carrizo-Wilcox	10/04/90	Decision made 05/06/91 (Exe. Director)
Southernmost High Plains Area	(Fig. 1, Area 15)	Ogallala	01/07/91	Decision made 08/05/91 (Exe. Director)
N. TX Alluvium and Paleozoic Outcrop Area	(Fig. 1, Area 16)	Seymour, Blaine and Dockum	10/06/97	Decision made 08/31/98 (Exe. Director)
Update Evaluations				
Williamson and Parts of Adjacent Counties	(Figs. 1 & 3, Area 1)	Edwards (BFZ) and Trinity	08/23/04	Presently ongoing
Central Texas (Waco) Area	(Figs. 1 & 3, Area 5)	Trinity	11/02/04	Presently ongoing
East Texas Area	(Figs. 1 & 3, Area 6)	Carrizo-Wilcox	12/23/98	Not PGMA (by Exe. Director 08/04/04)
Trans-Pecos Area	(Figs. 1 & 3, Area 8)	Cenozoic Pecos Alluvium	12/23/98	Presently ongoing
North-Central Texas Area	(Figs. 1 & 3, Area 11)	Trinity	–	Pending
New PGMA Study Area				
Hudspeth County Area	(Fig. 3, Area 18)	Hueco and West TX Bolsons	06/30/04	Presently ongoing

Six study areas were determined to have, or were expected to have, critical groundwater problems and were designated as PGMA. The designated PGMA are shown alone in Figure 2 and include:

- Hill Country PGMA (#2),
- Reagan, Upton, and Midland Counties PGMA (#3),
- Briscoe, Hale, and Swisher Counties PGMA (#4),
- Dallam County PGMA (#9),
- El Paso County PGMA (#13), and
- Northern Bexar County Area (#17; added to Hill Country PGMA).

Five study areas were determined not to be PGMA, but were identified as requiring monitoring and further assessment of the severity of identified groundwater problems. These areas, shown in Figure 3, include:

- Williamson and Parts of Adjacent Areas (#1),
- Central Texas (Waco) Area (#5),
- East Texas Area (#6),
- Trans-Pecos Area (#8), and
- North-Central Texas Area (#11).

Agency PGMA study reports are listed by study area in Appendix 1. Maps showing the major and minor aquifers within the state, as referenced in Table 1, are provided in Appendix 2.

Update and New PGMA Studies

In December 2002, the executive director (TCEQ) and executive administrator (TWDB) agreed on a schedule to complete the five PGMA update studies and identified one new area, the Lower Rio Grande Valley/South Texas area, for a new PGMA study. In February 2004, the executive director recommended: (1) the proposed Lower Rio Grande Valley/South Texas area study be rescheduled and reconsidered after the second round of the state water-planning cycle was completed, and (2) the Hudspeth County area should be evaluated at this time because of potential groundwater production not contemplated in the 2002 State Water Plan. In March 2004, the executive administrator concurred with the two recommendations and the PGMA study schedule was revised.

During the 2003–2004 biennium, significant agency actions were taken to evaluate four of the five update PGMA study areas and to initiate the evaluation of one new PGMA study area.

TCEQ actions have been completed for the PGMA update evaluation for the **East Texas Area**. The executive director's report and recommendations, *Updated Evaluation for the East Texas Priority Groundwater Management Study Area*, was completed and filed with the commission on August 4, 2004. In the report, the executive director concluded the East Texas study area including all of Gregg, Rusk, and Smith counties should not be designated as a PGMA at this time. Evaluation of available data indicated the problems identified in the

Figure 2. Designated Priority Groundwater Management Areas

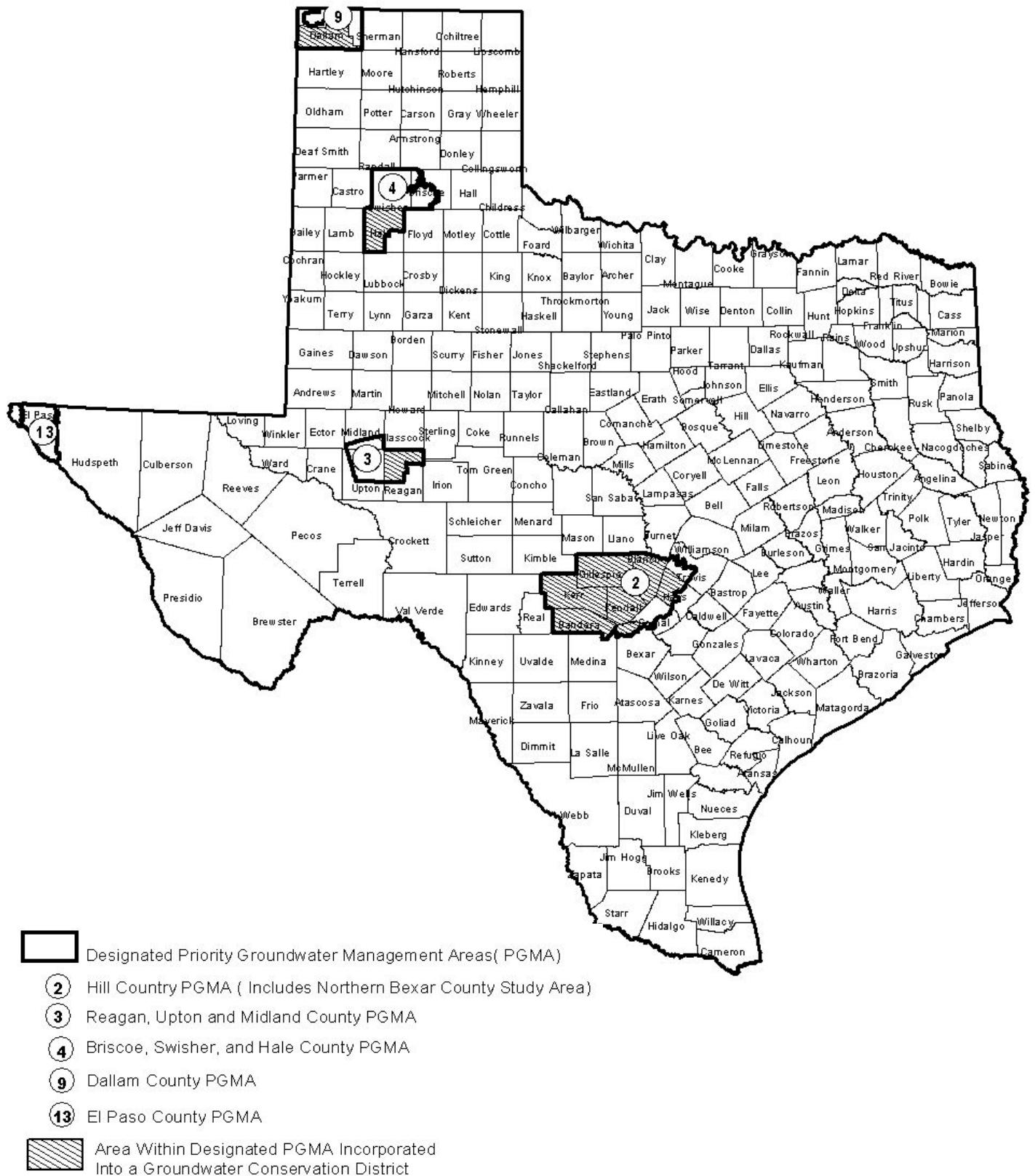
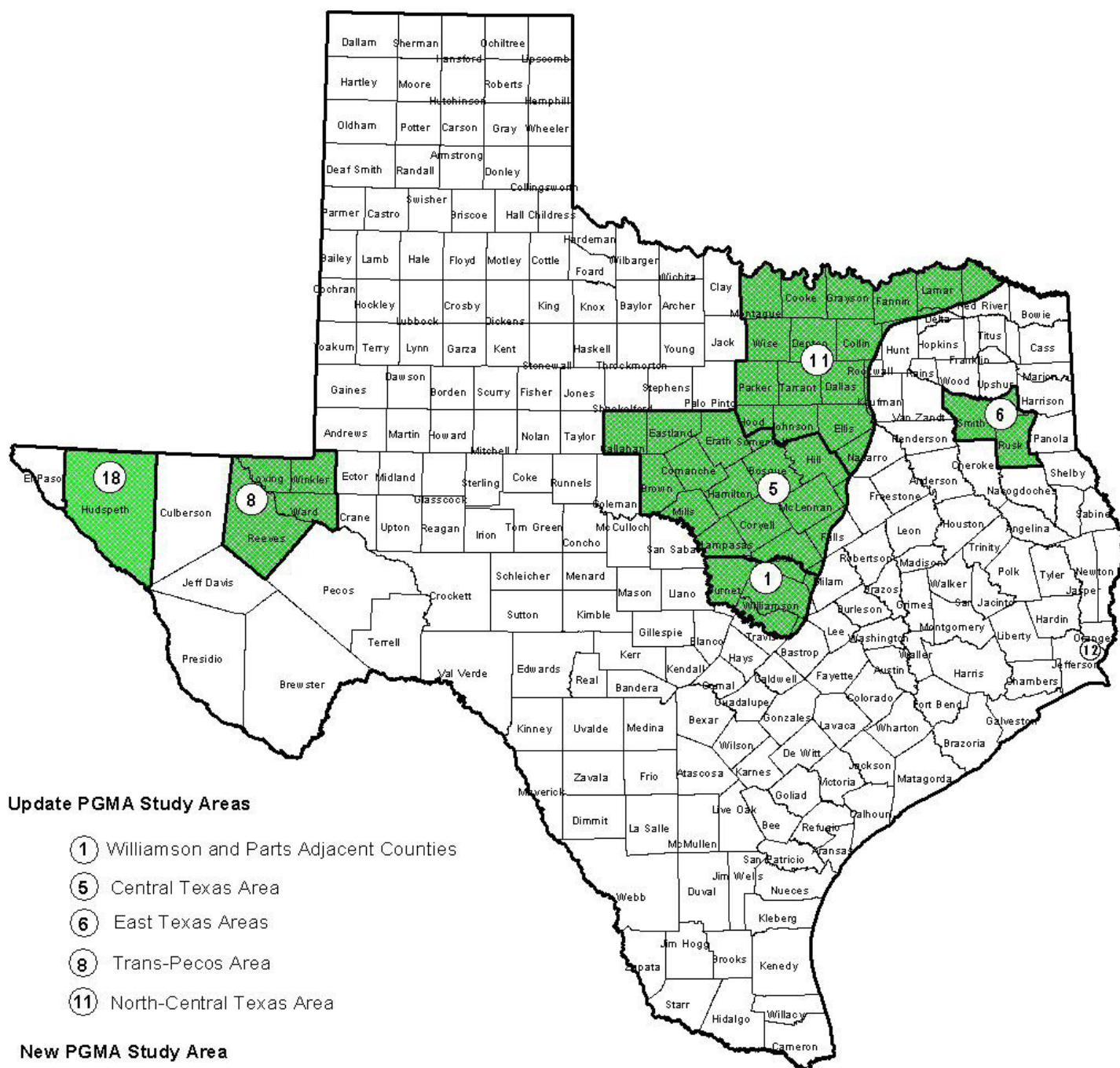


Figure 3. Update and New PGMA Study Areas



Update PGMA Study Areas

- ① Williamson and Parts Adjacent Counties
- ⑤ Central Texas Area
- ⑥ East Texas Areas
- ⑧ Trans-Pecos Area
- ⑪ North-Central Texas Area

New PGMA Study Area

- 18 Hudspeth County Area

area are not critical problems nor region-wide in nature. Based on the available information, the study area has adequate water resources of sufficient quality to meet water demands for the next 25-year period. The executive director also concluded the identified water problems can be addressed by water suppliers and water users through conservation, improved well and well field siting considerations, and development of alternative supplies, or through local initiative to establish a groundwater conservation district or districts. Notice of the report's completion and the executive director's recommendations was published in the August 20, 2004, issue of the *Texas Register* and in the Henderson, Kilgore, Longview, and Tyler newspapers, and mailed to 175 stakeholders. No motions to overturn the executive director's decision were received and TCEQ action regarding this study was finalized in September 2004.

The TCEQ is nearing completion of the PGMA update evaluation for the **Trans-Pecos Area** including Loving, Reeves, Ward, and Winkler counties. The executive director's draft report and recommendations, *Updated Evaluation for the Trans-Pecos Priority Groundwater Management Study Area*, was made available on June 28, 2004, for stakeholders to review and provide comments. Four study-area stakeholders provided neutral comments or comments requesting minor clarifications in the draft report. In the draft report, the executive director concludes that the available data indicate that water is of sufficient quality in the study area to meet intended uses. Based on the criteria adopted by the Region F Water Planning Group, the report concludes surface and groundwater supplies are sufficient to meet the present needs, and are projected to be sufficient to meet 25-year demands except for some irrigated agriculture and livestock watering. The water supply problems identified in the draft report are localized and are not study-wide problems. Final action regarding this update study should be completed in January 2005.

In July 2004, the executive director mailed notice of the **Williamson, Burnet, and Northern Travis Counties Area** update PGMA study to approximately 270 stakeholders in the two-and-half-county area. Over a dozen responses were received from concerned stakeholders. TCEQ staff participated in public meetings to solicit additional comments in Burnet, Georgetown, and Belton. Burnet County stakeholders provided comments related to differing groundwater sources and uses and demographics and have indicated their interest in the creation of a single-county groundwater district. The major water purveyors in Williamson County provided comments noting that actions were planned and are being taken to address water quantity issues to meet projected demands. The executive director's report and recommendations are presently being prepared, and the evaluation phase should be completed by February 2005.

In the **Central Texas-Trinity Aquifer Area**, the executive director mailed an October 2004, notice of the update PGMA study to over 450 stakeholders in Bosque, Brown, Callahan, Coryell, Eastland, Falls, Hamilton, Hill, Limestone, McClennan, and Somervell counties. The stakeholder comment period ended in early December 2004, and the provided data and information is presently being evaluated. The executive director anticipates the report and recommendations regarding the Central Texas-Trinity Aquifer Area to be completed in July 2005.

The new PGMA study to evaluate **Hudspeth County** water issues was initiated by the executive director in the summer of 2004. In June 2004, the executive director provided notice of the PGMA study to about 40 study-area stakeholders and made study and information requests to the TWDB, the TPWD, and the TDA. The commissioner of the TDA and the executive director of The University of Texas System, University Lands, West Texas Operations provided comments and data for the evaluation. TCEQ staff visited the area and interviewed several stakeholders in September 2004. The TWDB and TPWD studies are scheduled for completion in December 2004, and the executive director's report and recommendations should be finalized in February 2005.

The executive director plans to initiate the **North-Central Texas Area** update PGMA study in early 2005 as resources allow. This reevaluation of the northern Trinity and Woodbine aquifers will consider all or part of 20 counties including Collin, Cooke, Dallas, Delta, Denton, Ellis, Fannin, Grayson, Hood, Hunt, Johnson, Kaufman, Lamar, Montague, Navarro, Parker, Red River, Rockwall, Tarrant, and Wise (Figure 3).

District Creation Action in Designated PGMAs

Groundwater conservation district creation activity has occurred in four of the five designated PGMAs. During the 2003–2004 biennium, the Trinity Glen Rose Groundwater Conservation District was confirmed by northern Bexar County voters in the Hill Country PGMA. A second district in the Hill Country PGMA, the Southeast Trinity Groundwater Conservation District in the northwestern part of Comal County, was defeated by the voters in 2001 and the special law enabling this district was subsequently repealed by the Legislature in 2003 (Chapter 666, Acts of the 78th Legislature, Regular Session, 2003; HB 2348).

Between 1987 and 2002, eight districts were created through local initiative and confirmed by the voters in two of the designated PGMAs. Seven of the districts were created by legislative action and one was created by the TCEQ through the landowner petition process. Landowners within two of the other designated PGMAs have petitioned to join adjacent districts and large portions of these areas have been added into existing districts. No district creation activity has yet been undertaken in the El Paso County PGMA, and areas remain in each of the other designated PGMAs where district creation has not yet been accomplished. District creation status in the designated PGMAs is shown in Figure 2.

Acts of the 78th Legislature Affecting Groundwater Conservation Districts

The Acts of the 78th Legislature, Regular Session, 2003, affecting groundwater conservation districts are described and tabulated in this chapter. These Acts include both special legislation creating new or amending existing groundwater conservation districts, and legislation that affects the general law authority and therefore all GCDs.

Groundwater Conservation District Authority

Seven Acts passed by the 78th Legislature made changes or additions to Water Code, Chapter 36. Among these changes were clarifications regarding the common law doctrine of incompatibility and fees of office for GCD directors; GCD authorities related to eminent domain, the purchase, sale, transport, and distribution of water, and the regulation of groundwater production; and, State Auditor's Office reviews and GCD audits. The 2003 changes to Chapter 36 are briefly described in Table 2.

Table 2. Acts of the 78th Legislature Amending Water Code, Chapter 36

Act	Description
HB 1065 (Chap. 78)	Amends §36.051 to provide that, in GCDs with a population of less than 50,000, the common law doctrine of incompatibility applies to officers or members of the governing body of a municipality or county related to service on a GCD board of directors and vice versa.
HB 1534 (Chap. 560)	Amends §36.103(b) providing that a GCD may provide necessary facilities for water conservation purposes as opposed to providing facilities for the purchase, sale, transportation, and distribution of water. Amends §36.104 by removing the phrase for any purpose. Amends §36.105(a) and (b) by restricting a GCD's use of the power of eminent domain to areas within a district's boundaries and for purposes necessary for conservation including recharge and reuse, and denying the use of eminent domain for the purpose of production, sale, or distribution of groundwater or surface water. Amends §36.106 by removing GCD authority to make surveys for development, production, transportation, distribution, and use of water.
HB 3506 (Chap. 1275)	Section 2, Paragraph 147 of the Act makes a non-substantive subdivision numbering change in §36.001 .
HB 3507 (Chap. 1276)	Makes minor technical, non-substantive changes to various sections within Water Code Chapters 7, 15, 26, 36 (§36.116), 49, and 51.
SB 0019 (Chap. 785)	Amends §36.061 to provide the State Auditor's Office (SAO) may audit the records of a GCD instead of only the financial transactions. Amends §36.153 to add provisions that can exempt a GCD from annual financial audit requirements. Amends §36.302 and provides the SAO may perform an analysis of GCD activities within one year of management plan certification and at least as often as once every seven years thereafter subject to a risk assessment and Legislative Audit Committee approval.
SB 0899 (Chap. 905)	Amends §36.060 to provide the GCD director fees of office provided by the section prevail over any other law in conflict or inconsistent with the section unless the special law governing a specific district prohibits that district's directors from receiving a fee of office.

Act	Description
SB 1639 (Chap. 1242)	Amends §36.116 to: provide that GCDs may adopt different rules for different aquifers and different geographical areas of the same aquifer if the district determines conditions or use in an aquifer differ substantially from one area to another; require a GCD that regulates groundwater production to select an appropriate method of regulation based on hydrogeological conditions; and, authorize a GCD to limit the amount of water produced based on continuous surface acreage.

Groundwater Conservation District Creation and Dissolution

Six new GCDs were created by special Acts of the 78th Legislature, 2003. The new GCDs were created, subject to confirmation elections, in all or part of ten counties and include the Brazoria County, Rusk County, Southeast Texas, Upshur County, and two Kenedy County GCDs. One district, the Southeast Trinity GCD was dissolved by the repeal of its enabling Acts, and one district, Bexar Metropolitan Water District, had its groundwater management authority provisions removed from its enabling Acts. Table 3 briefly describes these creation and dissolution Acts of the 78th Legislature.

Table 3. GCD Creation and Dissolution Acts of the 78th Legislature

Act	Description
HB 2348 (Chap. 666)	Dissolves the Southeast Trinity GCD in Comal County by repealing Part 10, Article 3, Chapter 966, Acts of the 77 th Legislature, R.S., 2001 (SB 2), and Chapter 1335, Acts of the 77 th Legislature, R.S., 2001 (HB 2855).
HB 3374 (Chap. 1152)	Creates, subject to a confirmation election, the Kenedy County GCD in Kenedy County and parts of Brooks, Jim Wells, Kleberg, and Nueces counties; provides for the powers, duties, administration, operations and financing of the District.
HB 3569 (Chap. 764)	Creates, subject to a confirmation election, the Rusk County GCD in Rusk County and provides for the powers, duties, administration, operations and financing of the District.
HB 3602 (Chap. 772)	Creates, subject to a confirmation election, the Brazoria County GCD in Brazoria County and provides for the powers, duties, administration, operations and financing of the District. Repeals the Brazoria County GCD created by Chapter 1475, Acts of the 77 th Leg., R.S., 2001 (HB 3675).
HB 3635 (Chap. 1161)	Creates, subject to a confirmation election, the Upshur County GCD in Upshur County and provides for the powers, duties, administration, operation and financing of the District.
SB 0025 (Chap. 1162)	Creates, subject to a confirmation election, the Kenedy County GCD in Kenedy County and provides for the powers, duties, administration, operations and financing of the District.
SB 1494 (Chap. 375)	Repeals the groundwater conservation district authorities of the Bexar Metropolitan Water District . Act does not repeal or dissolve the District.
SB 1888 (Chap. 384)	Creates, subject to a confirmation election, the Southeast Texas GCD in Jasper and Newton counties and provides for the powers, duties, administration, operations and financing of the District.

Amendments for Specific Groundwater Conservation Districts

Thirteen Acts of the 78th Legislature made changes to authorities and responsibilities of existing groundwater conservation districts. These Acts amended the enabling legislation for each of the 13 GCDs that were changed in some manner. Table 4 provides a brief description of these Acts.

Table 4. Other Acts of the 78th Legislature Amending Specific GCDs

Act	Description
HB 0535 (Chap. 12)	Changes the name of the Colorado Valley GCD to the Fayette County GCD and amends director service terms and election and term-starting dates.
HB 2074 (Chap. 635)	Validates Real-Edwards Conservation & Reclamation District (Real and Edwards counties) actions and amends director service terms and election and term-starting dates.
HB 2300 (Chap. 1105)	Provides that Water Code, §36.121, relating to Limitation on Rulemaking Power of Districts Over Wells in Certain Counties, does not apply to the Jeff Davis County UWCD .
HB 3229 (Chap. 1147)	Authorizes the directors of the Blanco-Pedernales GCD (Blanco County) to choose the method by which District directors will be elected and provides that a municipality may be included in more than one precinct.
HB 3442 (Chap. 200)	Section 20 of the Act changes the boundaries of the Hudspeth County UWCD No. 1 .
HB 3556 (Chap. 759)	Updates general law references and authorities for the Sterling County UWCD , authorizes the directors to determine board composition and precinct representation, authorizes the directors to change the name of the District, and validates previous acts and proceedings of the District.
HB 3567 (Chap. 763)	Adds provisions for the Coastal Bend GCD (Wharton County) to change the method of director election if territory is added.
SB 0347 (Chap. 92)	Adds provisions relating to single-member districts for the board of the Barton Springs-Edwards Aquifer Conservation District (parts of Travis, Hays, Caldwell, and Bastrop counties).
SB 0822 (Chap. 893)	Validates the creation and certain actions and proceedings of the Middle Trinity GCD in Erath and Comanche counties and clarifies director positions and subsequent director elections. Removes Bosque, Callahan, Coryell, Eastland, Somervell, and Hamilton counties from the District.
SB 1570 (Chaps. 962 & 1332)	Adds provisions clarifying Trinity Glen Rose GCD (part of Bexar County) authority related to regulation of certain public water supply wells.
SB 1899 (Chap. 990)	Provides that a retail public utility is not required to obtain a permit to transfer groundwater out of the Pineywoods GCD (Angelina and Nacogdoches counties) if the water is used by the retail public utility in a service area located in a county adjacent to the District.
SB 1925 (Chap. 992)	Provides that Water Code, §36.121, does not apply to the Rolling Plains GCD (Haskell, Knox, and Baylor counties), authorizes the District to assess annual well production and transport fees, and prohibits the directors from receiving a fee of office.

Act	Description
SB 1930 (Chap. 994)	Adds authority for the Lone Star GCD (Montgomery County) to adopt different rules for each aquifer, subdivision of an aquifer, or geologic stratum, or for different geographic areas of an aquifer or subdivision of an aquifer if water use conditions differ substantially or to promote better groundwater management; allows more restrictions on new users of water; clarifies authority and considerations for the issuance of historic use permits; prohibits directors that from holding another civil office of emolument and from receiving fees of office; clarifies the timing and responsibilities of District director appointments; provides that Water Code, Section 36.121 does not apply to the District; and validates specific actions of the District.

Groundwater Conservation District Creation

A description of the GCDs that were created by the 78th Legislature and the status of confirmation elections during the 2003–2004 biennium are presented below and summarized in Table 5. Landowner efforts to add territory to existing districts is also discussed. The existing groundwater conservation districts are shown on Figure 4.

Confirmation of New Districts During the 2003–2004 Biennium

Two previously created GCDs were confirmed by election in May 2003. The **Hays Trinity GCD** in western Hays County was created by Chapter 966, Article 3, Part 3, Acts of the 77th Legislature, Regular Session, 2001, and confirmed by the voters on May 3, 2003. The Hays Trinity GCD was confirmed by a vote of 1,702 for; 883 against. The **Tri-County GCD** was created in Hardeman, Foard, and Wilbarger counties by Chapters 966 and 1352, Acts of the 77th Legislature, Regular Session, 2001. The District was confirmed by the voters and created in Hardeman (119 for; 33 against) and Foard (89 for; 28 against) counties, and defeated by the voters in Wilbarger County (354 for; 385 against). In accordance with its enabling legislation, the Tri-County GCD was created in the two confirming counties.

The **Rusk County GCD** was created by Chapter 764, Acts of the 78th Legislature, Regular Session, 2003 (HB 3569). Rusk County voters confirmed the District's creation on June 5, 2004 by a vote of 356 for; 113 against, and authorized the directors to levy an ad valorem tax at a rate not to exceed \$0.005 per \$100 valuation. Nine initial directors were also elected on this date, two from each commissioners precinct and one representing the county at-large. Chapter 764 specifically provides that the District is not authorized to purchase, sell, transport, or distribute water or exercise the power of eminent domain, and may not assess a production fee on any well drilled by a nonprofit rural water supply corporation, water district, or other political subdivision if the water is for use within the District. The Act provides that District production fees are initially capped at \$0.25 per acre-foot for water used for agricultural irrigation or \$0.0425 per 1,000 gallons of water used for any other purpose and may be increased three percent per year. The District is required to participate in coordination meetings with other GCDs in its designated groundwater management area to coordinate data collection, water quality monitoring, and pollution investigations. The District is required to annually share with the other GCDs new well inventories, estimates of groundwater production, and public educational outreach.

Table 5. Status of GCD Elections During the 2003–2004 Biennium

Enabling Legislation ¹ (Chapter Listed)	District Name	County(s) ²	Confirmation Election ³			Board of Directors ⁴	District Comments
			Date	Vote For/Against	Status		
Landowner Petition Process ⁵	Lake Country GCD	Wood	02/01/03	689 / 4,789	Defeated	None	Dissolved in February 2003
SB 2, 77 th Leg. (966)	Hays Trinity GCD	Hays	05/03/03	1,702 / 883	Confirmed	Elected; Initial	
HB 3626, 77 th Leg. (1352) SB 2 77 th Leg. (966)	Tri-County GCD	Hardeman	05/03/03	119 / 33	Confirmed	Appointed; Initial	District includes only Hardeman and Foard counties
		Foard		89 / 28	Confirmed		
		Wilbarger		354 / 385	Defeated		
HB 3602, 78 th Leg. (772)	Brazoria County GCD	Brazoria	05/07/05	–	Unconfirmed	Named & Appointed; Temporary	
HB 3374, 78 th Leg. (1152) SB 0025, 78 th Leg. (1162)	Kenedy County GCD	Kenedy & Kleberg ⁶	11/02/04	85 / 33 64 / 2	Confirmed	Appointed; Temporary	
HB 3569, 78 th Leg. (764)	Rusk County GCD	Rusk	06/05/04	536 / 113	Confirmed	Elected; Initial	
SB 1888, 78 th Leg. (384)	Southeast Texas GCD	Jasper	11/02/04	6,227 / 4,095	Confirmed	Appointed; Temporary	
		Newton		2,682 / 1,757			
HB 3635, 78 th Leg. (1161)	Upshur County GCD	Upshur	05/15/04	429 / 1,320	Defeated	None	Dissolved 05/20/04
HB 2643, 77 th Leg. (1332) SB 2, 77 th Leg. (966)	Crossroads GCD	Victoria	11/06/01	2,132 / 2,644	Unconfirmed	Named; Temporary	Subsequent election authorized; Act expires 09/01/06 if not confirmed
HB 3652, 77 th Leg. (1360)	Lavaca County GCD	Lavaca	11/06/01	1,155 / 1,367	Unconfirmed	Named; Temporary	Subsequent election authorized; Act expires 09/01/06 if not confirmed
HB 3642, 77 th Leg. (1471)	Lower Seymour GCD	Jones	not set	–	Unconfirmed	Named; Temporary	Act expires 06/17/05 if not confirmed

Table 7 Notes:

1. Chapter citation in Laws of Named Legislature, Regular Session.
2. District may include all or part of county or counties listed.
3. 11/02/04 confirmation election information based on TCEQ staff communications with temporary district directors or county clerks. Copies of election results not received by TCEQ to date.
4. Indicates method of director selection and board status.
5. District created by TCEQ on September 25, 2002 in response to landowner petition.
6. Pursuant to SB 0025, District includes only Kenedy County. Pursuant to HB 3374, District includes Kenedy and parts of Brooks, Jim Wells, Kleberg, and Nueces counties. Territory covered by 11/02/04 election included all of Kenedy County and the western part of Kleberg County within the Santa Gertrudis Independent School District.

Chapter 384, Acts of the 78th Legislature, Regular Session, 2003 (SB 1888) created the **Southeast Texas GCD** in Jasper and Newton counties. On November 2, 2004, the District was confirmed by the voters in Jasper County by a tally of 6,227 for; 4,095 against, and confirmed by the voters in Newton County by a tally of 2,682 for; 1,757 against. The Act provides for a board of seven directors appointed by the two county commissioners courts to represent specific water interests. The Act specifically provides that the District is not authorized to levy taxes, issue bonds, or exercise eminent domain. The District is authorized to assess annual fees based on the amount of water withdrawn from permitted wells capped at one cent per 1,000 gallons of water for any purpose. The Act also provides that adjacent counties may petition to be added to the District by resolution of a commissioners court.

Two special laws created the **Kenedy County GCD**. Chapter 1162, Acts of the 78th Legislature, Regular Session 2003 (SB 0025) created, subject to a confirmation election, the District in Kenedy County and provided for five directors to be elected according to the commissioners precinct method (one elected from each commissioners precinct and one elected from the county at large). Chapter 1152, Acts of the 78th Legislature, Regular Session 2003 (HB 3374) created, subject to a confirmation election, the District in Kenedy and parts of Brooks, Jim Wells, Kleberg, and Nueces counties. This Act provided for five directors; four to be elected from the commissioners precincts of Kenedy County, and one to be elected from the area of western Kleberg County within the Santa Gertrudis Independent School District. In accordance with Chapter 1152, the Commissioners Court of Kenedy County appointed five temporary directors for the District on October 14, 2003. On November 2, 2004, the District was confirmed by Kenedy County voters by a margin of 85 for; 33 against. The District was also confirmed by the Kleberg County voters within the Santa Gertrudis Independent School District by a tally of 64 for; 2 against. Four initial directors were elected from the commissioner precincts of Kenedy County and one initial director was elected from the area in Kleberg County. The temporary directors did not present a tax proposition to the voters at this election.

The **Brazoria County GCD** was created, subject to a confirmation election, by Chapter 772, Acts of the 78th Legislature, Regular Session, 2003 (HB 3602). This Act repealed Chapter 1475, Acts of the 77th Legislature, Regular Session, 2001 (HB 3675), a special law that had previously created a Brazoria County GCD. Chapter 772 provides that the District may not impose a property tax, exercise eminent domain, acquire land, issue or sell bonds, or purchase, sell, transport, or distribute surface water or groundwater. Further, the Act provides the District may not impose a tax or fee of any type or require a meter on a water well on private property that is used only for personal or agricultural purposes or to otherwise benefit the land on which the well is located. The Act provides that the District would be governed by a board of five directors elected according to the commissioners precinct method. The Act names one temporary director and requires the other four be appointed by the Commissioners Court of Brazoria County. The temporary directors have scheduled the confirmation and initial directors election for May 7, 2005. Chapter 772 will expire on September 1, 2005 if the District is not confirmed by that date.

Figure 4
Texas Groundwater Conservation
Districts (December 2004)

- 1

Anderson County UWCD
- 2

Bandera County RA & GWD
- 3

Barton Springs/Edwards Aquifer CD
- 4

Bee GCD
- 5

Blanco-Pedernales GCD
- 6

Bluebonnet GCD
- 7

Brazoria County GCD
- 8

Brazos Valley GCD
- 9

Brewster County GCD
- 10

Clear Fork GCD
- 11

Clearwater UWCD
- 12

Coastal Bend GCD
- 13

Coastal Plains GCD
- 14

Coke County UWCD
- 15

Collingsworth County UWCD
- 16

Cow Creek GCD
- 17

Crossroads GCD
- 18

Culberson County GCD
- 19

Dallam County UWCD No. 1
- 20

Edwards Aquifer Authority
- 21

Emerald UWCD
- 22

Evergreen UWCD
- 23

Fayette County GCD
- 24

Fort Bend Subsidence District
- 25

Fox Crossing Water District
- 26

Garza County UFWCD
- 27

Glasscock County GCD
- 28

Goliad County GCD
- 29

Gonzales County UWCD
- 30

Guadalupe County GCD
- 31

Harris-Galveston Coastal SD
- 32

Hays Trinity GCD
- 33

Headwaters UWCD
- 34

Hemphill County UWCD
- 35

Hickory UWCD No. 1
- 36

High Plains UWCD No.1
- 37

Hill Country UWCD
- 38

Hudspeth County UWCD No. 1
- 39

Irion County WCD
- 40

Jeff Davis County UWCD
- 41

Kenedy County GCD (Exact boundaries not available)
- 42

Kimble County GCD
- 43

Kinney County GCD
- 44

Lavaca County GCD
- 45

Lipan-Kickapoo WCD
- 46

Live Oak UWCD
- 47

Llano Estacado UWCD
- 48

Lone Star GCD
- 49

Lone Wolf GCD
- 50

Lost Pines GCD
- 51

Lower Seymour GCD
- 52

McMullen GCD
- 53

Medina County GCD
- 54

Menard County UWCD
- 55

Mesa UWCD
- 56

Mid-East Texas GCD
- 57

Middle Pecos GCD
- 58

Middle Trinity GCD
- 59

Neches & Trinity Valleys GCD
- 60

North Plains GCD
- 61

Panhandle GCD
- 62

Pecan Valley GCD
- 63

Permian Basin UWCD
- 64

Pineywoods GCD
- 65

Plateau UWCDSD
- 66

Plum Creek CD
- 67

Post Oak Savannah GCD
- 68

Presidio County UWCD
- 69

Real-Edwards CRD
- 70

Red Sands GCD
- 71

Refugio GCD
- 72

Rolling Plains GCD
- 73

Rusk County GCD
- 74

Salt Fork UWCD
- 75

Sandy Land UWCD
- 76

Santa Rita UWCD
- 77

Saratoga UWCD
- 78

South Plains UWCD
- 79

Southeast Texas GCD
- 80

Sterling County UWCD
- 81

Sutton County UWCD
- 82

Texana GCD
- 83

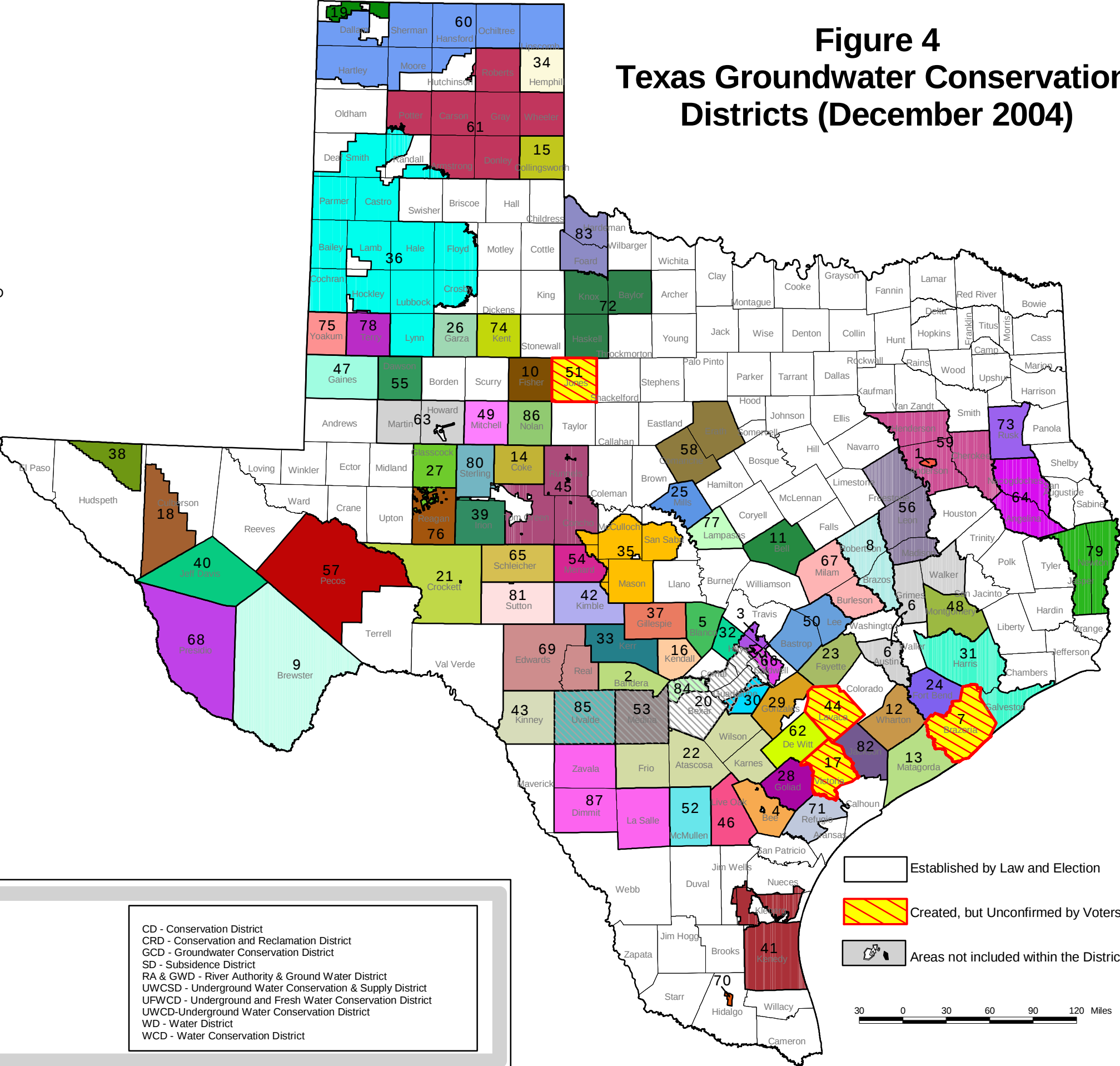
Tri-County GCD
- 84

Trinity Glen Rose GCD
- 85

Uvalde County UWCD
- 86

Wes-Tex GCD
- 87

Wintergarden GCD



Texas Commission on Environmental Quality



This map was prepared by the TCEQ for display purposes only. No claims are made to the accuracy or completeness of the information shown herein nor is this map suitable for any other use. The scale and location of mapped data are approximate. The groundwater conservation district boundaries are not land survey data and may not accurately depict legal descriptions. For more information about this map, please contact TCEQ Groundwater Planning and Assessment Team at (512) 239-4510.

Map printed December 10, 2004

CD - Conservation District
CRD - Conservation and Reclamation District
GCD - Groundwater Conservation District
SD - Subsidence District
RA & GWD - River Authority & Ground Water District
UWCDSD - Underground Water Conservation & Supply District
UFWCD - Underground and Fresh Water Conservation District
UWCD - Underground Water Conservation District
WD - Water District
WCD - Water Conservation District

The **Lower Seymour GCD** in Jones County was created, subject to a confirmation election, by Chapter 1471, Acts of the 77th Legislature, Regular Session, 2001 (HB 3642). The Act names the temporary directors who are responsible for scheduling and conducting the District's confirmation and initial directors election. Initial and permanent directors would be elected according to the commissioners precinct method. A confirmation and initial directors election has not been held or scheduled to date, and the Act will expire on June 17, 2005 if the District is not approved by the voters.

The **Crossroads GCD** in Victoria County and the **Lavaca County GCD** both held confirmation elections that were defeated by the voters in November 2001. Under their enabling Acts, both Districts are authorized to conduct subsequent confirmation elections, and both District Acts would expire on September 1, 2006 should the Districts remain unconfirmed by the voters.

Addition of Territory to Existing Districts

On January 11, 2003, landowners in Mason County petitioned the board of directors of the **Hickory UWCD No. 1** to add the southeastern two-thirds of Mason County to the District. The board of directors approved the petition on February 27, 2003, and ordered a May 3, 2003 confirmation election in Mason County. The remaining portion of Mason County was added to the District by a vote of 422 for; 48 against.

In response to landowner petitions, the **Jeff Davis County UWCD** added around 12,000 acres in two contiguous Presidio County ranches in April 1999. In December 2000, the Jeff Davis district added a third contiguous ranch of about 12,700 acres in Brewster County and 17,800 acres in Pecos County. These additions of territory predated the creation of the Presidio County UWCD in August 1999, the Brewster County GCD in November 2001, and the Middle Pecos GCD in November 2002. In July 2004, the owner of the Brewster-Pecos County ranch petitioned the Jeff Davis district to cede jurisdiction for the previously-added territory to the other, more recently created districts. The Jeff Davis district is presently reviewing its administrative responsibilities to grant the petition.

As briefly described in Table 4, Chapter 200, Acts of the 78th Legislature, Regular Session, 2003 (HB 3442, Section 20), modified the boundaries of the **Hudspeth County UWCD No. 1**. This Act removed some territory from the eastern part of the District and added new territory to the south and west.

Failed District Creations

In response to a landowner petition, the TCEQ created the **Lake Country GCD** in Wood County on September 25, 2002. At election on February 1, 2003, the District was overwhelmingly defeated by the voters by a margin of 689 for; 4,789 against. During the Lake Country GCD-creation proceedings, 152 people attended the public meeting in Quitman; a total of 18 citizens presented oral comments at the meeting and 824 written comments were submitted within a ten-day period following the meeting. A total of 380 commenters generally opposed creation of the District without providing reasons. An additional 417

commenters generally opposed creation of the District because they opposed the taxes or fees that would be necessary to support the District. Of these, 400 commenters generally opposed creation of the District because they did not believe Wood County water issues warranted the need for a GCD at this time.

The **Upshur County GCD** was defeated by the voters by a three to one margin (429 for; 1,320 against) on May 15, 2004. By an even larger margin, the voters also rejected a proposition to authorize an ad valorem tax at a rate not to exceed \$0.005 per \$100 valuation. The District had been created by Chapter 1161, Acts of the 78th Legislature, Regular Session, 2003 (HB 3635), subject to the confirmation election. Chapter 1161 placed specific limitations on the general law powers and authorities granted to the District. These modifications limited and capped total bond indebtedness, ad valorem tax rates, agricultural water use production fee rates, fee rate increases, and the assessment of fees on wells owned by nonprofit water supply corporations, water districts and other political subdivisions within the district. The Act provided that the District was not authorized to purchase, sell, transport or distribute surface water or groundwater for any purpose or exercise the power of eminent domain. After canvassing and filing election results, closing bank accounts, and giving proceeds to Upshur County, the directors reported the District dissolved effective May 20, 2004.

Between 1989 and 2001, four legislatively created groundwater conservation districts and one commission-created district failed confirmation elections. Additionally, the Act creating one district was repealed for failure to conduct a confirmation election within a specified time frame. All of the groundwater districts that have failed confirmation elections since 1989 are described in Table 6.

Table 6. Failed GCDs (Since 1989)

District	Method of Creation				County(s)	Confirmation Election	
	Bill	Legislature	Year	Chapter Listed		Date	Vote % For/Against
Upshur County GCD	HB 3635	78 th	2003	1161	Upshur	05/15/04	25 / 75
Southeast Trinity GCD ¹	HB 2855 SB 2	77 th 77 th	2001 2001	1335 966	Portion of Comal County within the Hill Country PGMA	11/06/01	33 / 67
	HB 2348	78 th	2003	666	Portion of Comal County within the Hill Country PGMA	Act repealed previous enabling Acts effective 06/20/03	
Post Oak GCD ²	HB 1136	77 th	2001	303	Colorado	11/06/01 11/05/02	48 / 52 44 / 56
Lake Country GCD	Landowner Petition Under Water Code, Chapter 36. Created by Commission Order, 2002				Wood	02/01/03	13 / 87
Failed Prior to 2003–2004 Biennium							
San Patricio GCD	HB 3590	75 th	1997	1451	San Patricio	01/17/98	34 / 66
Oldham County UWCD	SB 1714	74 th	1995	720	Oldham	Act repealed 09/01/99 for failure to conduct election	
Comal County UWCD	Landowner Petition Under Water Code, Chapter 36. Created by Commission Order, 1994.				Portion of Comal County within the Hill Country PGMA	05/06/95	8 / 92
Rolling Plains UWCD	HB 2820	73 rd	1993	1027	Borden, Mitchell, Scurry	06/07/94	25 / 75
Llano Uplift UWCD	HB 1491	73 rd	1993	301	Llano	05/14/94	15 / 85
Central Texas UWCD	HB 3099	71 st	1989	514	Burnet	01/20/90	12 / 88

Notes:

1. District was authorized by Chapters 966 and 1335, Acts of the 77th Legislature, Regular Session, 2001, to hold subsequent elections after a one-year period if initial confirmation was defeated by the voters. Chapter 666, Acts of the 78th Legislature, Regular Session, 2003, repealed the enabling Acts thus dissolving the District.
2. District was authorized by Chapter 303, Acts of the 77th Legislature, Regular Session, 2001, to hold subsequent election after a one-year period if initial confirmation was defeated by the voters. The November 2001 and 2002 elections were defeated, and Chapter 303 and the District expired on September 1, 2003.

District Activities and Groundwater Management Planning

This chapter outlines the activities and management planning efforts of existing GCDs. State agency activities related to GCD management plan certification, implementation, and compliance with planning requirements are discussed. Groundwater management areas are described and state assistance to GCDs and educational programming are reported.

Activities of Existing Districts

Chapter 36 of the Water Code requires that each GCD develop and implement a management plan for effective management of its groundwater resources. The management plan identifies the programs and activities to be implemented or accomplished by the district. Each GCD plans its activities according to rules and goals developed and adopted by the locally governed board. Table 7 summarizes general district activities. The information presented in Table 7 is a summary of activities listed in a district's groundwater management plan, and information obtained from districts in response to a request sent to them in early 2003. An "X" in the activities column indicates that the district is performing at least one of the activities described in the following descriptions:

Water Quality Monitoring and Protection. The district implements a program for analyzing water quality or other programs for protecting water wells. The programs may include providing sample collection and laboratory services for water analyses.

Aquifer Storage Monitoring. The district has established a network of observation wells to monitor changes in groundwater storage in an aquifer. The water levels in individual wells in the network are measured on a regular basis.

Water Well Inventory. The district maintains an inventory of water wells within its boundaries. This inventory is used to create a database to monitor the development of the aquifer and to provide information for future aquifer investigations.

Well Spacing, Permitting, and Construction. Through adoption of rules, the district may require permits for new wells or regulation of wells. Requirements may include well location and spacing restrictions, permit requirements, well construction standards, and production regulations. Authority for well location and spacing, permit requirements, and production regulations rest solely with the district. Well construction standards may be established by each district, but the districts often refer to regulations established by the Texas Department of Licensing and Regulations (TDLR) Water Well Drillers Program.

Table 7. Groundwater Management, District Activities

District Name	Water Quality Monitoring and Protection	Aquifer Storage Monitoring	Water Well Inventory	Well Spacing Permitting and Construction	Education / Public Outreach	Water Conservation	Waste Oil Recycling	Cooperative Surface Water Program	Groundwater Export Rules	Grants and Loan Applications	Special Projects and Research
Anderson County UWCD	X		X	X	X	X	X	X	X		X
Bandera County RA & GWD	X	X	X	X	X	X		X		X	X
Barton Sprigs/Edwards Aquifer CD	X	X	X	X	X	X	X	X	X	X	X
Bee GCD	X	X	X	X	X	X		X			
Blanco-Pedernales GCD	X	X	X	X	X			X	X		X
Bluebonnet GCD		X	X		X	X	X		X	X	
Brazos Valley GCD	X	X	X	X	X	X					X
Brewster County GCD	X	X	X	X	X	X			X		X
Clear Fork GCD											
Clearwater UWCD	X	X	X	X	X	X		X			X
Coastal Bend GCD			X	X		X					X
Coastal Plains GCD	X	X	X	X		X					X
Coke County UWCD	X	X	X	X	X	X		X		X	X
Collingsworth County UWCD	X	X	X	X	X	X			X	X	X
Cow Creek GCD	X	X	X	X	X	X		X			X
Culberson County GCD	X	X	X	X	X	X			X		X
Dallam County UWCD No. 1	X		X	X	X	X					
Edwards Aquifer Authority	X	X	X	X	X	X		X	X	X	X
Emerald UWCD	X	X	X	X	X	X			X	X	X
Evergreen UWCD	X	X	X	X	X	X			X	X	X
Fayette County GCD	X	X	X	X	X	X			X	X	X
Fort Bend Subsidence District	X	X	X	X	X	X		X	X		X
Fox Crossing Water District	X	X	X	X	X	X	X	X			
Garza County UFWCD		X	X	X	X	X				X	
Glasscock County GCD	X	X	X	X	X	X			X	X	X
Goliad County GCD	X	X	X	X	X	X		X			
Gonzales County UWCD	X	X	X	X	X	X	X	X			X
Guadalupe County GCD	X	X	X	X	X	X					

District Name	Water Quality Monitoring and Protection	Aquifer Storage Monitoring	Water Well Inventory	Well Spacing Permitting and Construction	Education / Public Outreach	Water Conservation	Waste Oil Recycling	Cooperative Surface Water Program	Groundwater Export Rules	Grants and Loan Applications	Special Projects and Research
Harris-Galveston Coastal Subsidence District	X	X	X	X	X	X		X		X	X
Hays Trinity GCD											
Headwaters UWCD	X	X	X	X	X	X		X	X		X
Hemphill County UWCD	X	X	X	X	X	X			X		X
Hickory UWCD No. 1	X	X	X	X	X	X		X		X	X
High Plains UWCD No. 1	X	X	X	X	X	X		X	X	X	X
Hill Country UWCD	X	X	X	X	X	X		X		X	X
Hudspeth County UWCD No. 1	X	X	X	X	X	X			X	X	X
Irion County WCD	X	X	X	X	X	X		X		X	X
Jeff Davis County UWCD	X	X	X	X	X	X		X	X		
Kenedy County GCD											
Kimble County GCD		X	X	X	X	X		X			
Kinney County GCD		X	X	X	X	X		X			X
Lipan-Kickapoo WCD	X	X	X	X	X	X		X		X	X
Live Oak UWCD	X	X	X	X	X	X		X			X
Llano Estacado UWCD	X	X	X	X	X	X	X	X		X	X
Lone Star GCD	X	X	X	X	X	X		X			
Lone Wolf GCD	X	X	X	X	X	X		X		X	X
Lost Pines GCD											
McMullen GCD		X	X	X	X	X		X	X		
Medina County GCD	X	X	X	X	X	X		X	X	X	X
Menard County UWCD	X	X		X	X	X		X			
Mesa UWCD	X	X	X	X	X	X	X		X	X	X
Mid-East Texas GCD		X	X	X	X	X		X	X		
Middle Pecos GCD		X	X	X	X	X		X			
Middle Trinity GCD	X	X	X	X	X	X		X			
Neches & Trinity Valleys GCD	X	X	X	X	X	X		X			
North Plains GCD	X	X	X	X	X	X		X		X	X
Panhandle GCD	X	X	X	X	X	X		X	X	X	X
Pecan Valley GCD		X	X	X	X	X			X		

District Name	Water Quality Monitoring and Protection	Aquifer Storage Monitoring	Water Well Inventory	Well Spacing Permitting and Construction	Education / Public Outreach	Water Conservation	Waste Oil Recycling	Cooperative Surface Water Program	Groundwater Export Rules	Grants and Loan Applications	Special Projects and Research
Permian Basin UWCD	X	X	X	X	X	X		X		X	X
Pineywoods GCD	X	X	X	X	X	X		X	X		
Plateau UWCD	X	X	X	X	X	X		X	X		
Plum Creek CD	X	X	X	X	X	X					
Post Oak Savannah GCD			X	X	X	X		X			X
Presidio County UWCD	X	X	X	X	X	X			X		
Real-Edwards CRD	X		X	X	X	X					
Red Sands GCD											
Refugio GCD	X	X	X	X	X	X		X	X		
Rolling Plains GCD	X	X	X	X	X	X			X		
Rusk County GCD											
Salt Fork UWCD	X	X		X		X				X	X
Sandy Land UWCD	X	X	X	X	X	X	X		X	X	X
Santa Rita UWCD	X	X	X	X	X	X					X
Saratoga UWCD	X	X	X	X	X	X	X	X			X
South Plains UWCD	X	X	X	X	X	X		X		X	X
Southeast Texas GCD											
Sterling County UWCD	X	X	X	X	X	X			X	X	X
Sutton County UWCD	X	X	X	X	X	X					X
Texana GCD	X	X	X	X	X	X		X			
Tri-County GCD											
Trinity Glen Rose GCD											
Uvalde County UWCD	X	X	X	X	X	X		X	X	X	X
Wes-Tex GCD											
Wintergarden GCD		X		X	X	X			X		X
Notes:											
Shading indicates district management plan has not been adopted or certified by November 1, 2004. Tabulated activity analysis from certified management plans.											
Districts that have not been confirmed by election are not included in table.											

Education/Public Outreach. The district may provide pamphlets, newsletters, videos, newspaper articles, scholarships, workshops, public meetings and hearings, reports, and classes emphasizing water conservation principles and encouraging efficient groundwater use. The districts may also maintain an informational booth at local or regional agricultural events promoting irrigation and domestic efficiency programs. In districts with weather modification programs, local tours demonstrating project equipment may be provided to the public.

Water Conservation. The district may address improving irrigation efficiency by funding loans, encouraging conservation practices through educational programs, performing irrigation efficiency evaluations, conducting pivot flow tests, and providing mapping and leveling equipment. Districts provide guidance and rules for identifying and regulating wasteful practices regarding groundwater use. Many districts rely on public input and cooperation to identify potential wasteful practices and resolve incidents of groundwater waste. Possible projects may include water metering, drought management plans, and establishing triggers for implementing drought and conservation plans.

Waste Oil Recycling. The district organizes and/or operates and monitors used oil and oil filter collection centers.

Cooperative Surface-Water Programs. Surface-water programs may include surface-water quality monitoring, coordination with surface-water management entities, and creation of maps showing surface-water quality. Some districts attend public meetings of the surface-water entity in their district.

Transporting Groundwater. District rules may impose limitations on or outline requirements for the transport of groundwater extracted from wells within the district to out-of-district users.

Grants and Loan Applications. Any district can apply for TWDB funding for grants. The grants program provides 75 percent matching funds to districts to purchase equipment and promote, demonstrate, or evaluate water conservation practices. Another program provides low interest loans to districts, which in turn provide low interest loans to irrigators to purchase and install more efficient irrigation systems.

Special Projects and Research. Special projects and research include groundwater modeling, groundwater recharge through infiltration or injection, area subsidence measurements, production of groundwater level maps, and recharge enhancement through weather modification programs. Projects may involve cooperative funding through federal and state or local agencies.

Groundwater Management Plans

Every GCD in Texas is required to develop, in coordination with surface-water management entities, a comprehensive management plan that addresses the groundwater management goals of the district. Water Code, §36.1071 outlines the general contents of a groundwater management plan and the requirements for its certification by the TWDB.

As provided in Water Code, §36.1071, groundwater management goals that must be addressed by a district include:

- the most efficient use of groundwater,
- controlling and preventing waste of groundwater,
- controlling and preventing subsidence,
- conjunctive surface water management issues,
- natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater,
- drought conditions, and
- conservation.

In 2001, Senate Bill 2 added two other requirements for a management plan to be considered administratively complete. These requirements indicate that the groundwater management plans must address water supply in a manner not in conflict with approved regional water plans and discuss the issue of enhancement of recharge to aquifers.

Water Code, §36.1072 requires that the executive administrator of the TWDB certify groundwater conservation district management plans as being administratively complete when the plans have met certain statutory requirements. These requirements are outlined in Title 31, TAC, Chapter 356 (relating to procedures and requirements for TWDB certification of groundwater management plans). No changes were made to Chapter 356 during the last biennium (2003–2004).

Development and Certification of Plans

Each groundwater district develops its management plan according to requirements specified in Water Code, §36.1071 and TWDB's groundwater management plan certification rules (Title 31, TAC, Chapter 356), and individual districts can receive assistance for the development of the plan by contacting TWDB. The TWDB assist in plan development by providing:

- explanations of management plan content requirements,
- education in planning concepts,
- supporting data for estimates required in the plan, and
- technical assistance in developing required estimated values and in developing plan language.

In an effort to provide the greatest efficiency of service to the districts, the TWDB provides much of the assistance by telephone, fax, and e-mail. If personal contact is desired or warranted by the district, TWDB staff either visit the district or meet with the district at the TWDB offices.

Districts are offered the opportunity to submit draft management plans for an informal review by TWDB staff prior to adoption of the plan by the district board of directors. When such drafts are received, TWDB staff review the documents, note deficiencies with respect to administrative completeness, and send a list

back to the district. TWDB staff then contact the district to provide the appropriate assistance required for plan certification.

During the preparation of management plans and after notice and public hearing, districts are required to coordinate with appropriate surface-water management entities on the development of the plan. After adoption of the management plan by the district Board of Directors, the districts are also required to send the plan by registered mail, return receipt requested, to the chair(s) of regional water planning area(s) that include the district. The district must request the regional water planning group(s) to review the plan and specify any potential conflict between the proposed management plan and the approved regional water plan(s).

After transmitting the adopted groundwater management plan to the appropriate regional water planning group(s), the district may submit the plan to the TWDB for administrative completeness certification. The district must provide TWDB a copy of any specifications of conflict between the management plan and an approved regional water plan made by a regional water planning group. The TWDB is also required to review how the plan addresses water supply needs for potential conflicts with an approved regional water plan. The executive administrator, with input from the regional water planning group, determines if any conflicts exist.

Plans received by the TWDB are logged in to ensure that an administrative review is completed within the 60-day statutory review period. All plans received to date have been reviewed within the prescribed period. Each submitted plan was reviewed by at least three staff members for their recommendations. The executive administrator, after consideration of staff recommendations and additional review of the plan, determined the administrative completeness of the plan. A process for appeal of the denial of certification is provided in Chapter 36 of the Water Code and TWDB rules.

Plan Certification During the 2003–2004 Biennium

As of November 2004, there were of 83 confirmed districts and four unconfirmed districts in Texas. Table 8 lists the status of management plans for all groundwater conservation districts. Between January 2003 and November 2004, there were 23 districts that were required to submit their first management plan after their confirmation election. All 23 districts submitted their plans during this period and all were certified by the TWDB. Management plans from three other districts (Lost Pines GCD, Trinity Glen Rose GCD, and Wes-Tex GCD) are currently being reviewed by the TWDB for certification. Additionally, the TWDB certified Guadalupe County GCD's first plan that was due in 2001, but which was submitted by the district in December 2002.

Table 8. Status of Management Plan Certification, January 2003 through November 2004

First Management Plans			
District Name	Plan Due Date	Date Received by TWDB	Certification Date
Guadalupe County GCD	11/04/01	11/02/02	01/27/03
Bee GCD	01/20/03	08/29/03	10/02/03
Blanco-Pedernales GCD	01/23/03	03/03/03	06/19/03
Bluebonnet GCD	11/05/04	09/30/04	11/18/04
Coastal Bend GCD	11/06/03	08/11/04	09/28/04
Coastal Plains GCD	11/06/03	07/20/04*	09/10/04
Cow Creek GCD	11/05/04	10/05/04	11/23/04
Fayette County GCD	11/06/03	10/24/03	12/17/03
Goliad County GCD	11/06/03	03/13/03	05/12/03
Lone Star GCD	11/06/03	10/28/03	12/17/03
McMullen GCD	11/06/03	09/05/03	10/24/03
Neches & Trinity Valleys GCD	11/06/03	07/22/04*	09/10/04
Pecan Valley GCD	11/06/03	10/29/03	12/29/03
Pineywoods GCD	11/06/03	01/02/04	02/25/04
Refugio GCD	11/06/03	10/31/03	12/29/03
Texana GCD	11/06/03	08/06/04	09/28/04
Kinney County GCD	01/12/04	01/05/04	02/24/04
Lone Wolf GCD	02/02/04	12/22/03	02/20/04
Kimble County GCD	05/03/04	07/15/04*	08/18/04
Middle Trinity GCD	05/04/04	05/04/04	07/01/04
Brazos Valley GCD	11/05/04	05/20/04	07/22/04
Middle Pecos GCD	11/05/04	07/20/04*	08/18/04
Mid-East Texas GCD	11/05/04	07/20/04*	09/10/04
Post Oak Savannah GCD	11/05/04	04/07/04	05/11/04
Management Plans in Review			
District Name	Plan Due Date	Date Received by TWDB	Plan
Lost Pines GCD	11/05/04	10/28/04	First Plan
Trinity Glen Rose GCD	11/05/04	10/28/04	First Plan
Wes-Tex GCD	11/05/04	11/08/04	First Plan

Recertified Management Plans			
District Name	Plan Due Date	Date Received by TWDB	Recertification Date
Gonzales County UWCD	02/19/03	07/22/03	09/15/03
Jeff Davis County UWCD	07/16/03	09/05/03	10/31/03
Panhandle GCD	07/16/03	09/18/03	10/24/03
Mesa UWCD	08/14/03	12/29/03	02/25/04
Hickory UWCD No. 1	08/24/03	10/15/03	12/04/03
High Plains UWCD No. 1	08/24/03	04/20/04	06/16/04
Hill Country UWCD	08/24/03	09/01/03	10/30/03
Coke County UWCD	09/04/03	09/05/03	10/31/03
Evergreen UWCD	09/04/03	03/03/04	05/03/04
Glasscock GCD	09/04/03	09/05/03	10/24/03
Irion County WCD	09/04/03	09/02/03	10/24/03
Lipan-Kickapoo WCD	09/04/03	08/18/03	10/16/03
Plateau UWC & SD	09/04/03	01/05/04	03/25/04
Sandy Land UWCD	09/04/03	12/29/03	02/25/04
South Plains UWCD	09/04/03	09/15/03	11/07/03
Sutton County UWCD	09/04/03	01/05/04	03/25/04
Fox Crossing WD	09/15/03	01/30/04	03/30/04
Bandera County RA & GWD	09/17/03	03/22/04	07/01/04
Barton Springs/Edwards Aquifer CD	09/17/03	10/31/03	12/29/03
Edwards Aquifer Authority	09/17/03	02/05/04	03/05/04
Emerald UWCD	09/17/03	08/19/03	10/16/03
Headwaters GCD	09/17/03	09/23/03	11/21/03
Garza County U & FWCD	10/14/03	02/27/04	04/27/04
Permian Basin UWCD	10/14/03	09/03/03	11/25/03
Collingsworth County UWCD	11/05/03	11/17/03	01/16/04
Saratoga UWCD	11/05/03	11/04/03	12/29/03
Real-Edwards C & RD	09/24/04	08/31/04	10/27/04
Presidio County UWCD	07/12/06	07/12/04	09/28/04

Management Plans Due in November and December 2004			
District Name	Plan Due Date	Date Received by TWDB	Plan
Clear Fork GCD	11/05/04	Not Received	First Plan
Red Sands GCD	11/05/04	Not Received	First Plan
Anderson County UWCD	12/27/04	Not Received	Recertification
Management Plans Due after December 2004			
District Name	Plan Due Date	Date Received by TWDB	Plan
Hemphill County UWCD	01/07/05	NA	Recertification
Tri-County GCD	02/01/05	NA	First Plan
Hays Trinity GCD	05/03/05	NA	First Plan
Culberson County GCD	05/12/05	NA	Recertification
Llano Estacado UWCD	07/21/05	NA	Recertification
Wintergarden GCD	08/22/05	NA	Recertification
Live Oak UWCD	09/21/05	NA	Recertification
Sterling County UWCD	12/22/05	NA	Recertification
Clearwater UWCD	02/12/06	NA	Recertification
Rusk County GCD	06/05/06	NA	First Plan
Plum Creek GCD	08/14/06	NA	Recertification
Rolling Plains GCD	08/31/06	NA	Recertification
Menard County UWCD	09/21/06	NA	Recertification
Kenedy County GCD	11/04/06	NA	First Plan
Southeast Texas GCD	11/04/06	NA	First Plan
Brewster County GCD	04/16/07	NA	Recertification
Hudspeth County UWCD No. 1	05/31/07	NA	Recertification
Notes: * Date on which all missing items were received NA = Not Applicable			

In addition to the plans received from the new districts, the TWDB also received 28 plans for recertification. Twenty-seven of these management plans were due for recertification during the January 2003–November 2004 period. The last plan, for the Presidio County GCD, was not due for recertification until 2006. All 28 plans were certified by the TWDB.

Based on their original plan certification dates, eight additional districts had plans due for readoption, with or without amendment, during the January 2003–November 2004 period. The TWDB has not received management plans from these districts.

Currently, eight districts have management plans due for certification in 2005, seven districts in 2006, and two districts in 2007. These districts are listed at the end of Table 8. Four other GCDs are unconfirmed, and their plans will become due two years after their confirmation elections.

District Management Plan Implementation

Water Code, Chapter 36 requires the SAO to determine if a GCD is actively engaged in achieving the objectives of its management plan. Furthermore, Chapter 36 establishes procedures for the TCEQ to respond when the SAO identifies districts that are not implementing their management plans. District management plan implementation review and compliance activities accomplished during the 2003–2004 biennium and previous legislative reporting periods are described below.

State Auditor's Office District Review

Water Code, §36.302 requires the SAO to determine if a GCD is actively engaged in achieving the objectives of its management plan based on an analysis of the GCD's activities. The primary objective of the review is for the SAO to determine whether a district is presently operational based on the district's efforts to achieve its unique management plan. In some cases, the SAO has determined that it is acceptable if a district does not achieve all of its stated planning goals and objectives each year. The SAO's assessment of an individual district is based on the district having made a good-faith effort to implement its management plan. A district first becomes eligible for SAO review one year after the date the TWDB certifies the district's management plan. Subsequent SAO reviews are then conducted at least once every seven years subject to a risk assessment and legislative audit committee approval.

Since these provisions were added to Chapter 36 in 1997, the SAO has completed a pilot GCD management plan implementation audit and four phases of subsequent GCD management plan implementation audits. In the pilot, phase one, and phase two audits (SAO, 1999, 2000 and 2001), the SAO evaluated management plan implementation and basic statutory compliance requirements for a total of 23 districts. For these reviews, the SAO determined 15 of these 23 GCDs were operational, seven were not operational, and one could not be evaluated because its plan objectives were unclear. For the phase three audit (SAO, 2002) and later reviews, the SAO chose to only evaluate management plan

implementation. During phase three, the SAO determined eight of the nine audited GCDs were operational and one was not operational.

The phase four audit was completed in April 2003 (SAO, 2003). The SAO determined that 11 of the 12 audited GCDs were operational, and one GCD was not operational. The SAO found the **Salt Fork UWCD** did not achieve a majority of the objectives in its groundwater management plan and the state had no assurance the Salt Fork UWCD was adequately protecting the groundwater it manages. Appendix 3 provides a cumulative summarization of SAO finding regarding GCD management plan implementation reviews to date.

TCEQ Noncompliance Review

The TCEQ is responsible for noncompliance enforcement if groundwater conservation districts do not implement their locally adopted and TWDB certified groundwater management plans. The TCEQ noncompliance review actions are initiated when GCDs do not meet statutory management plan submission and certification requirements, or when the SAO determines that a GCD is not operational in achieving the objectives of its management plan.

Under Water Code, §36.108 and §§36.301 - 36.303, TCEQ management plan noncompliance review and enforcement are required if a district fails to:

- submit a groundwater management plan to the TWDB within two years of the date the GCD was confirmed;
- achieve certification of a groundwater management plan or amended plan from the executive administrator of the TWDB within specified time frames;
- be actively engaged and operational in achieving the objectives of its groundwater management plan based on the State Auditor's Office review of the GCD's performance under its plan; or
- comply with the statutory requirements for joint management planning.

The TCEQ rules applicable to agency noncompliance review and enforcement procedures regarding district management plans and joint management planning by groundwater districts are contained in 30 TAC, §293.22 and §293.23. The rules provide the applicable processes and procedures to be exercised by the TCEQ and the districts. In general, the TCEQ noncompliance review and enforcement protocol begins with a cooperative attempt to reach a voluntary resolution with a noncompliant district. The basis for voluntary compliance is a signed compliance agreement that includes a schedule for achieving all compliance milestones. TCEQ staff monitors the district's adherence to the compliance agreement. The district would be considered to be in compliance and no enforcement action would be necessary if milestone objectives are met on schedule.

If a district fails to respond, is not capable to respond, or will not cooperate to reach a voluntary compliance agreement, formal enforcement action would be initiated by the executive director. Depending on the district's level of cooperation, formal enforcement may be achieved through either an agreed order process or through TCEQ-ordered actions. If an agreed order cannot be achieved or if enforcement is required through ordered actions, statute provides that the

TCEQ may remove a district's board of directors, request the State Attorney General to bring suit for the appointment of a receiver to collect the assets and carry on the business of the district, or dissolve the district. If the TCEQ dissolves a district's board of directors or dissolves the district, other follow-up activities will be required. These activities could include such actions as the appointment of new temporary directors for a district if the board has been removed or the disposition of district assets if a district has been dissolved.

Either through failure to meet plan adoption and certification deadlines, or from failure to achieve the majority of the objectives of their plans, 18 GCDs have come under TCEQ's purview since the management plan compliance provisions were added to the Water Code in 1997. A brief overview of these 18 cases are provided in Table 9, Status of TCEQ District Management Plan Noncompliance Review.

Prior to the 2003–2004 biennium, the **Live Oak UWCD** and the **Sterling County UWCD** independently addressed compliance issues in response to the SAO nonoperational findings, and no formal TCEQ action was necessary. In addition, and after only minimal TCEQ intervention for failure to meet statutory deadlines, the **Plum Creek Conservation District** achieved compliance by adopting a plan that was then certified by the TWDB in August 2001.

During the 2003–2004 biennium, seven GCDs did not comply with the statutory deadlines to adopt a management plan and to submit the plan to the TWDB for certification consideration. Minor TCEQ intervention to compel compliance was necessary for the **Coastal Bend GCD, Coastal Plains GCD, Guadalupe County GCD, Kimble County GCD, and the Neches and Trinity Valleys GCD**. Compliance agreements were necessary to compel compliance for the **Bee GCD** and the **Texana GCD**. By September 2004, all of these GCDs had achieved compliance and each district had a certified management plan in place.

Compliance agreements and various levels of TCEQ involvement have been required to compel management plan implementation for six of the remaining eight SAO-determined nonoperational GCDs. All eight districts entered into compliance agreements with the TCEQ. The **Collingsworth County UWCD, Hudspeth County UWCD No. 1, Real-Edwards Conservation & Reclamation District, and Permian Basin UWCD** took significant action to hire staff and develop sufficient revenue to finance district operations. With these new resources and a little extra time, each of the four districts was able to demonstrate compliance with the objectives of their management plans. Though still without district-generated and dedicated funding or full-time staff, the **Fox Crossing Water District** and the **Saratoga UWCD** were also able to demonstrate compliance with their limited plan objectives.

Table 9. Status of TCEQ District Management Plan Noncompliance Review

District	Noncompliance Violation	TCEQ / GCD Resolution Action
Plan Submission and/or Certification		
Plum Creek CD	Plan adopted after statutory deadline	04/01/01 - TCEQ inquiry on issue 08/14/01 - Plan certified by TWDB; end TCEQ review
Guadalupe County GCD	Plan not certified by statutory deadline	10/18/02 - TCEQ inquiry on issue 01/27/03 - Plan certified by TWDB; end TCEQ review
Bee GCD	Plan adopted after statutory deadline	02/28/03 - TCEQ inquiry on issue 08/21/03 - Compliance Agreement (District Signature) 10/02/03 - Plan certified by TWDB; end TCEQ review
Coastal Bend GCD	Plan not adopted by statutory deadline	12/30/03 - TCEQ inquiry on issue 09/28/04 - Plan certified by TWDB; end TCEQ review
Coastal Plains GCD	Plan not adopted by statutory deadline	12/30/03 - TCEQ inquiry on issue 09/10/04 - Plan certified by TWDB; end TCEQ review
Texana GCD	Plan not adopted by statutory deadline	12/30/03 - TCEQ inquiry on issue 04/03/04 - Compliance Agreement (District Signature) 09/28/04 - Plan certified by TWDB; end TCEQ review
Neches & Trinity Valleys GCD	Plan not certified by statutory deadline	06/02/04 - TCEQ inquiry on issue 09/10/04 - Plan certified by TWDB; end TCEQ review
Kimble County GCD	Plan not certified by statutory deadline	05/26/04 - TCEQ inquiry on issue 08/18/04 - Plan certified by TWDB; end TCEQ review
Not Operational in Achieving Plan		
Hudspeth County UWCD No. 1	Not operational by SAO in 2000	01/22/02 - TCEQ review finalized 02/08/02 - Compliance Agreement (District Signature) 05/14/03 - Plan implementation demonstrated 06/18/03 - Compliance letter issued; end TCEQ review
Live Oak UWCD	Not operational by SAO in 2000	12/12/00 - TCEQ review finalized 08/21/01 - Plan implementation demonstrated 10/24/01 - Compliance letter issued; end TCEQ review
Sterling County UWCD	Status could not be determined by SAO in 2000	12/04/00 - District adopted new plan 12/22/00 - Plan certified by TWDB
Collingsworth County UWCD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 10/14/03 - Compliance Agreement (District Signature) 07/12/04 - Plan implementation demonstrated 08/02/04 - Compliance letter issued; end TCEQ review
Dallam County UWCD No. 1	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 07/21/03 - Compliance Agreement (District Signature) 12/01/03 - End of Compliance Agreement term 02/18/04 - Plan implementation not demonstrated 04/13/04 - Case referred for enforcement action 05/24/04 - Notice of enforcement sent to District
Fox Crossing WD	Not operational by SAO in 2001	06/28/02 - TCEQ review finalized 08/25/03 - Compliance Agreement (District Signature) 05/07/04 - Plan implementation demonstrated 05/18/04 - Compliance letter issued; end TCEQ review

District	Noncompliance Violation	TCEQ / GCD Resolution Action
Real-Edwards C&RD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 06/15/03 - Compliance Agreement (District Signature) 10/13/03 - Compliance letter issued; end TCEQ review
Saratoga UWCD	Not operational by SAO in 2001	06/27/02 - TCEQ review finalized 02/20/04 - Compliance Agreement (District Signature) 07/31/04 - End of Compliance Agreement term 12/03/04 - Plan implementation documented 12/10/04 - Compliance letter issued; end TCEQ review
Permian Basin UWCD	Not operational by SAO in 2002	02/28/03 - TCEQ review finalized 06/19/03 - Compliance Agreement (District Signature) 11/06/03 - Plan implementation demonstrated 11/17/03 - Compliance letter issued; end TCEQ review
Salt Fork UWCD	Not operation by SAO in 2003 (Phase 4)	08/15/03 - TCEQ review finalized 05/11/04 - Compliance Agreement (District Signature) 08/31/04 - End of Compliance Agreement term 09/29/04 - Plan implementation not demonstrated 12/03/04 - Notice enforcement referral to District 12/03/04 - Case referred for enforcement action

In 2001, the SAO determined the **Dallam County UWCD No. 1** to be nonoperational and reported ten specific nonoperational and statutory compliance findings. The SAO determined the District had not achieved three of its four management plan objectives, and could not make a determination regarding the fourth objective. The SAO also determined the District failed to comply with six basic statutory compliance provisions. TCEQ staff evaluation of post-audit District information and documentation indicated the District had not taken sufficient action to fully address two operational findings and one statutory compliance finding identified by the SAO, and had not taken any action to address one operational and five statutory compliance findings by the SAO. In order to resolve these SAO findings, the District and TCEQ staff entered into a voluntary compliance agreement on July 21, 2003. The compliance agreement consisted of four specific provisions to address management plan implementation, five specific provisions to address statutory compliance, and general provisions describing documentation necessary to demonstrate compliance and agreeing to compliance demonstration time frames. After review of subsequent documentation, TCEQ staff determined the District did not attempt to comply with at least four of the compliance agreement specific provisions within the agreed time frame. The case was referred for formal enforcement action in April 2004, and notice of enforcement was sent to the District in May 2004. In September 2004, the District notified the TCEQ of intentions to consolidate the District with the North Plains GCD, and efforts to have this issue decided at the November 2, 2004, election. TCEQ staff agreed to defer further enforcement action until after the results of the election were known. By mid-November 2004, The District had not provided resolutions of consolidation or election results and the case remained under TCEQ enforcement.

After review of management plan implementation, the SAO determined the **Salt Fork UWCD** (Kent County) to be nonoperational and reported six specific findings in April 2003. After evaluation of post-SAO review District information,

the TCEQ determined the District had not addressed or developed plans to address the six SAO management plan implementation findings, and the District did not submit adopted and amended changes to its management plan for TWDB certification consideration as required by Water Code, Chapter 36. The TCEQ and the District entered into a compliance agreement on May 11, 2004, to address these seven noncompliance violations. The term for the District to voluntarily address these compliance issues and demonstrate compliance to the TCEQ ended on August 31, 2004. The District did not address or demonstrate compliance by the agreed date. Having exhausted this opportunity to achieve compliance, the case was referred for formal TCEQ enforcement action on December 3, 2004.

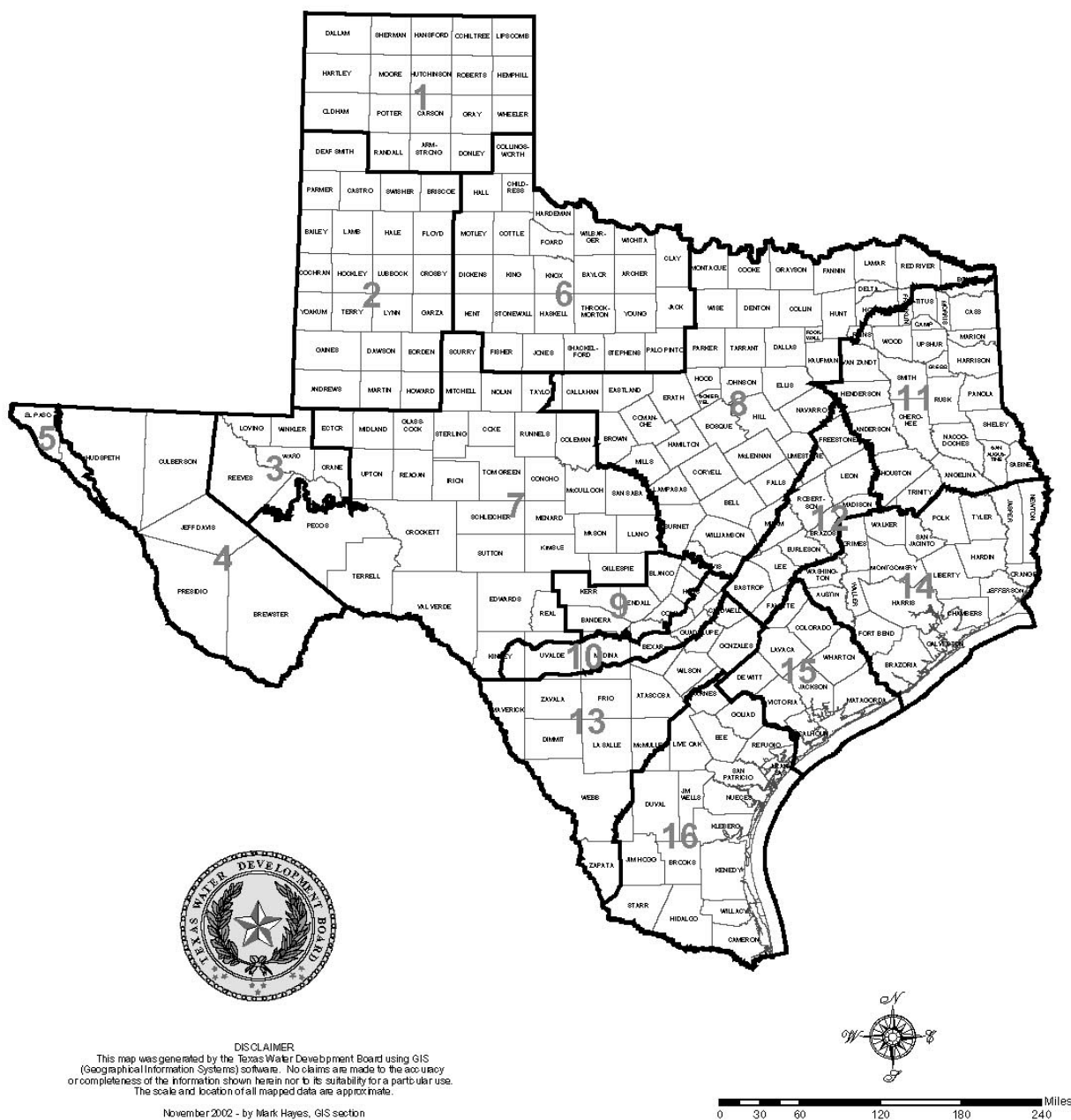
Groundwater Management Areas

A groundwater management area (GMA) is a formal boundary delineation for an aquifer or a segment of an aquifer that provides a suitable area for management by a groundwater conservation district. The purpose for designation of a GMA is two-fold. First, a GMA is a prerequisite for the creation of a GCD through the Water Code, Chapter 36 landowner petition process. Second, the designation of GMAs facilitates joint management planning among groundwater conservation districts that share the same aquifers. A GMA is only an identified geographic area and as such does not provide any entity with groundwater management authority.

The TWDB adopted rules (Title 31, TAC, Chapter 356, Subchapter B) in November 2002 to designate 16 GMAs that cover all of the state's major and minor aquifers (Figure 5). The listing below indicates the primary aquifers included in each GMA. Major aquifers are indicated with an '(m)'.

- GMA 1 – northern part of the Ogallala (m), Rita Blanca, part of the Dockum
- GMA 2 – southern part of the Ogallala (m), Edwards-Trinity (High Plains), part of the Dockum
- GMA 3 – Cenozoic Pecos Alluvium (m)
- GMA 4 – West Texas Bolsons, Igneous, Bone Spring-Victorio Peak, Marathon, part of the Capitan Reef
- GMA 5 – Hueco-Mesilla Bolson (m)
- GMA 6 – Seymour (m), Blaine
- GMA 7 – Edwards-Trinity (Plateau) (m), Lipan, parts of the Dockum, Ellenburger-San Saba, Hickory, and Marble Falls
- GMA 8 – northern part of the Trinity (m), northern part of the Edwards (m), Woodbine, Blossum, Nacatoch, part of the Brazos River Alluvium
- GMA 9 – Hill Country part of the Trinity (m)
- GMA 10 – San Antonio and Barton Springs segments of the Edwards (m)
- GMA 11 – northern part of the Carrizo-Wilcox (m), Sparta, Queen City, and Yegua-Jackson
- GMA 12 – central part of the Carrizo-Wilcox (m), Sparta, Queen City, and Yegua-Jackson, part of the Brazos River Alluvium
- GMA 13 – southern part of the Carrizo-Wilcox (m), Sparta, Queen City, and Yegua-Jackson
- GMA 14 – northern part of the Gulf Coast (m), part of the Brazos River Alluvium
- GMA 15 – central part of the Gulf Coast (m)
- GMA 16 – southern part of the Gulf Coast (m)

Figure 5. Groundwater Management Areas



Management Planning Coordination

In addition to coordination with surface-water management entities and regional water planning groups during the development of their plans, GCDs in a common GMA are required under Water Code, §36.108 to coordinate groundwater management planning for conservation of the common groundwater resources. Groundwater management planning can be carried out at various scales of oversight and authority. On a regional scale, a GCD can have groundwater management and planning authority over an entire groundwater management area. In such cases, the regional district would have the authority and mandate to uniformly manage the full regional extent of the groundwater resource. GCDs can also exercise management and planning authority on a more local scale. Generally under this scenario, multiple single-county GCDs created within the same GMA (or PGMA) operate under their own rules and regulations to manage a common groundwater resource, but coordinate regional aquifer management through shared plans and strategies.

Under Water Code, §36.108, GCDs within a common designated GMA are required to share their certified groundwater management plans with the other districts that are present within the management area. Such districts are encouraged to conduct joint public meetings to review management plans and plan-accomplishments for the management area. The districts are further advised under §36.108 to consider the goals and effectiveness of each management plan and each management plan's impact on planning throughout the management area. Through these cooperative efforts, local groundwater conservation districts effect coordinated management of a shared groundwater resource.

Section 36.108 further provides that a district within a common or shared management area may initiate a review of the adequacy of another district's rules in protecting groundwater resources within the same management area. The process provides for a district in the management area to file a petition with the TCEQ regarding another district's failure to adopt or adequately enforce rules or adequately protect groundwater within the management area. After review of the petition, the TCEQ either dismisses the petition or appoints a panel to review it. The panel is charged to review the petition, gather any additional evidence (e.g., public hearing) as needed, and prepare a report to the TCEQ. The review panel's report is to include a summary of collected evidence, a list of findings and recommendations appropriate for TCEQ action, and the reasons the recommended actions are considered appropriate. To date, the TCEQ has not received such a petition. The TCEQ procedures for this process are contained in Title 30, TAC, Section 293.23.

A number of districts with shared aquifers have established regional alliances to provide for coordinated groundwater management planning and others have entered into interlocal agreements for managerial or administrative services. This type of activity helps the districts share information and develop new data to accomplish coordinated management planning for shared aquifers. These districts have the common objective to bring about conservation, preservation, and the efficient, beneficial, and wise use of common groundwater resources. The alliances and interlocal agreements have been established to facilitate activities

between the districts and to provide for the maximum beneficial use of local tax dollars within the districts.

State Assistance and Educational Programming

The TCEQ, TWDB, TPWD, TDA, and TCE are responsible for providing assistance to the public under Chapters 35 and 36 of the Water Code. The TCE is specifically charged with providing educational assistance to residents in designated PGMA's on issues related to groundwater management. The TWDB has multiple responsibilities under state law to facilitate and provide technical assistance. Other entities such as the state's institutions of higher education and the Texas Alliance of Groundwater Districts (TAGD) also play pivotal roles in providing these services.

Technical Assistance

The TWDB provides a wide range of technical assistance to groundwater conservation districts through regular programmed activities and by special request. TWDB assistance is available for groundwater and planning data, database management, training for water level and water quality data gathering, computer hardware and software, equipment for automated water level monitoring, conducting field studies of groundwater, aquifer pumping tests, groundwater availability modeling, and development of groundwater management plans.

The 75th Legislature passed Senate Bill 1 in 1997. This legislation changed portions of the Water Code to improve water-resources data collection. It directs the executive administrator of the TWDB to "lead a statewide effort, in coordination with federal, state, and local governments, institutions of higher education, and other interested parties, to develop a network for collecting and disseminating water resource-related information that is sufficient to support assessment of ambient water conditions statewide" (Water Code §16.012 (8)). To accomplish this, the TWDB initiated the statewide Water Information Network Optimization Program. The primary objective of this program is to identify potential program cooperators presently involved in data collection and dissemination activities throughout Texas and to build and maintain partnerships for the network.

Through the Water Information Network Optimization Program, districts are aided with technical assistance on water resources and information technology issues. Agreements with the TWDB allow for the loan of computers, software, and related equipment for data collection and dissemination. A total of 31 districts are participating in this program. Additionally, the program provides no cost web-hosting for 17 GCDs that are program cooperators. TWDB staff also provides 28 districts with desktop databases to access the TDLR's Well Record Submission and Retrieval System.

In order to offer GCDs opportunities to increase their ability to collect field data, the TWDB provides training on collection of water-level data, water quality sampling, and performing aquifer pumping tests. The objectives of offering

technical skill training to groundwater conservation districts are to strengthen the ability of districts to collect basic groundwater data, to build on the relationship between districts and the TWDB, and to leverage the statewide network of field groundwater data collection. A total of 29 districts have participated in this program and many have participated in multiple categories of training.

Many GCDs have limited resources to devote to the regular collection of water level data to track changing storage conditions of the aquifers under their management. The TWDB maintains a program to offer installation and support of continuous recording monitoring equipment to districts. This program provides districts with the ability to gather continuous data with minimal labor. Once districts have located secured wells that are suitable for monitoring, the TWDB will provide monitoring equipment which may include remote data transmission capability, operations, and maintenance support. The data collected from this program benefit both the TWDB and the GCDs. A total of 32 districts participated in this program in the last biennium.

In 1999, the 76th Legislature approved funding for the Groundwater Availability Modeling (GAM) program. The purpose of GAM is to provide reliable and timely information on groundwater availability to the citizens of Texas to ensure adequate supplies or recognize inadequate supplies over a 50-year planning period. Numerical groundwater flow models of the major aquifers in Texas will be used to make this assessment. The expectation is that GAM will (1) include substantial stakeholder input; (2) result in standardized, thoroughly-documented, and publicly available numerical groundwater flow models and support data; and (3) provide predictions of groundwater availability through 2050 based on current projections of groundwater usage and future demands during normal and drought-of-record conditions. GAM will provide tools to evaluate water management strategies in regional water plans and groundwater conservation district management plans. The models, source data, and final report will be provided to the TWDB for posting and distribution on the Internet.

The nine major aquifers within Texas required 17 different models to provide full coverage. TWDB staff developed five of the models: (1) the Hill Country segment of the Trinity aquifer; (2) the northern segment of the Edwards aquifer; (3) the San Antonio segment of the Edwards aquifer; (4) the southern part of the Gulf Coast aquifer; and (5) the Edwards-Trinity (Plateau) and Cenozoic Pecos Alluvium aquifers. TWDB contractors developed eight of the models: (6) the northern and (7) southern part of the Ogallala aquifer; the (8) northern, (9) central, and (10) southern parts of the Carrizo-Wilcox aquifer; (11) the Seymour aquifer; (12) the northern segment of the Trinity aquifer; and (13) the Barton Springs segment of the Edwards aquifer. TWDB staff and a contractor developed a model of (14) the central Gulf Coast aquifer. The TWDB and Harris-Galveston Coastal Subsidence District funded a project for the U.S. Geological Survey to develop a model of (15) the northern part of the Gulf Coast aquifer. El Paso Water Utilities and the U.S. Geological Survey supported the development of models for the (16) Mesilla and (17) Hueco Bolson aquifer. The Edwards Aquifer Authority is developing a new model for the San Antonio segment of the Edwards aquifer that will be available by the end of 2004.

In addition, the 77th Legislature required the TWDB to develop and obtain GAMs for the minor aquifers of the state. The TWDB is beginning to work on the models for the minor aquifers. The TWDB also supports the models by assisting GCDs, regional water planning groups, and other political subdivisions with requests for additional model simulations and interpretation of model results. Furthermore, the TWDB is updating and refining existing models when new data become available to better suit the stakeholder's needs.

Groundwater conservation districts are an integral part of the GAM process in providing information and guidance. Groundwater district managers and board members are invited to be part of Stakeholder Advisory Forums for each model to review the progress and direction of each modeling project.

The TWDB's Agricultural Water Conservation Grants Program is an annual funding opportunity to state agencies and political subdivisions. Utilizing appropriated funding, the program can provide up to 100-percent grants for demonstrations, education, research, technical assistance, and technology transfer. Grants may also be made to political subdivisions for agricultural water conservation projects to purchase and install metering devices to measure irrigation water use in order to quantify effects of different water conservation strategies. The TWDB's Agricultural Water Conservation Loan Program has limited funds available for political subdivisions and other entities. Loans under this program may be used for conservation projects that: (1) improve delivery or application water use efficiency, (2) prepare irrigated land for conversion to dry land farming, (3) prepare dry land for more efficient use of natural precipitation, (4) purchase and install on public or private property devices designed to indicate the amount of water withdrawn for irrigation use, (5) brush control activities conducted under Agriculture Code, Chapter 203, or (6) other conservation projects defined by TWDB rules. Since January 2003, the TWDB has funded seven groundwater districts totaling \$111,733.

During the 1999–2000 biennium, the TWDB and the TCEQ developed a groundwater conservation district administrative information database. This database stores information on each of the state's groundwater conservation districts. The TWDB serves as the database administrator and continues to maintain the database and update information in it. The two agencies have agreed to staff procedures to incorporate new groundwater district data as it becomes available.

The TWDB held its *Aquifers of the Edwards Plateau* conference in San Angelo on February 9, 2004. The purpose of the conference was to provide groundwater conservation districts, regional water planning groups, and others interested in water issues the opportunity to hear experts speak on the aquifers and water issues in the area. The conference also provided an opportunity for districts to present their activities to conference attendees and discuss their data needs with scientists and specialists.

Educational Programming

Education is a vital component in the effective management of the state's water resources. Since early 1998, representatives from the TCEQ, TWDB, TPWD, TCE, and TAGD have coordinated extensively to discuss and plan groundwater management educational programming strategies. Educational outreach activities were significant during the 2003–2004 biennium because of increased interest in groundwater management issues and the large number of new groundwater conservation districts.

The TCE has been active in providing educational programming in PGMAs, in areas planning to hold confirmation elections, and in other areas that are considering the need to manage their groundwater resources. A comprehensive program is necessary to provide this water-related education and the TCE approach has been to utilize its network of local county agents. The county agents cooperate with local stakeholders and state agencies to hold local meetings, distribute fact sheets, deliver and facilitate presentations on local water resources, publish news releases in local papers, and present information on local radio shows. This ensures effective, factual delivery of water management information to the local populations.

To support these educational efforts, the TCE and its predecessor, the Texas Agricultural Extension Service, have updated and developed new and useful reference materials for the public. Noteworthy among these are two brochures that have been widely distributed throughout the state. *Managing Texas' Groundwater Resources Through Groundwater Conservation Districts* (TCE, 2002c) provides an overview of Texas water law, a summary of the powers and responsibilities of groundwater conservation districts, a review of the processes involved in creating districts, and a brief overview of issues related to groundwater conservation districts. *Questions About Groundwater Conservation Districts* (TCE, 2002b) answers frequently asked questions about groundwater, aquifers, water laws, and groundwater conservation districts.

The TCE has also developed videos for public education purposes. *Foundations: Aquifers of Texas* (TCE, 2002a) provides graphic and general information about the aquifers of the state and the occurrence and movement of groundwater in aquifers. The video was developed to help the general public understand the mechanics of groundwater movement. The video *Divining the Future: Groundwater Conservation Districts* (TCE, 2001) depicts methods of groundwater management by groundwater conservation districts and outlines the responsibilities of groundwater districts.

Twenty-nine new GCDs were confirmed between January 2001 and December 2002, and TCEQ, TCE, TAGD, and the other state agencies recognized that educational programming and information for this significant number of new GCD directors was needed. In late 2002, TCEQ, TCE, TAGD, and TWDB identified issues such as director and board responsibilities, management plan and rule development scenarios, and other hot topics such as groundwater transfers and marketing, and began to develop the educational programs for the new GCD directors.

In 2003, the TCE and its cooperators put on a series of three groundwater management educational seminars. The first seminar, *Being an Effective Board Member*, was held in Austin on January 29, 2003. This seminar targeted new, temporary, and existing GCD board members to present information on basic board member responsibilities, requirements, and legal accountability. The second seminar, *Buying, Selling and Exporting Groundwater: Implications for Groundwater Conservation Districts*, was conducted in College Station on May 28, 2003, and telecast live to locations in San Angelo, Uvalde, Vernon, El Paso, and Amarillo. Over 400 participants, including GCD directors and staff, landowners, and business and financial interests, heard presentations addressing the hot issue of groundwater marketing. The last seminar of this series, *Programs, Plans & Rules for your Groundwater Conservation District*, was held in College Station on August 13 and 14, 2003. About 120 participants, primarily GCD directors and managers, attended this program to learn about groundwater monitoring and management options, plans, programs, and rules.

Specific to water quality protection, the TCE made presentations at the August 2003 seminar on abandoned well closure and plugging, permit and report compliance, the TDLR well construction rules and standards, and roles and responsibilities of water well drillers. Later in August 2003, the TCE partnered with four groundwater conservation districts to conduct well plugging demonstrations in Hamilton, Mills, Bell, Zavala, and Robertson counties. About 65 members of the public attended these demonstrations and about a dozen of these people planned to have wells plugged based on the information gained through this training.

The state agencies and TAGD worked with and provided assistance to the TCE during the development of these educational materials and the presentation of educational programs. The TCE, the Texas A&M University System, the Texas Water Resources Institute, and the Texas Agricultural Experiment Station have made many of the proceedings to the seminars, the educational materials discussed above, and additional groundwater management information available to the public on an Internet Homepage at <http://texaswater.tamu.edu>.

During the 2003–2004 biennium the TCE, TWDB, TCEQ, TPWD, and TAGD were active in providing groundwater management educational programming, both on their own initiative and upon request from interested persons or entities. Educational outreach has ranged from question and answer discussions with small groups of landowners to agency or institutions of higher education sponsored, multi-day conferences. Educational meetings and presentations have been conducted for county commissioners courts, county water planning committees, councils of governments, local soil and water conservation districts, interested landowners, statewide organizations, and others.

Groundwater Management Issues

During the previous legislative reporting period (2001–2002 biennium), the Office of the Attorney General (OAG) responded to five requests for opinions relating to GCDs. In responding, the OAG provided opinions relating to service as a district director and conflicts of interests, the expenditure of Kinney County funds to finance a district confirmation election, the opportunity for subsequent confirmation elections for the Southeast Trinity GCD, and the status of district creation and authority for the Middle Trinity GCD. The 78th Legislature, 2003, made changes to general and specific laws to address most of the OAG opinions. In November 2002, the Honorable Frank Madla, Texas State Senate, asked the OAG if a well installed prior to September 1, 2002, but capped and not used to produce water until some indefinite time, was a "public water supply well" exempt from regulation by the Trinity Glen Rose GCD. The District was created by Chapter 1312, Acts of the 77th Legislature, Regular Session, 2001 (HB 0055). This enabling Act and Water Code, Chapter 36 govern the District, and the enabling Act provides that it controls in any case of conflict between the two. The enabling Act provides that a "public water supply well" would be exempt from District regulation if: (1) the well was drilled in compliance with the technical requirements in effect at the time the well was drilled, or (2) the TCEQ had approved plans for the well and the well was built in accordance with those plans. In May 2003, the OAG determined (Opinion No. GA-0072) a well installed prior to September 1, 2002, but capped and not used to produce water for a public water system, was not a "public water supply well" exempt from regulation by the District. Further, the OAG determined that once the well is uncapped and produces the majority of its water for use by a public water system, it would then be exempt from District regulation if (1) the TCEQ approved plans for installation of the well before September 1, 2001, and (2) the installation of the well was completed in accordance with the approved plans and the TCEQ's technical requirements for use as a public water system well before September 1, 2002.

The agencies are not aware of any other recent OAG opinion requests specific to groundwater conservation districts or groundwater management as outlined by Water Code, Chapters 35 and 36.

In November 2003, the Honorable Lieutenant Governor David Dewhurst formed the Senate Select Committee on Water Policy, appointed its members, and charged the Committee to study all issues related to ground and surface water law, policy, and management. The Committee was charged to study the role and coordination of federal, state, regional and local governments in setting consistent and nondiscriminatory water policies; the authority of the TCEQ as it relates to water contracts; the role of the Edwards Aquifer Authority; and the role of GCDs. Under this charge, the Committee was also instructed to study the regional water planning process, conjunctive use of groundwater and surface water resources, the rule of capture, historic use standards, water infrastructure and financing, interbasin transfers, junior water rights, conservation, water quality standards, drought preparedness, and water marketing. As a step toward

securing an abundant water supply to meet the state's future needs, the Lieutenant Governor charged the Committee to monitor three TWDB desalination demonstration projects, to study the regulatory barriers that may impair cost effectiveness of desalination projects, and to study how the state can facilitate the use of this water source by municipalities.

Governor Dewhurst also established the Subcommittee on the Lease of State Water Rights in November 2003. This Subcommittee was charged as follows.

- Study proposals to lease permanent school fund and permanent university lands and their water rights for the purposes of developing and marketing water.
- Analyze the present and future effects of such proposals on local aquifers, historic stream flows, local groundwater conservation districts, and other public and private water interests.
- Study the process by which the General Land Office considers proposals to lease state water rights, including the methodology for holding open meetings, obtaining public input, meeting competitive bidding requirements, and coordinating with TCEQ and other governmental units with possible regulatory oversight.
- Study and evaluate the current and future value of water rights that may be leased to private entities, including the value to state, residential and commercial interests.

Also in November 2003, the Honorable Tom Craddick, Speaker of the House of Representatives, issued an interim charge to the House Committee on Natural Resources. Speaker Craddick charged this standing committee to assess the current condition of the Edwards aquifer and the Edwards Aquifer Authority including this authority's ability to meet or alter statutory pumping limit requirements in the Edwards Aquifer Act; examine issues associated with TCEQ's authority to change the terms of water contracts between willing parties including the possible impacts this authority could have on the financing of public/private water projects; evaluate the availability and cost effectiveness of using brackish groundwater and surface water as alternative sources of water supply, including an assessment of regulatory restrictions or impediments that may impact cost and what measure or regulatory changes are needed to facilitate use of this water source by political subdivisions; and to monitor the agencies and programs under Committee's jurisdiction.

Many of the new GCDs adopted their first management plans and first set of permitting and groundwater management regulations during the 2002–2003 biennium, and some of the pre-existing GCDs amended longstanding rules based on groundwater availability modeling and similar types of data. Some issues that have been heavily debated include GCD historic-use permitting programs, hearing procedures, and water marketing by both private entities and the General Land Office.

Over the interim, the Senate Select Committee on Water Policy, the Subcommittee on the Lease of State Water Rights, and the House Committee on Natural Resources have held numerous hearings around the state to invite

testimony and public input to identify the water management issues that should be addressed and to develop the appropriate recommendations for consideration by the 79th Legislature, 2005. The state agencies respectfully defer recommendations regarding the management of groundwater supplies to the work of these Committees and the Subcommittee.

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Area 3; Reagan, Upton, and Midland County Area

Kohler, Dale P., 1990, Ground Water Protection and Management Strategies for Reagan, Upton, and Midland Counties; Texas Water Commission file report, March 1990, 28 pp.

Ashworth, J.B. and P.C. Christian, 1989, Evaluation of Ground-Water Resources in Parts of Midland, Reagan, and Upton Counties, Texas; Texas Water Development Board Report 312, February 1989, 52 pp.

Kalaswad, Sanjeev, 2000, Options for the Creation of a Groundwater Conservation District in the Reagan, Upton and Midland County Priority Groundwater Management Area; Texas Natural Resource Conservation Commission file report, July 2000, 22 pp.

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Nordstrom, Phil L. and J.A.T. Fallin, 1989, Evaluation of Ground-Water Resources in Briscoe, Hale, and Swisher Counties, Texas; Texas Water Development Board Report 313, February 1989, 33 pp.

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Nelson, Katherine H., and S.P. Musick, 1990, Ground Water Protection and Management Strategies for the Central Texas (Waco) Area; Texas Water Commission file report, March 1990, 39 pp.

Baker, Bernard, Duffin, G., Flores, R., and T. Lynch, 1990, Evaluation of Water Resources in Part of Central Texas; Texas Water Development Board Report 319, January 1990, 67 pp.

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Russell, Jimmie N., 1990, Ground Water Protection and Management Strategies for Cameron, Hidalgo, Starr, and Willacy Counties: A Critical Area Ground Water Study; Texas Water Commission file report, March 1990, 32 pp.

McCoy, T. Wesley, 1990, Evaluation of Ground-Water Resources in the Lower Rio Grande Valley, Texas; Texas Water Development Board Report 316, January 1990, 48 pp.

Area 8; Trans-Pecos Area

Williamson, John A., 1990, Ground Water Protection and Management Strategies for the Trans-Pecos Area; Texas Water Commission file report, March 1990, 65 pp.

Ashworth, John B., 1990, Evaluation of Ground-Water Resources in Parts of Loving, Pecos, Reeves, Ward, and Winkler Counties, Texas; Texas Water Development Board Report 317, January 1990, 51 pp.

El-Hage, Albert and D. W. Moulton, 1998, Evaluation of Selected Natural Resources in Parts of Loving, Pecos, Reeves, Ward, and Winkler Counties, Texas; Texas Parks and Wildlife Department file report, October 1998, 40 pp.

Boghici, Radu, D. Coker, and M. Guevara, 1999, Changes in Groundwater Conditions in Parts of Trans-Pecos, Texas, 1988 - 1998; Texas Water Development Board Report 348, November 1999, 29 pp.

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Hart, Margaret A., 1990, Dallam County: A Critical Area Ground Water Study; Texas Water Commission file report, February 1990, 35 pp.

Christian, Prescott, 1989, Evaluation of Ground-Water Resources in Dallam County, Texas; Texas Water Development Board Report 315, March 1989, 27 pp.

Area 10; Fort Bend County Area

Williamson, John A., 1990, Ground Water Protection and Management Strategies for Fort Bend County; Texas Water Commission file report, March 1990, 54 pp.

Thorkildsen, David, 1990, Evaluation of Water Resources of Fort Bend County, Texas; Texas Water Development Board Report 321, January 1990, 21 pp.

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Ambrose, Mary L., 1990, Ground-Water Protection and Management Strategies for North-Central Texas: A Critical Area Ground-Water Study; Texas Water Commission file report, March 1990, 45 pp.

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Langley, Lon, 1999, Updated Evaluation of Water Resources in Part of North-Central Texas, 1990 - 1999; Texas Water Development Board Report 349, November 1999, 69 pp.

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Weegar, Mark, 1990, Ground Water Protection and Management Strategies for Orange and Jefferson Counties; Texas Water Commission file report, March 1990, 27 pp.

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Area 13; El Paso County Area

Estepp, John D., 1990, Ground Water Protection and Management Strategies for El Paso County: A Critical Area Ground Water Study; Texas Water Commission file report, February 1990, 32 pp.

Ashworth, John B., 1990, Evaluation of Ground-Water Resources in El Paso County, Texas; Texas Water Development Board Report 324, March 1990, 25 pp.

El-Hage, Albert and Daniel W. Moulton, 1998, Evaluation of Selected Natural Resources in El Paso County, Texas; Texas Parks and Wildlife Department file report, May 1998, 24 pp.

Musick, Steven P., 1998, El Paso County Priority Groundwater Management Area Report; Texas Natural Resource Conservation Commission PGMA file report, August 1998, 46 pp.

Preston, Richard D., Coker, Douglas, Mathews, Jr., Raymond C., April 1998, Changes in Groundwater Conditions in El Paso County, Texas 1988-1998; Texas Water Development Board, Open-File Report 98-02, 19 pp.

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Stengl, Burgess, 1991, Ground Water Protection and Management Strategies for the Wintergarden Area; Texas Water Commission file report, May 1991, 56 pp.

McCoy, T. Wesley, 1991, Evaluation of the Ground-Water Resources of the Western Portion of the Winter Garden Area, Texas; Texas Water Development Board Report 334, October 1991, 64 pp.

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Oswalt, Jack, 1991, Ground Water Protection and Management Strategies for the Southernmost High Plains Area, Texas; Texas Water Commission file report, August 1991, 55 pp.

Ashworth, J.B., Christian, P.C., and T.C. Waterreus, 1991, Evaluation of Ground-Water Resources in the Southernmost High Plains of Texas; Texas Water Development Board Report 330, July 1991, 39 pp.

Area 16; North Texas Alluvium and Paleozoic Outcrop Area

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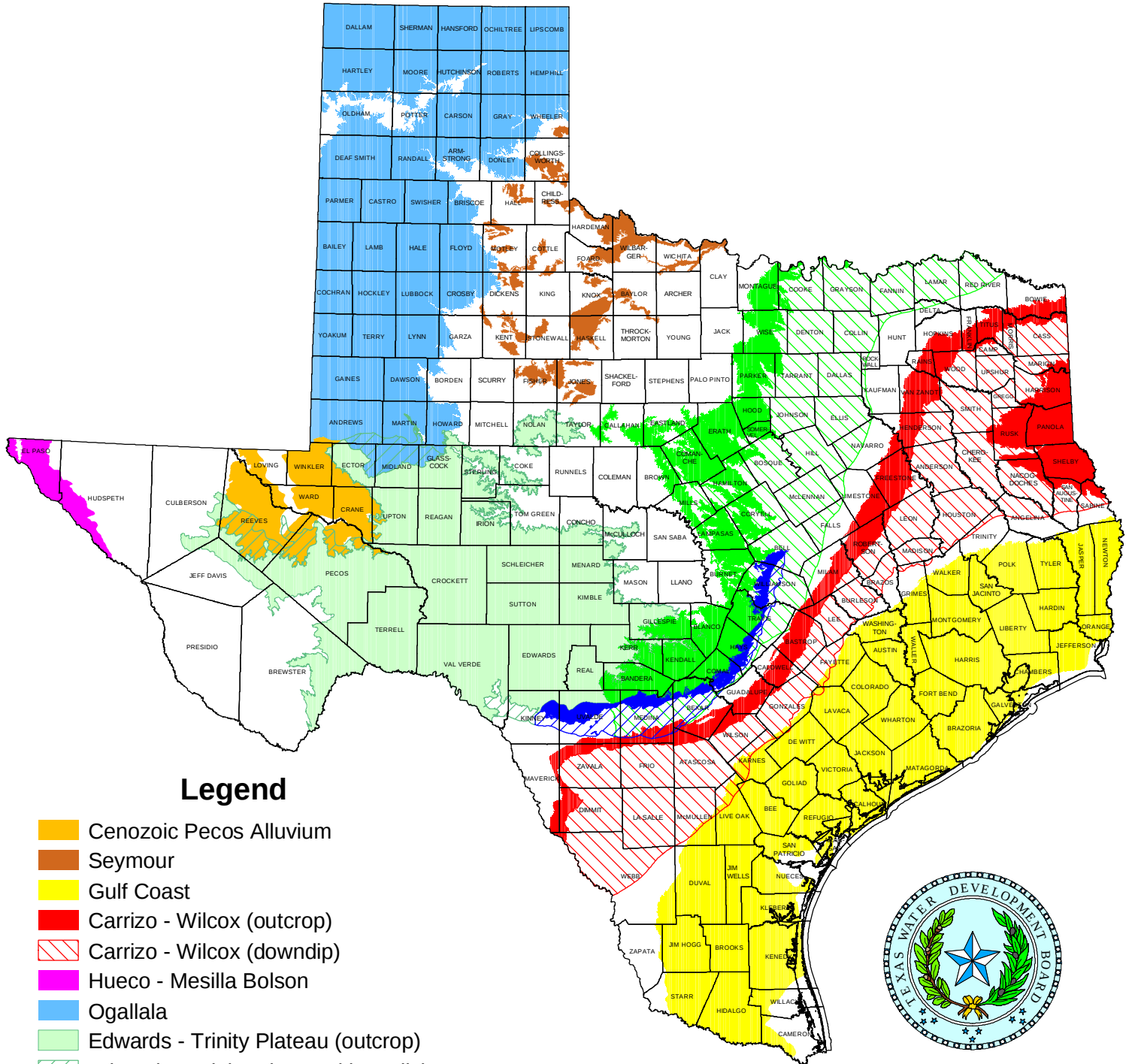
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Appendix 2. Major and Minor Aquifer Maps

Major Aquifers of Texas



Legend

- Cenozoic Pecos Alluvium
- Seymour
- Gulf Coast
- Carrizo - Wilcox (outcrop)
- Carrizo - Wilcox (downdip)
- Hueco - Mesilla Bolson
- Ogallala
- Edwards - Trinity Plateau (outcrop)
- Edwards - Trinity Plateau (downdip)
- Edwards BFZ (outcrop)
- Edwards BFZ (downdip)
- Trinity (outcrop)
- Trinity (downdip)

NOTE: Chronology by Geologic age.

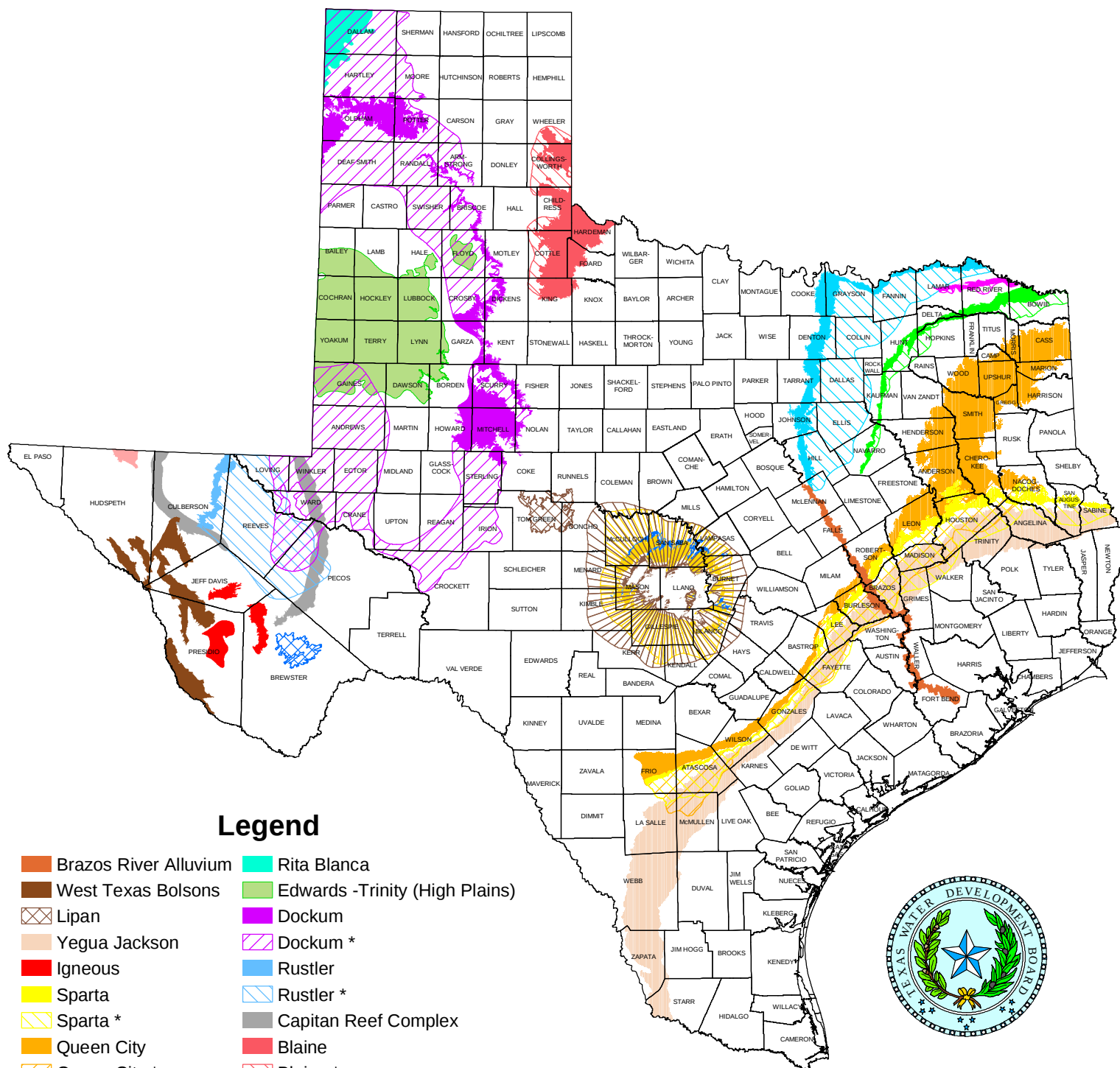
OUTCROP (That part of a water-bearing rock layer which appears at the land surface)
 *DOWNDIP (That part of a water-bearing rock layer which dips below other rock layers)



0 15 30 60 90 120 Miles

DISCLAIMER
 This map was generated by the Texas Water Development Board using GIS (Geographic Information Systems) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.

Minor Aquifers of Texas

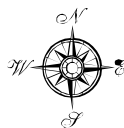


Legend

- Brazos River Alluvium
- West Texas Bolsons
- Lipan
- Yegua Jackson
- Igneous
- Sparta
- Sparta *
- Queen City
- Queen City *
- Nacatoch
- Nacatoch *
- Blossom
- Blossom *
- Woodbine
- Woodbine *
- Rita Blanca
- Edwards - Trinity (High Plains)
- Dockum
- Dockum *
- Rustler
- Rustler *
- Capitan Reef Complex
- Blaine
- Blaine *
- Bone Spring - Victorio Peak
- Marble Falls
- Marathon
- Ellenburger - San Saba
- Ellenburger - San Saba *
- Hickory
- Hickory *

NOTE: Chronology by Geologic age.

OUTCROP (That part of a water-bearing rock layer which appears at the land surface)
 *DOWNDIP (That part of a water-bearing rock layer which dips below other rock layers)



0 15 30 60 90 120 Miles

DISCLAIMER
 This map was generated by the Texas Water Development Board using GIS (Geographic Information Systems) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.

Appendix 3. State Auditor's Office Plan Implementation Review Findings

Audited District	Determination of Operational Status	Compliance with Basic Statutory Requirements
Pilot Audit, July 1999		
Gonzales County UWCD	Operational	Full compliance
Phase 1 Audit, August 2000		
Barton Springs/Edwards Aquifer CD	Operational	Full compliance
Headwaters GCD	Operational	Full or partial compliance
High Plains UWCD No. 1	Operational	Full compliance
Hudspeth County UWCD No. 1	Not operational	Did not comply with one or more
Irion County WCD	Operational	Full or partial compliance
Lipan-Kickapoo WCD	Operational	Full or partial compliance
Live Oak UWCD	Not operational	Did not comply with one or more
Mesa UWCD	Operational	Full or partial compliance
Sterling County UWCD	Could not be determined	Did not comply with one or more
Phase 2 Audit, October 2001		
Collingsworth County UWCD	Not operational	Did not comply with three or more
Dallam County UWCD	Not operational	Did not comply with three or more
Edwards Aquifer Authority	Operational	Full compliance
Evergreen UWCD	Operational	Did not comply with one
Fox Crossing WD	Not operational	Did not comply with three or more
Hickory UWCD No. 1	Operational	Full or partial compliance
Hill Country UWCD	Operational	Full compliance
Medina County UWCD	Operational	Full or partial compliance
North Plains GCD	Operational	Full compliance
Real-Edwards C&RD	Not operational	Did not comply with three or more
Saratoga UWCD	Not operational	Did not comply with three or more
Springhills WMD	Operational	Full or partial compliance
Uvalde County UWCD	Operational	Full or partial compliance

Audited District		Determination of Operational Status	Compliance with Basic Statutory Requirements
Phase 3 Audit, July 2002			
Anderson County UWCD	07/03/02 ¹	Operational	NA ²
Glasscock GCD	06/28/02	Operational	NA
Jeff Davis County UWCD	07/12/02	Operational	NA
Permian Basin UWCD	07/18/02	Not operational	NA
Plateau UWC&SD	07/12/02	Operational	NA
Sandy Land UWCD	07/02/02	Operational	NA
Santa Rita UWCD	07/12/02	Operational	NA
Sutton County UWCD	07/18/02	Operational	NA
Wintergarden GCD	07/18/02	Operational	NA
Phase 4 Audit, April 2003			
Bexar Metropolitan WD	04/11/03	Operational	NA
Coke County UWCD	03/18/03	Operational	NA
Culberson County GCD	03/31/03	Operational	NA
Emerald UWCD	04/01/03	Operational	NA
Fort Bend SD	04/09/03	Operational	NA
Garza County U&FWCD	03/27/03	Operational	NA
Harris-Galveston CSD	04/09/03	Operational	NA
Hemphill County UWCD	04/01/03	Operational	NA
Llano Estacado UWCD	04/03/03	Operational	NA
Panhandle GCD	04/03/03	Operational	NA
Salt Fork UWCD	04/09/03	Not Operational	NA
South Plains UWCD	03/13/03	Operational	NA

Notes: 1. Indicates date SAO provided letter report to district noting audit findings.
2. NA indicates SAO did not evaluate district compliance with basic statutory requirements.

Appendix 4. Groundwater Conservation District Contacts

CREATED & CONFIRMED DISTRICTS (83)

Mr. Tommy Wardell, President

Anderson County Underground Water Conservation District

450 Anderson County Road 409
Palestine, Texas 75803
Phone No. (903) 729-8066

Mr. David Jeffery, Manager

Bandera County River Authority and Ground Water District

P.O. Box 177
405 Getaway Lane
Bandera, Texas 78003
Phone No. (830) 796-7260
Fax No. (830) 796-8262
Email: swmd@texas.net
Internet: <http://www.springhillswmd.org/>

Ms. Dana Wilson, Acting Manager

Barton Springs/Edwards Aquifer Conservation District

1124-A Regal Row
Austin, Texas 78748
Phone No. (512) 282-8441
Fax No. (512) 282-7016
Email: floyd@bseacd.org
Internet: www.bseacd.org

Mr. Lonnie Stewart, Manager

Bee Groundwater Conservation District

P.O. Box 682
Beeville, Texas 78104
Phone No. (361) 358-2244
Phone No. (361) 449-7017 - cell phone
Fax No. (361) 358-2247
Email: beegcd@yahoo.com

Mr. Ron Fieseler, Manager

Blanco-Pedernales Groundwater Conservation District

P.O. Box 1516
304 E. Main
Johnson City, Texas 78636
Phone No. (830) 868-9196
Fax No. (830) 868-0376
Email: manager@blancocountygroundwater.org
Internet: www.blancocountygroundwater.org

Mr. Jared Patout, President

Mr. Lloyd Behm, Manager

Bluebonnet Groundwater Conservation District

P.O. Box 269
Navasota, Texas 77868-0269
Phone No. (936) 825-7303
Fax No. (936) 825-7331
Email: lbehm@bvcog.org
Internet: www.bluebonnetgroundwater.org

Mr. Marcus Greaves, President

Mr. Bill Riley, Manager

Brazos Valley Groundwater Conservation District

P.O. Box 528
Hearne, Texas 77859
Phone No. (979) 764-3491
Fax No. (979) 764-3452
Email: bvgcd@txcyber.com
Internet: <http://www.brazosvalleygcd.org/>

Mr. Tom Beard, Chairman

Conrad Arriola, Manager

Brewster County Groundwater Conservation District

P.O. Box 465
Alpine, Texas 79831
Phone No. (432) 837-6235
Fax No. (432) 426-2087
Email: tombeard@leoncita.com
<http://www.brewstercountywaterdistrict.com/>

Mr. Ted Posey, At-large Director

Ms. Belynda Rains, Manager

Clear Fork Groundwater Conservation District

P.O. Box 369
Roby, Texas 79543-0306
Phone No. (325) 776-2730
Fax No. (325) 776-2730

Mr. Horace Grace, President

Ms. Cheryl Maxwell, Admin. Manager

Clearwater Underground Water Conservation District

P.O. Box 729
550 East 2nd Avenue, Bldg. A
Belton, Texas 76513
Phone No. (254) 933-0120
Fax No. (254) 939-0885
Email: cmaxwell@ctcogmpo.org
Internet: www.clearwaterdistrict.org

Mr. Neil Hudgins, Manager
Coastal Bend Groundwater Conservation District
P.O. Box 341
109 East Milam
Wharton, Texas 77488-0341
Phone No. (979) 531-1412
Fax No. (979) 531-1002
Email: nhudgins@cbgcd.com
Internet: <http://www.cbgcd.com/>

Mr. Haskell Simon, President
Mr. Neil Hudgins, Manager
Coastal Plains Groundwater Conservation District
P.O. Box 2615
Bay City, Texas 77404-2615
Phone No. (979) 245-1708
Fax No. (979) 245-1708
Email: nhudgins@cbgcd.com
Internet: <http://www.coastalplainsgcd.com>

Mr. Winton Milliff, Manager
Coke County Underground Water Conservation District
P.O. Box 1110
Robert Lee, Texas 76945
Phone No. (325) 453-2232
Fax No. (325) 453-2157
Email: ccuwcd@gte.net

Mr. Thomas Powell, General Manager
Collingsworth County Underground Water Conservation District
802 9th Street
P.O. Box 683
Wellington, Texas 79095
Phone No. (806) 447-2800
Fax No (806) 447-5345
Email: collcowater@adobewallsinternet.com

Mr. Tommy Matthews, President
Cow Creek Groundwater Conservation District
201 E. San Antonio Street, Suite 120
Boerne, Texas 78006-2027
Phone No. (830) 249-8284

Mr. John Jones, Manager
Culberson County Groundwater Conservation District
P.O. Box 1295
Van Horn, Texas 79855
Phone No. (432) 283-8182
Fax No. (432) 283-1148
Email: water@telstar1.com

Mr. Kenneth Diller, President
Dallam County Underground Water Conservation District No. 1
HC1 Box 938
Texline, Texas 79087
Phone No. (806) 362-4506

Mr. Robert Potts, Manager
Edwards Aquifer Authority
1615 North Saint Mary's Street
San Antonio, Texas 78215-1415
Phone No. (210) 222-2204
Fax No. (210) 222-9748
Email: rpotts@edwardsaquifer.org
Internet: www.edwardsaquifer.org

Mr. Dennis Clark, Manager
Emerald Underground Water Conservation District
P.O. Box 1458
Ozona, Texas 76943
Phone No. (325) 392-5156
Fax No. (325) 392-3135
Email: euwcd@airmail.net

Mr. Mike Mahoney, Manager
Evergreen Underground Water Conservation District
110 Wyoming Boulevard
Pleasanton, Texas 78064
Phone No. (830) 569-4186
Fax No. (830) 569-4238
Email: mmahoney@karnesec.net

Mr. Paul Kohlleppe, Jr., Chairman
Ms. Linda Streicher, Manager
Fayette County Groundwater Conservation District
P.O. Box 625
254 N. Jefferson St. Room 600
La Grange, Texas 78945-0625
Phone: (979) 968-3135
Fax: (979) 968-3194

Mr. Marvin Marcell, President
Mr. Ronald J. Neighbors, General Manager
Fort Bend Subsidence District
P.O. Box 427
611 Jackson Street
Richmond, Texas 77469
Phone No. (281) 342-3273
Fax No. (281) 342-3273
Internet: www.fbsubsidence.org

Mr. Osborne Linguist, P.E., Chairman
Fox Crossing Water District
P.O. Box 926
Goldthwaite, Texas 76844
Phone No. (325) 938-5419
Fax No. (325) 648-6361
Email: mjl ranch@centex.net

Mr. Ferrell Wheeler, Chairman
Garza County Underground and Fresh Water Conservation District
300 West Main Street
Post, Texas 79356
Phone No. (806) 495-4425
Fax No. (806) 495-4424

Mr. Rick Harston, Manager
Glasscock Groundwater Conservation District
P.O. Box 208
Garden City, Texas 79739
Phone No. (432) 354-2430
Fax No. (432) 354-2322
Email: ggcd@t3wireless.com
Internet: www.angelfire.com/tx/gcuwcd

Mr. Arthur Dohmann, Chairman
Ms. Barbara Smith, Manager
Goliad County Groundwater Conservation District
P.O. Box 562
Goliad, Texas 77963
Phone No. (361) 645-1716
Fax No. (361) 645-1772
Email: gcgcd@usawide.net

Mr. Barry Miller, Manager
Gonzales Underground Water Conservation District
P.O. Box 1919
Gonzales, Texas 78629
Phone No. (830) 672-1047
Fax No. (830) 672-1047
Email: gcuwcd@gvec.net
Internet: http://www.geocities.com/gcuwcd/
Internet: http://www.gcuwcd.org/

Mr. Ronald Naumann, President
Ms. Theresa Collins, Secretary
Guadalupe County Groundwater Conservation District
P.O. Box 29
Seguin, Texas 78156-0029
Phone No. (830) 303-4188
Fax No. (830) 379-0539
Email: ronnaumann@aol.com
Internet: http://www.seguin.net/org/groundwater/

Mr. Ronald J. Neighbors, Manager
Harris-Galveston Coastal Subsidence District
1660 West Bay Area Boulevard
Friendswood, Texas 77546-2640
Phone No. (281) 486-1105
Fax No. (281) 218-3700
Email: postmaster@subsidence.org
Internet: www.hgsubsidence.org

Trent Jennings, General Manager
Hays Trinity Groundwater Conservation District
Office Address:
14101 Hwy 290 West, Bldg. 100, Ste. #212
Austin, Texas 78737
Mailing Address:
PO Box 1648
Dripping Springs, Texas 78620
Phone No. (512) 858-9253
Fax No. (512) 858-2384
Email: info@haysgroundwater.com
Internet: http://www.haysgroundwater.com/

Mr. Cameron Cornett, Manager
Headwaters Groundwater Conservation District
1424 Sidney Baker North
Kerrville, Texas 78028
Phone No. (830) 896-4110
Fax No. (830) 257-3201
Email: cameron@hgcd.org
Internet: www.huwcd.org

Ms. Janet Guthrie, Manager
Hemphill County Underground Water Conservation District
P.O. Box 1142
Canadian, Texas 79014
Phone No. (806) 323-8350
Fax No. (806) 323-9574
Email: guthrie@yft.net
Internet: www.hemphilluwcd.org

Mr. Stanley Reinhard, Manager
Hickory Underground Water Conservation District No. 1
P.O. Box 1214
Brady, Texas 76825
Phone No. (325) 597-2785
Fax No. (325) 597-0133
Email: hick6@centex.net
Internet: www.hickoryuwcd.org/

Mr. Jim Conkwright, Manager
High Plains Underground Water Cons. District No. 1
2930 Avenue Q
Lubbock, Texas 79411-2499
Phone No. (806) 762-0181
Fax No. (806) 762-1834
Email: hpwd@hpwd.com
Internet: www.hpwd.com

Mr. Paul Tybor, Manager
Hill Country Underground Water Conservation District
508 S. Washington
Fredericksburg, Texas 78624
Phone No. (830) 997-4472
Fax No. (830) 997-6721
Email: pthcuwcd@fbg.net
Internet: www.hcuwcd.org

Mr. Randy Barker, Manager
Hudspeth County Underground Water Conservation District No. 1
P.O. Box 212
107 South Dodson
Dell City, Texas 79837
Phone No. (915) 964-2932
Fax No. (915) 964-2973
Email: hcuwcd1@dellcity.com
Internet: www.awblaireengineering.com/hcuwcd1

Mr. Scott Holland, Manager
Irion County Water Conservation District
P.O. Box 10
Mertzon, Texas 76941
Phone No. (325) 835-2015
Fax No. (325) 835-2366
Email: icwcd@airmail.net
Internet: www.irionwcd.org/

Ms. Janet Adams, Manager
Jeff Davis Underground Water Conservation District
P.O. Box 1203
Fort Davis, Texas 79734
Phone No. (432) 426-3441
Fax No. (432) 426-2087
Email: jeffdavisuwcd@hotmail.com

Mr. Butch Thompson, President
Mr. Leo Villarreal, Attorney
Kenedy County Groundwater Conservation District
P.O. Box 37
Sarita, Texas 78385
Phone No.* (361) 592-9347
Fax No.* (361) 592-9364
* Numbers for Mr. Villarreal

Mr. Hayden Woodard, President
Mr. Jerry Kirby, Manager
Kimble County Groundwater Conservation District
P.O. Box 31
Junction, Texas 78649-0031
Phone No. (325) 446-4826
Fax No. (325) 446-4823
E-mail: hwoodard@msn.com

Mr. Cecil Smith, President
Ms. Darlene Shahan, Manager
Kinney County Groundwater Conservation District
P.O. Box 369
Brackettville, Texas 78832
Phone No. (830) 563-9699
Fax No. (830) 563-9606
Email: jtsjwj@hilconet.com

Mr. Allan Lange, Manager
Lipan-Kickapoo Water Conservation District
P.O. Box 67
Vancourt, Texas 76955
Phone No. (325) 469-3988
Fax No. (325) 469-3989
Email: lkwcd@airmail.net
Internet: www.lipankickapoo.org
Internet: www.kwcd.airmail.net

Mr. Lonnie Stewart, Manager
Live Oak Underground Water Conservation District
3460A HWY 281
George West, Texas 78022-3759
Phone No. (361) 449-1151
Fax No. (361) 449-2780
Email: louwcd@yahoo.com

Mr. Clyde Crumley, Manager
Llano-Estacado Underground Water Conservation District
101 South Main, Room B2
Seminole, Texas 79360
Phone No. (432) 758-1127
Fax No. (432) 758-1137
Email: leuwcd@crosswind.net

Ms. Kathy Jones, Manager
Lone Star Groundwater Conservation District
P.O. Box 2467
332 N. Main
Conroe, Texas 77305
Phone No. (936) 494-3436
Fax No. (936) 494-3438
Email: lsgcd@txucom.net
Internet: http://www.lonestargcd.org/lonestar_001.htm

Mr. David Stubblefield, President
Ms. Sue Young, General Manager
Lone Wolf Groundwater Conservation District
P.O. Box 1001
Colorado City, Texas 79512
Phone No. (325) 728-2298
Fax No. (325) 728-3046
Email: wfuller@abi.tconline.net

Mr. Joe Cooper, Manager
Lost Pines Groundwater Conservation District
P.O. Box 1747
Bastrop, Texas 78602
Phone No. (512) 581-9056
Fax No. (512) 581-9058
Email: lpgcd@x25.net
Internet: www.lostpineswater.org

Mr. Clifford McTee, President
Mr. Lonnie Stewart, Manager
McMullen Groundwater Conservation District
P.O. Box 356
Tilden, Texas 78072
Phone No. (361) 274-3365
Email: solana@id.world.net (San Antonio)
Email: L7ranch@vstanet.com (Ranch)

Ms. Luana Buckner, Manager
Medina County Underground Water Conservation District
1613 Avenue K, Suite 105
Hondo, Texas 78861
Phone No. (830) 741-3162
Fax No. (830) 741-3540
Email: h2olu@earthlink.net

Ms. Caroline Runge, Manager
Menard County Underground Water District
P.O. Box 1225
Menard, Texas 76859-1225
Phone No. (325) 396-3670
Fax No. (325) 396-3921
Email: mcuwd@wcc.net

Mr. Harvey Everheart, Manager
Mesa Underground Water Conservation District
P.O. Box 497
Lamesa, Texas 79331
Phone No. (806) 872-9205
Fax No. (806) 872-2838
Email: mesauwcd@door.net
Internet: www.mesauwcd.org

Mr. Glenn Honaker, President
Mr. A. Zan Matthies, General Manager
Middle Pecos Groundwater Conservation District
P.O. Drawer 1644
103 W. Callaghan St
Fort Stockton, Texas 79735
Phone No. (432) 395-2460 (Mr. Honaker)
Phone No. (432) 336-0698 (Mr. Matthies)
Email: mpgcd@wirelessfrontier.net

Mr. E. C. "Ed" Withers, President
Mr. Joe B. Cooper, Manager
Middle Trinity Groundwater Conservation District
Erath County
150 N. Harbin Street, Suite 434
Stephenville, Texas 76401
Phone No. (254) 965-6705
Fax No. (254) 965-6745
Email: mtgcd@our-town.com

Mr. Robert Gresham, Manager
Mid-East Texas Groundwater Conservation District
P.O. Box 1359
113 West Main
Centerville, Texas 75833
Phone No. (979) 536-2805
Fax No. (979) 775-3466
Email: rgresham@bvcog.org

Ms. Sue Harris, President
Ms. Janet Byrd, Manager
Neches and Trinity Valleys Groundwater Conservation District
P.O. Box 1387
Jacksonville, Texas 75766
Phone Nos. (903) 541-4845 or (903) 372-9754

Mr. Richard S. Bowers, Manager
North Plains Groundwater Conservation District
P.O. Box 795
603 East First Street
Dumas, Texas 79029
Phone No. (806) 935-6401
Fax No. (806) 935-6633
Email: bowers@npwd.org
Internet: www.npwd.org

Mr. C. E. Williams, Manager
Panhandle Groundwater Conservation District
P.O. Box 637
201 W. 3rd St.
White Deer, Texas 79097
Phone No. (806) 883-2501
Fax No. (806) 883-2162
Email1: cwilliams8@aol.com
Internet: www.panhandlegroundwater.org

Mr. Bob McCurdy, General Manager
Mr. Errol John Dietz, President
Pecan Valley Groundwater Conservation District
Cuero Plaza Mall Suite 1129
PO Box 88
Cuero Texas 77954
Phone: 361-275-8188
Fax: 361-275-9635
Email: bobmccurdy@gvec.net

Mr. Ken Carver, General Manager
Permian Basin Underground Water Conservation District
P.O. Box 1314
Stanton, Texas 79782
Phone No. (432) 756-2136
Fax No. (432) 756-2068
Email: pbuwcd@crcom.net

Mr. David Alders, President
Mr. David Alford, General Manager
Pineywoods Groundwater Conservation District
P.O. Box 2613
Lufkin, Texas 75902
Phone No. (936) 630-0582
Fax No. (936) 634-0919
Email: pgcd@cityoflufkin.com
Internet: <http://www.pgcd.org/>

Ms. Cindy Cawley, Manager
Mr. Virgil Polocek, Asst. Mgr
Plateau Underground Water Conservation & Supply District
P.O. Drawer 324
Eldorado, Texas 76936
Phone No. (325) 853-2121
Fax No. (325) 853-3821
Email: plateau@wcc.net

Mr. Johnnie Halliburton, Groundwater Manager
Plum Creek Conservation District
1400 FM 20 East
P.O. Box 238
Lockhart, Texas 78644
Phone No. 512-398-2383
Fax No. 512-376-2344
Mobile No. 512-627-5695
Email: plumcreekcd@aol.com

Nathan Ausley, President
Mr. Gary Westbrook, Manager
Post Oak Savannah Groundwater Conservation District
310 E Ave. C
Milano, Texas 76556
Phone No. (512) 455-9900
Fax No. (512) 455-9909
Email: postoaksavannah@yahoo.com
Internet: www.geocities.com/postoaksavannah

Mr. Terry Bishop, President
Presidio County Underground Water Conservation District
P.O. Box 86
Marfa, Texas 79843
Phone No. (915) 358-4611
Fax No. (915) 358-4611
Email: wkmarfa@aol.com

Mr. Perry Bushong, President
Mr. Lee Sweeten, Manager
Real-Edwards Conservation and Reclamation District
PO Box 350
Barksdale, Texas 78828
Phone No. (830) 234-3158
Fax No. (830) 234-3158
Email: lsweeten@swtexas.net
Email: burrogone@yahoo.com

Mr. Armando Vela, President
Red Sands Groundwater Conservation District
R. R. S Box 83
Edinburg, Texas 78541
Phone No. (956) 383-3695

Mr. Larry Aduddell, President
Mr. Garrett Engelking, Manager
Refugio Groundwater Conservation District
P.O. Box 116
909 Commerce St.
Refugio, Texas 78377
Phone No. (361) 526-1483
Fax No. (361) 526-1294

Mr. Mike McGuire, Manager
Rolling Plains Groundwater Conservation District
P.O. Box 717
135 N. Munday Ave.
Munday, Texas 76371
Phone No. (940) 422-1095
Fax No. (940) 422-1094
Email: mmcguire@rpgcd.org
Internet: www.geocities.com/rollingplainsgcd

Mr. Worth Whitehead, President
Rusk County Groundwater Conservation District
16662 FM 1716 E
Henderson, Texas 75652
Phone No. (903) 643-9900

Mr. Jim Guess, President
Salt Fork Underground Water Conservation District
P.O. Box 6
Jayton, Texas 79528
Phone No. (806) 237-2160
fax: (806) 237-2005
Email: sforkuwd@caprock-spur.com

Mr. Gary Walker, Independent Contractor
Sandy Land Underground Water Conservation District
P.O. Box 130
Plains, Texas 79355-0130
Phone No. (806) 456-2155
Fax No. (806) 456-5655
Email: sluwcd@crosswind.net
Internet: www.sandylandwater.com

Ms. Cindy Weatherby, Manager
Santa Rita Underground Water Conservation District
P.O. Box 849
Big Lake, Texas 76932
Phone No. (325) 884-2893
Fax No. (325) 884-2445
Email: sruwcd@gte.net

Judge Virgil E. Lilley, President
Ms. Jeanette Snell, Clerk
Saratoga Underground Water Conservation District
P.O. Box 231
Lampasas, Texas 76550
Phone No. (512) 556-8271
Fax No. (512) 556-8270
Email: lampasascountyjudge@hotmail.com

Mr. Walter R. Glenn, President
Southeast Texas Groundwater Conservation District
P.O. Box 477
Kirbyville, Texas 75956
Phone No. (409) 423-4357
Fax No. (409) 423-6711
Mobile No. (409) 658-9001
Internet: <http://www.detcog.org/groundwaterdistrict/>

Mr. Jason Coleman, Manager
South Plains Underground Water Conservation District
P.O. Box 986
802 Tahoka Road
Brownfield, Texas 79316
Phone No. (806) 637-7467
Fax No. (806) 637-4364
Email: spuwcdd@earthlink.net
Internet: www.spuwcdd.org

Mr. Scott Holland, Manager
Sterling County Underground Water Conservation District
P.O. Box 873
Sterling City, Texas 76951-0873
Phone No. (325) 378-2704
Fax No. (325) 378-2624
Email: scuwcdd@wcc.net
Internet: www.sterlinguwcdd.org

Ms. Cindy Cawley, Manager
Sutton County Underground Water Conservation District
301 South Crockett Avenue
Sonora, Texas 76950
Phone No. (325) 387-2369
Fax No. (325) 387-5737
Email: sutuwcd@sonoratx.net

Mr. A. A Rodgers "Red", Chairman
Texana Groundwater Conservation District
8051 Co. Rd. 283
Edna, Texas 77957
Phone No. (361) 782-2663

Mr. Ronnie Wilson, Chairman
Tri-County Groundwater Conservation District
12053 FM 91
Vernon, Texas 76384
Phone No. (940) 887-3239

Mr. Brad Graves, President
Mr. Patrick W. Lindner, Agent for Contact
Trinity Glen Rose Groundwater Conservation District
7550 West IH-10 Suite 800
San Antonio, Texas 78229-5811
Phone No. (210) 349-6484
Internet: www.trinityglenrose.com

Mr. Vic Hilderbran, Manager
Uvalde County Underground Water Conservation District

P.O. Box 1419
Uvalde, Texas 78802
Phone No. (830) 278-8242
Fax No. (830) 278-1904
Email1: toombs@peppersnet.com
Email2: vgh1@medinaec.com

Mr. John Adams, President
Ms. Katy Hoskins, Manager
Wes-Tex Groundwater Conservation District

100 E Third Street, Suite 305B
Sweetwater, Texas 79556
Phone No. (325) 236-6033
Fax No. (325) 236-6033
Email: kathy@westexgcd.org
Internet: <http://www.westexgcd.org>

Mr. Ed Walker, Manager
Wintergarden Groundwater Conservation District

P.O. Box 1433
Carrizo Springs, Texas 78834
Phone No. (830) 876-3801
Fax No. (830) 876-3782
Email: wggwcd@brushco.net

UNCONFIRMED DISTRICTS

NO ELECTION TO DATE

Brazoria County Groundwater Conservation District

Mr. Dennis Ray Davenport, Presiding Officer

P.O. Box 195

Danbury, Texas 77534

Phone No. (281) 922-8405

Email: ddavenport@garrettfarms.com

Also: Kent Burkett, Chief Administrator

Office of Brazoria County Judge

Phone No. (979) 864-1695

Email: kentb@brazoria-county.com

Created by 77th Legislature, 2001

2001 Act Repealed Effective September 1, 2003

Created by 78th Legislature, 2003

Enabling Act Expires September 1, 2005 if not confirmed by election.

Lower Seymour Groundwater Conservation District

The Honorable Dale Spurgin, County Judge

Jones County

Phone No. (325) 669-2212 (mobile)

Email: dales@safezone.net

Created by 77th Legislature, 2001, in Jones County

Enabling Act Expires June 17, 2005 if not confirmed by election.

FAILED INITIAL ELECTION; DISTRICT IS AUTHORIZED TO HOLD SUBSEQUENT CONFIRMATION ELECTIONS

S.F. Ruschhaupt, President

Crossroads Groundwater Conservation District

115 N. Bridge, Rm 127

Victoria, Texas 77901

Phone No. (361) 550-2262 - Business

Phone No. (361) 575-4558

Fax No. (361) 573-2627

Created by 77th Legislature, 2001

Failed November 6, 2001 election

Enabling Acts Expire September 1, 2006 if not confirmed by election.

Mr. Bob Weiss, Chairman

Lavaca County Groundwater Conservation District

7451 FM 957

Hallettsville, Texas 77964

Phone No. (361) 798-1123

Created by 77th Legislature, 2001

Failed November 6, 2001 election

Enabling Acts Expire September 1, 2006 if not confirmed by election.

**FAILED OR OTHERWISE DISSOLVED,
REPEALED, ABOLISHED, OR CONSOLIDATED
DISTRICTS OR AUTHORITIES**

Bexar Metropolitan Water District

Bexar Met's groundwater conservation district authority was removed by SB1494, 78th Legislature, 2003.

Central Texas Underground Water Conservation District

*Created by 71st Legislature, 1989, in Burnet County
Failed January 20, 1990 election.*

Comal County Underground Water Conservation District

*Created in northwestern part of county by November 30, 1994 Texas Natural Resource Conservation Commission Order.
Failed May 6, 1995 election.*

Edwards Underground Water District

*Created by Legislature in 1959.
Abolished and replaced by Edward Aquifer Authority by 73rd Legislature, 1993.
Effectively abolished and replaced on June 28, 1996 (by court upholding statute).*

Lake Country Groundwater Conservation District

*Created in Wood County by September 25, 2002 Texas Commission on Environmental Quality Order.
Failed February 1, 2003 election.*

Llano-Uplift Underground Water Conservation District

*Created by 73rd Legislature, 1993, in Llano County
Failed May 14, 1994 election.*

Martin County Underground Water Conservation District No. 1

Created in part of Martin County by Commissioners Court in 1951. Dissolved by 69th Legislature, 1985, and replaced with Permian Basin UWCD.

Oldham County Underground Water Conservation District

*Created by 74th Legislature, 1995. Enabling Act was repealed on September 1, 1999, subject to provisions of SB 1, 1997.
Confirmation election never conducted.*

Post Oak Groundwater Conservation District

*Created by 77th Legislature, 2001, Colorado County
Failed November 6, 2001 election.
Failed November 5, 2002 election.
Enabling Act Expires September 1, 2003.*

Rolling Plains Underground Water Conservation District

*Created by 73rd Legislature, 1993, in Borden, Mitchell and Scurry Counties.
Failed June 7, 1994 election.*

San Patricio Groundwater Conservation District

*Created by 75th Legislature, 1997, in San Patricio Co.
Failed January 17, 1998 election.*

Southeast Trinity Groundwater Conservation District

*Created by 76th Legislature, 1997 in northwestern part of Comal County. Enabling Act Ratified by 77th Legislature, 1999. Failed November 6, 2001 confirmation election.
Enabling Act repealed and District dissolved by 78th Legislature, 2001.*

South Plains Underground Water Conservation District No. 4

*Created by November 9, 1972 Texas Water Rights Commission Order in parts of Andrews, Cochran, Dawson, Gaines, Lynn, Terry, and Yoakum Cos.
Failed November 6, 1973 election.*

Upshur County Groundwater Conservation District

*Created by 78th Legislature, 2003, in Upshur County
Failed May 15, 2004 confirmation election.*